



Wastewater Networks

GTC Technical Guidelines

GTC Technical Guidelines and Safety Information for
House Builders and Developers



GTC Technical Guidelines

Contents

1. Introduction.....	5
2. Communications.....	6
3. Safety	7
4. Definitions	9
5. Developer Responsibilities.....	10
6. Wastewater Network	11
7. Site Contact.....	14

GTC Technical Guidelines

Section One

Introduction

These guidelines provide you with information on the installation of sewers, surface water mains, pumping stations, rising mains and surface water attenuation structures and ponds. The guidelines also cover the safety aspects of our inspecting works onsite and specify your responsibilities in the delivery of the wastewater networks.

Our design assessment and on-site inspections will be undertaken by our sister water company Independent Water Networks Limited (IWNL). This document is provided by GTC who will coordinate initial introductions with IWNL through our scheme specific project manager.

Should you wish to contact us, the telephone number is 01359 240363.

Disclaimer

Although the greatest of care has been taken in the compilation and preparation of this document, GTC respectfully accepts no responsibility for any errors, omissions, or alterations or for any consequences arising from the use, or reliance upon the information in this document.

Section Two

Communications

Our opening hours are from 08.00 to 17:00 every weekday. The below is a list of contact details for various parts of the customer journey.

Wastewater Emergency

To report a blockage with the sewer or surface water network, please call **02920 442716** (24 hours).

Water Emergency

To report a loss of supply or a burst or leaking water main, please call **02920 442716** (24 hours).

Electricity Emergency

To report No Supply or Electrical Damage, please call **0800 0326990** (24 hours).

Gas Emergency

If you can smell gas or believe a gas pipe has been damaged, please call **0800 111 999**.

Customer Services

At GTC, we are committed to providing you with excellent customer service and we encourage feedback so that we can ensure we are making our customers happy. If you have any comments or complaints about our service, please contact **01359 302640** or **customerservices@gtc-uk.co.uk**.

Sales

To discuss your utility infrastructure solution needs and obtain a quotation, please contact **01359 240154** or **sales@gtc-uk.co.uk**.

Legal

To discuss legal transactions in relation to easements and transfers over our utilities, please contact **01359 243453** or **legals@gtc-uk.co.uk**.

Finance Queries

For any queries regarding invoices or billing, please contact **01359 308144** or **credit.control@gtc-uk.co.uk**.

Section Three

Safety

Safe Place of Work

GTC and IWNL requires a safe place of work to be provided for all its staff and contractors. Initial enquiries shall be made seeking confirmation that the construction site is a safe place to work.

Upon arrival to site, staff and contractors shall report to the Site Manager/Representative to discuss intended works. Prior to undertaking this work, a site-specific risk assessment will be undertaken. If, following this assessment, the works cannot be undertaken in a safe manner, the Site Manager/Representative will be informed. Until a safe working environment is achieved, no activities shall be undertaken.

Site Traffic Rules

All site traffic information should be made available to the team/operative when arriving on site, via a site induction or/and during the booking in on-site stage.

Equipment and Materials

The Site Manager/Representative shall ensure their equipment and materials are operated and stored in such a manner that they do not become a hazard within the working area of the team/operative.

Scaffold

Ensure all scaffold where the team/operatives are to work is removed prior to their arrival on site.

Welfare Facilities

In most cases, welfare facilities are to be made available on site from the Principal Contractor.

GTC Technical Guidelines

Utility Protection

Ensure all excavation works onsite are progressed using safe digging techniques. Refer to HSG47 *Avoiding Danger from Underground Services*. GTC utility plans are available via www.gtc-uk.co.uk/network-locations.

Competence

All staff and/or appointed Contractors working on behalf of GTC and IWNL who attend site shall have the appropriate training, technical knowledge, and experience to discharge the intended works in a safe manner.

Construction Design Management (CDM) Regulations

The developer/house builder and/or their groundworks contractor will act as the 'Designer' and 'Contractor' for the construction and commissioning of wastewater networks on new property developments.

IWNL will be responsible for the adoption, operation and maintenance of the network following a design approval, satisfactory construction and proven satisfactory operation.

Recommended Positioning of Utility Apparatus

Sewer and surface water mains will be laid by the groundworks contractor at the depths specified in the developer's design submission to IWNL.

Section Four

Definitions

Details on all of the below are provided in Water UK's Sewerage Sector Guidance and specifically the Design and Construction Guidelines (DCG).

Sewer	Pipe designed and constructed to convey foul sewage under gravity.
Surface Water Pipe	Pipe designed and constructed to convey surface water under gravity.
Rising Main	Pipeline designed to convey either sewage or surface water under pressure.
Pumping Station	Structure designed and built to DCG to facilitate the pumping of sewage or surface water through a rising main.
Manhole	Structural chamber required for possible person entry wherever there is a change in direction or joining of either the sewer or the surface water pipes.
Inspection Chamber	Small chamber typically in private land and private ownership marking the transition from private to adoptable network.
HSE	Health & Safety Executive.

Section Five

Developer Responsibilities

The Developer is responsible for ensuring that the on-site requirements detailed below are met:

General Requirements

- Submission and approval of all design documentation to IWNL as specified by IWNL, including pumping stations, rising mains and all sustainable drainage components as applicable.
- All on site construction of the wastewater networks through the developer appointed groundworks contractor including connection to the incumbent's wastewater network.
- Access for IWNL's asset surveyors to inspect works on site as they progress.
- CCTV records and as built drawings for the wastewater networks.

Section Six

Wastewater Network

Network Design and Construction

The sewer and surface water networks will be adopted by IWNL in developments where wastewater has been included. Where this arrangement has been agreed the developer's designer should submit their designs to IWNL for technical approval. Once the design has been reviewed and agreed the developer is free to commence construction.

Technical Review and Approval

The wastewater networks (sewer and surface) are to be designed in accordance with *Sewers for Adoption 7th Edition* or the latest Water UK Sewer Sector Guidance, Design and Construction Guidelines. The designers must be aware of this requirement. On project award and following agreement from the developer the designer will be contacted by IWNL and the design submission pack requested. The core components of this pack are detailed on IWNL's application form. The submission and form require the following:

- Location plan, 1:2500 scale (pdf file)
- Site layout detailing site boundary, road, existing and proposed sewers (coloured as per appendix iv of the current sewers for adoption guide), pumping stations and rising mains (if any), including compound details, road gullies/highway drains, watercourses, site contours and any levels marked to ordnance datum (pdf file)
- Drainage area plan showing all existing and proposed drainage details including all proposed private drains (coloured as per appendix iv of the current sewers for adoption guide), (pdf files) CAD drawing of the Networks and MDX files of the networks.
- Longitudinal sections of all sewers and rising mains 1:500 horizontal by 1:100 vertical, showing levels, proposed cover, and invert levels (ordnance datum), Pipe gradients, pipe materials. (pdf files)
- Evidence that clashes have been undertaken for both foul and surface water sewers
- Construction details detailing manholes, pumping station, manhole schedules and any other details such as attenuation tanks, flow control chambers, outfall structures, special manholes or any other ancillary structures (pdf files)

GTC Technical Guidelines

- Hydraulic design calculations for both foul and surface water sewers (including impermeable area plan) and design parameters. We will also require design calcs for a 1 in 100-year event + 40% climate change to ensure EA planning requirements and PPS25 are satisfied. All network modelling data should be provided in an electronic format. Please include the MDX files of the networks.
- Drainage area plan detailing all overland flow routes, designated flood areas and flood depths as a result of model outputs from a 1:100-year event +40% CC
- Pumping station information (if necessary), 2 copies showing general arrangement details, wet well capacity/storage/time to spillage, rising main capacity, surge calcs, structural calcs and drawings, flotation check, emergency overflow details/consent and pump manufacturer design with pump head discharge curve
- Copy of the consent to discharge for any surface water outfall (if available)
- Copy of the consent for the construction of any headwall structures from the
- Environment Agency, the local land drainage authority or internal drainage board
- Consent of downstream owners for surface water discharge (if available)

IWNL will provide initial review comments within five working days of the complete design pack submission as detailed above. Once any and all queries have been resolved with the developers designers, IWNL will issue Technical Approval for the scheme and site installation works can commence.

In parallel with technical approval process IWNL will progress the Model Asset Adoption Agreement (what was the Section 104 agreement) with the developer. There is no charge for the production and completion of this document from IWNL.

Wastewater Inspections

Once a site start date has been notified to the GTC project manager, GTC will coordinate with IWNL to arrange for a prestart site meeting between IWNL, the developer and groundworks contractor. IWNL will then undertake inspections of the constructed wastewater networks to fit with the build programme. The inspections are carried out with no associated fee. The Inspectors ideally require:

1. At least one weeks' notice to allow them to schedule in the inspection.
2. That inspections should consist of at least a half day duration of work.
3. Air test inspections require the manometer to be above ground. The Inspectors are not permitted to enter any confined space chambers. Adequate numbers of stoppers should be present on site to reduce waiting time between inspections.
4. Visual inspections to be made of manhole chambers.
5. Bedding materials and pipe materials should be as per the design.

GTC Technical Guidelines

Adoption of Wastewater Networks

Once a phase of wastewater network has been completed IWNL will request a CCTV survey and as built drawings. Providing these are all acceptable, IWNL will issue a provisional vesting certificate. This triggers a twelve-month maintenance period. If the network is proven to be operating correctly at the end of this twelve-month period, then IWNL will issue a permanent adoption certificate and take ownership and maintenance responsibility for the networks. The adoption of the wastewater networks (sewer and surface water) will be carried out together and are covered in a single adoption agreement that covers the whole development site.

Section Seven

Site Contact

GTC Project Manager

Name:	
Mobile number:	
Email address:	

The Delivery Project Manager is responsible for the delivery of this water network, supervision of construction and commissioning of your new main.



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