

Typology 2 d: disposal

Group of structures and systems for the disposal of organic and/or liquid and/or solid matter by transport and/or dispersion and/or storage.

The waste disposal system became necessary when Man, developed self-awareness and organised his community. With the advent of urban complexes, white water and black water disposal systems became vital. This typology therefore deals with the disposal of organic waste, waste water from mills and meteoric water as well as of natural watercourses which have become real open-air sewers. In urban centres, disposal which is not in line with expansion, caused (and still causes) serious public health issues with the manifestation of infections and epidemics. Similar issues arose during heavy rainfall, when the systems were unable to adequately drain the matter, resulting in flooding with evident consequences.

Absorbing well

Ground depression with brick or concrete dry stone fill and through-holes for the filtering and diffusion of waste water into the underlying subsoil. Can be of any shape and/or size.

Generally, a cylindrical stone masonry, brick or concrete rimless depression with a stone base for the collection of sewage from a clarification system. This system is not suitable for compacted clay soil or porous limestone rock with underlying usable water table.

Cesspit

Pit for the temporary storage of waste material.

Sealed, impermeable hole in the ground for the temporary accumulation of waste material from drains, which is periodically removed.

Clarification (or biological well)

In sewage works this refers to a type of septic tank.

The work can consist of two chambers: the upper clarification chamber and the lower, sedimentation chamber. Consisting of a well or chamber cistern, the septic tank is one of the most commonly used systems in the treatment of domestic sewage within rural areas. Partial sedimentation takes place inside the chamber. A spillway or syphon carries the sewage to permeable underground ditches filled with broken stones where the sewage is filtered and drains through the soil where it is undergoes anodic oxidation. The sediment remains in the ditch, where it is anaerobically decomposed and subsequently removed.

Drainage shaft

Structure which assists the flow of water through land with little permeability; used for both the collection and drainage of water.

In hydraulics, drainage wells are built in land with little permeability to facilitate the flow of water to underlying permeable soil. Their method of construction is no different to that of ordinary wells unless the well is to be used only for water dispersion, in which case small holes in the cladding allow the liquid to be slowly released. There are also structures for the storage of excess water, the spillways of which simultaneously store and drain water.

Septic tank

Part of the domestic sewage disposal system in towns and cities without sewers.

Also known as a *biological tank* or *biological purification tank*, the septic tank is usually located underground and generally consists of two completely enclosed, watertight chambers. Solid waste is channelled into the chambers where anaerobic fermentation takes place.

Sewage system

Series of channels and other structures for the removal of meteoric and waste waters from a given area.

A sewer is an underground canal for the collection and disposal of wastewater. The terms “*cloaca*” and sewer refer to the underground channel which collects and transports rain water and liquid waste elsewhere. Sewers can be classified as either static or dynamic sewers.

Static sewer: collects, purifies and disposes of wastewater via biological or septic tanks or via cesspits.

Dynamic sewer: collects and continually dispels wastewater via a network of channels, generally after having purified the water in special installations.

A distinction between the sewage systems can be made according to the type of water intake:

- white waters essentially consist of meteoric water, which generally contains insignificant levels of impurity;
- black water or lavatory water, is waste water from urban centres, so-called on account of its content (human and animal faeces).

A second distinction is made according to the system itself:

single sewer (single channel or mixed sewer or a Roman system): if white and black waters are transported in the same channels;

separate sewer system (with separate channels): where white and black waters are transported in separate channels;

mixed separator sewer: where a certain amount of meteoric water (usually groundwater which is full of impurities) is permitted within the black water network.