



TESTING OF PRIVATE SEWER CONNECTIONS – WHY AND HOW?

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Abstract

Correct separation and connection of wastewater is necessary to improve the purification efficiency of the sewage treatment plants and to prevent flooding and drought.

In Flanders, an inspection of the private water discharge is mandatory to check whether this separation is done correctly. Municipalities that construct sewers must build a separate system. When building constructions, it is obligatory to collect rainwater from the roof into a rainwatertank for reuse. The collected water from paved areas such as driveways and terraces must go to an infiltration facility on site. Existing buildings where new sewers are being constructed or reconstructed on public property are also required to disconnect their rainwater on their property. These principles are translated into Flemish law. More info about the proces and the implementation will be given during the presentation.

Keywords: drought, flooding, infiltration, inspection private sewer connection, rainwater, wastewater.

1. INTRODUCTION

Why is an inspection of the private sewerage system necessary?

In Flanders (Belgium), we are facing several challenges: drought, flooding, too many paved surfaced, increasing population, overflow of sewers in case of heavy rain and the groundwater table is low. Flanders knows the most waterstress in northern Europe. A lot of the sewage systems transport rainwater and wastewater together. One of the solutions is to build separate systems and keeping rainwater on site through reuse of rainwater for toilets, washing machine, cleaning and the garden as well as infiltrating the rain water, instead of draining them into streams and rivers where it eventually end up in the sea.

These principles are translated into Flemish law. Municipalities that construct sewers must build a separate system. When building constructions, it is obligatory to collect rainwater from the roof into a rainwatertank for reuse. The collected water from paved areas such as driveways and terraces must go to an infiltration facility on site. If infiltration is not possible, or for

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bigger constructions, a buffer facility should be installed with delayed discharge to delay peak downpours. The final step is disposal to the sewage system on public domain. The minimum sizing of these facilities is also established by law.

Existing buildings where new sewers are being constructed or reconstructed on public property are also required to disconnect their rainwater on their property.

As for wastewater, all wastewater should be properly connected to the house connection of the public domain. For buildings where sewerage is not yet present on public property, proper wastewater pretreatment should be done on private property. There are also 400.000 buildings still to be connected to a waste water treatment plant. Buildings where sewers will never be constructed must provide their own water treatment facilities.

Also on the level of provinces of municipalities this law can be stricter. Nowadays, there are even municipalities that do not allow a connection of stormwater to public domain. In one province, it is only permitted to construct permeable pavements.

Failure to follow this legislation has environmental consequences. This is why an inspection is necessary.

2. CONTROLLING IMPLEMENTATION OF LEGISLATION

Inspection of the sewage system in Flanders is obligated since 2011. The organisation of these inspections and follow-up are the responsibility of the sewerage operators. They have a partnership with Vlario for the inspections, execution of inspections, quality assurance and digital database. Vlario is accredited by Belac for ISO/CEN 17020. Sewerage operators/municipalities have access to the Vlario database and tools for follow-up.

If one does not wish to have an inspection performed, the sewer operator may refuse the connection. If the inspection is non-compliant, the sewer operator may suspend or restrict the connection.



Picture 1: Testing of private sewer connections

Proper separation and connection of wastewater is necessary to improve the treatment efficiency of sewage treatment plants and to prevent flooding and droughts.

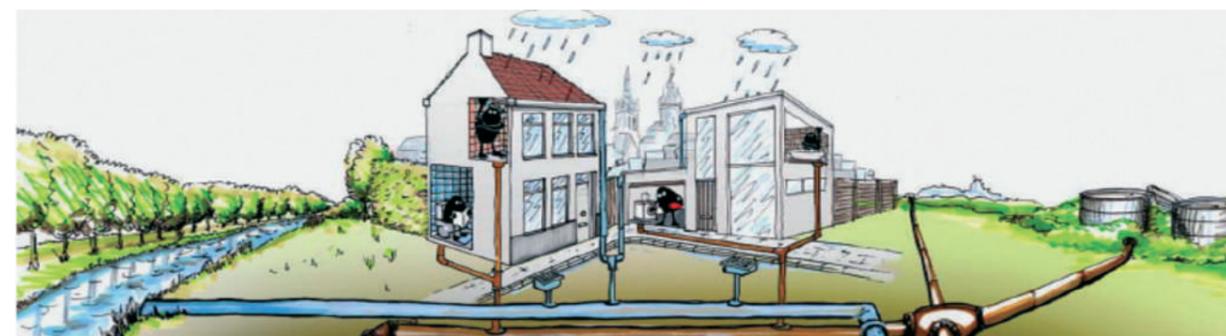
The inspection of private sewage has the purpose of checking whether:

- the wastewater is connected to the sewage system on the public domain or to the individual treatment plant (connection and pretreatment according to the zoning plans),
- waste water and rain water are discharged separately,
- the drains from the sewerage system components, indoor devices, roofs and paved surfaces are properly connected;
- the rainwater tank, infiltration facility, buffer facility and septic tank for black water are present where required.

The legal framework of the inspection is regulated by the General Water Supply Regulations and the Ministerial Decree on inspections.

In this brochure, you will find more information on what the inspection of the private water drainage system exactly entails.

Vlario is an ISO/IEC 17020 accredited inspection body. See also www.vlario.be/keuring.



Picture 2: Connections on separate sewer system

3. METHOD

3.1 When is an inspection mandatory?

The private water discharge must be inspected in the following cases:

- In the event of new construction or reconstruction;
- When you request a new additional connection;
- When installing an IBA (individual purification system);
- After an infringement has been established;



- When constructing separate sewers on the public domain (disconnection project), unless an inspection has been carried out for new construction or reconstruction that is no more than five years old;
- After remedial action has been taken following a previous non-conformity inspection of the private water drainage system (re-inspection).

3.2 When do I apply for the inspection?

You can apply for an inspection when the building is ready to be inspected. In practice, this means that:

- the sewerage system has been fully installed from the discharge point to the building line/discharge point. The appliances themselves do not have to be installed yet (e.g. WC, cistern, bath,...);
- The drainage system on private property is accessible and reachable. All drains must be visible and open in a normal way. Beforehand, inspect the connecting manholes at the plot boundary and check whether there is any blockage. If this is the case, the inspection cannot take place. In this case, you have the problem solved before the inspection is carried out. If the house connection pits have not yet been installed, then the drainage pipes must be accessible at the height of the building line.

Collect the necessary documents. If applicable, the following documents must be submitted before the start of the inspection. If the necessary documents are not available at the start of the inspection, this can lead to the inspection not being started or to a re-inspection:

- as-built plan, construction plan or sewerage plan,
- environmental permit,
- copies of invoices for sewerage components (e.g. rainwater well, septic tank, infiltration facility, etc.),
- Initial list GSV rainwater,
- photographs of the construction of the drainage system.

You can search for an inspector via www.vlario.be. By entering your postcode, you can see which inspectors are active in your area.

3.3 What is checked?

The inspector checks the sewerage plan and the necessary documents. The inspector will declare the property »compliant« or »non-compliant«, taking into account the requirements laid down in the general water sales regulations and according to the Ministerial Decree on the inspection of private water drainage.

3.4 When is the inspection non-compliant?

- Incorrect separation of rainwater and wastewater
- Non-compliance with the waste water connection obligation and/or pre-treatment according to the zoning plans.
- Absence of a rainwater pit, infiltration facility and/or buffer facility if required by the environmental permit.
- Absence of septic tank for black water if required by the municipality/sewer manager.

The necessary points of attention are noted. These are based on existing regulations and/or conditions imposed in the environmental permit and/or clarifications during the inspection.

Attention: the hydraulic operation (i.e. drainage capacity) of the private water drainage system is not checked or tested. This is the responsibility of the contractor involved.

3.5 How does the inspection work?

1. You search for and contact a VLARIO inspector at www.vlario.be.
2. The necessary documents are requested and the conditions for carrying out the inspection are provided for signing.
3. You return the signed documents and conditions to the inspector. The inspector comes at the agreed time. The inspector must have access to the premises in order to carry out the inspection. Make sure that all lids/pits are accessible.
4. The inspector checks the necessary documents supplied to determine which regulations/requirements apply.

The inspector makes on-site determinations based on a number of tests with water flow/smoke/camera/sound. Based on the findings, the inspector decides whether the system is compliant or not.

4. RESULT OF INSPECTION

CONFORM

If the private water drainage system is correctly connected and separated as required by the Ministerial Decree on inspections, you will receive a conforming inspection certificate. This certificate may be required to obtain a connection to the public drainage system.

NOT CONFORMING

If the private water discharge is found not to be compliant, remedial measures will be noted. The remedial measures must be carried out within the proposed repair period which is also stated on the inspection certificate. After the remedial measures have been taken, a re-inspection must be requested. If the re-inspection is carried out by the same inspector, the re-inspection is limited to the remedial measures.



POINTS OF ATTENTION

Points of attention do not lead to rejection, remedial measures and a re-inspection, but the municipality and/or sewerage manager can take further action if you do not comply with the conditions, legislation or regulations imposed.

INSPECTION CERTIFICATE

The inspector will provide you with the inspection certificate. As provided for in the general water sales regulations, the inspection certificate is sent directly to the sewerage manager.

4.1 Preparation for a compliant inspection

Consult the zoning plans to find out if there is a connection obligation and if you have to pre-treat/clean your wastewater yourself by means of a septic tank for black and grey water or an IBA.

Some municipalities also require a septic tank for faecal water. Check with the municipality/ via the environmental permit whether a septic tank is compulsory for black water.

The GSV Rainwater determines whether a rainwater pit, infiltration facility and/or buffer facility is compulsory.

If applicable, carefully read the obligations regarding wastewater and rainwater in the environmental permit.

Useful links

1. Vademecum on the practical disconnection of rainwater: www.vlario.be/vademecum-afkoppelen
2. Construction of sewerage system and conditions: www.vlario.be/burger
3. Info about the inspection: www.vlario.be/keuring