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Assignment: 2

Subject: Waste Water

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Submitted to: Sir Nadeem Ullah

Q. NO: 1

Soil Pipes and anti-syphon pipes.

Answer

Soil Pipes :-

A soil pipe is designed to carry solid water from the toilet, urinal or bidet to the sewer. A waste pipe carries water from your sinks, shower, washing machine or bath.

What is Soil Pipe?

A soil pipe is just that, a pipe that is designed to carry soiled water away from your home, whether that be from your toilet, urinal or bidet.

Although it seems like any old pipe could hold and transport soiled water, soil pipe should be manufactured to the relevant british standard which is why at drainage online we only stock the leading manufactures of soil pipe such as Brett Martin, Mauley and of course, Hargreaves for those looking to keep it traditional with cast iron

soil pipes. Stocked in 110mm and 160mm diameter. Vent pipes and outlets are an important part of any soil waste system, not only do they ventilate the system but they also regulate pressure ensuring the positive pressure does not (in extreme cases) push water back to your sink or worse toilets - vent pipes help to regulate this pressure -

Anti - Syphon Pipes ⁽²⁾ :-

- The water seals of the traps in any multistoried building some time do not work due to siphon action. When the sewage is suddenly discharged from sanitary fixture on the upper floor, it moves rapidly through the soil i.e waste pipe.
- It may suck some air from the lateral pipe which is connected to soil pipe of the fixture at the lower floor. This causes siphonic action to break the water seal.
- To prevent this, a separate pipe of small diameter is attached to the trap which connects the trap to the vent pipe. This pipe is known as anti-siphonage pipe.
- Normally this pipe act as vent pipe and when solution take place, it act as anti-siphonage pipe.

Q NO:-2

3

Sanitary Fixture :-

A Receptacle for industrial and fecal Sewage that is installed in homes and public and industrial buildings. Sanitary fixtures are attached to the interior system of water pipes and Sewerage system and constitute the main elements of a buildings sanitary engineering equipment.

Sanitary fixtures are installed in different areas. Bath tubs, washstands, shower sumps, traps and bidets are installed in bathrooms, washrooms and shower rooms. Washer, sinks and drains are installed in kitchens.

Special sanitary fixtures are used in medical institutions, laboratories, bathhouses, barber shops and beauty salons and on transportation facilities. Cast iron and steel fixture are covered with a white or colored vitreous enamel. Ceramic fixtures are covered with glaze, and nonferrous. They are also equipped with siphons that have water seals to prevent pollutants air from entering a room from sewerage pipes.

Traps:

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A trap is a device which is used to prevent sewer gases from entering the buildings.

Common gases that are produced in a sewage system

Methane

Hydrogen sulfide

Nitrogen

Carbon Monoxide.

In plumbing, a trap is a device shaped with a bending pipe path to retain fluid to prevent sewer gases from entering buildings while allowing waste

material to pass through. In oil refineries, traps are used to prevent hydrocarbon and other dangerous gases and chemical fumes from escaping through drains.

In domestic application, traps are typically U, S, or J-shaped pipe located below or within a plumbing fixture. An S-shaped trap is known as an S-bend. It was invented by Alexander Cumming in 1775 but became known as the U-bend following the introduction of the U-shaped trap by Thomas Copper in 1880.

It is also referred to as a sink trap because it is installed under most sinks.

When a volume of water may be rapidly discharged through the trap, a vertical vented pipe called a stand pipe may be attached to the trap to prevent the disruption of the seal in other nearby traps.

The most common use⁽⁵⁾ of standpipes: use of standpipes in houses is for clothes washing machine, which rapidly, dispense a large volume of waste water while draining the wash and rinse cycles.

Q NO :- 3

(6)

What is a CROSS-CONNECTION?

A cross-connection is a point in a plumbing system where it is possible for a nonpotable substance to come into contact with the potable drinking water supply. Common examples of cross-connections include a garden hose submerged in a pesticide mixture, a piped connection providing potable feed water to an industrial process, such as a cooling ~~water~~ tower or a submerged outlet of an irrigation system. Identify cross-connections can be challenging because many distribution systems are expanding to serve new customer and changing to accommodate customer needs. Further, temporary and permanent cross-connections can be created in existing facilities without the knowledge of the water system manager and operators.

What is backsiphonage?

Backsiphonage is caused by negative pressure from a vacuum (or partial vacuum) in the supply piping, just as drinking through a straw draws liquid from a glass.

Backsiphonage can be created when there is stoppage in water supply due to repairs or break in the country water, or increased demand at one location such as fire fighting or even undersized piping.

Backsiphonage reverse normal flow in the system, and can pull contaminants into the drinking water.

