

ENGINEERING COMMUNIQUÉ

JAY R. SMITH MFG. CO.® ♦ August, 2011 ♦ VOLUME 1- ISSUE 9



FAMILY OF COMPANIES

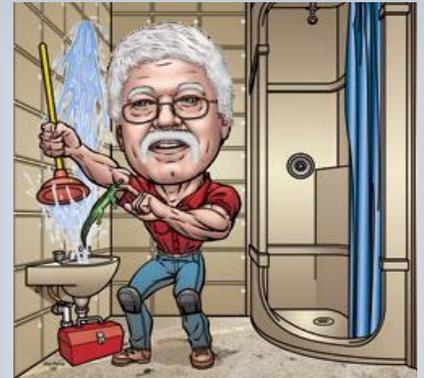
From:

THE SMITH ENGINEERING GROUP

PRODUCT ALERT: SQ-2-3201 Special Industrial Drain

This drain was designed to serve multiple functions. The industrial facility needed a catch basin in the center of an assembly area and in addition needed a basin to receive influent from a small isolated area where washing of parts take place and a minimal amount of sand is present and needs capturing. The entire area had to be protected from sewer backflow since the likelihood of backflow from an overloaded street sewer was probable. Smith designed a three chamber fabricated drain. The first chamber receives drainage from the washing area and has a retention zone at the bottom of the chamber to allow sand to settle preventing entrance into the sewer system. There is a secured removable cover for accessing the chamber and removing the sand. The center chamber is the main drainage for the assembly area. It contains a removable bucket for intercepting and retaining debris and a heavy duty ductile iron grate since there will be heavy traffic in this area. The third chamber contains a backwater valve with a tapered bronze slotted plug for access. The design of the center and backwater valve chambers creates a water seal while providing backflow protection.

This design met the requirements of the facility while meeting the local code criteria.



PLUMBING VENTS

When you think about plumbing you probably envision a 'bunch' of pipes and fixtures. In my viewpoint, I see beautiful artwork! Everyone is familiar with the waste piping but really do not understand the need for 'vents.' The plumbing venting systems are a specialized system of pipes, mostly routed vertical and terminating thru the roof. There are exceptions but the roof is the typical termination point.

The vents serve an important role in the function of the plumbing system. The waste water contains sewer gases. Vents remove these gases from the waste water protecting the interior environment of the facility. Vents also help to bring oxygen into your plumbing system, which assists with the aerobic sewage digestion that is necessary for breaking waste down. The vents help maintain the water seals in the plumbing traps, which prevents sewer gases from entering into your facility. Without the assistance of plumbing vents, water and waste would not flow properly thru the piping system. This is because the venting helps to maintain neutral air pressure within the drains.

(Continued on page 2)

Plumbing Ventscontinued from cover page

As a result, gravity is able to successfully pull the water and waste thru the pipes and drains.

In addition to having proper venting in place, the pipes must also maintain the proper downward slope throughout the facility in order to achieve the proper flow.

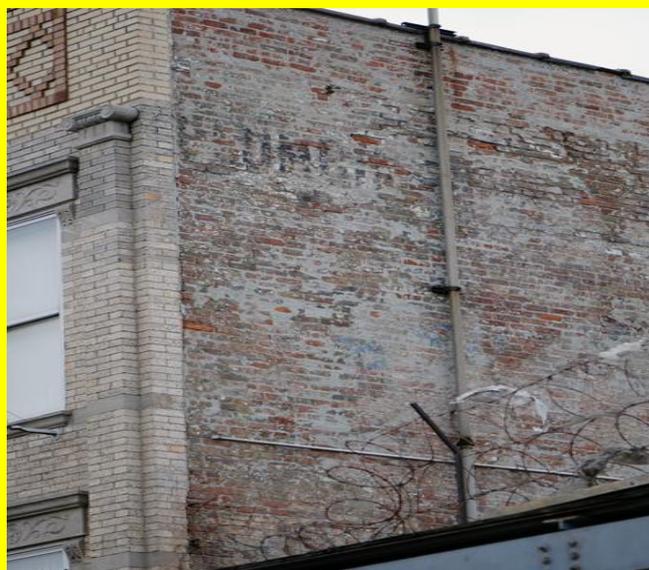
When water is not flowing thru a sewer pipe, the pipe is able to maintain neutral air pressure when compared to its surrounding atmosphere. When waste water moves thru the pipe, however, the air in the pipe becomes compressed. This creates positive pressure in the pipe.

The positive pressure in the pipe needs to be released. Otherwise, it will push back against the waste stream. At the same time, there must be air flow behind the waste stream. If there is not, the negative pressure will occur and this will result in suction. The volume of waste discharged will determine how much pushing or suction occurring.

Since the water closet has the shortest trap seal, the suction effect that results from excessive negative air pressure can cause the water closet trap seal to empty. If the trap is emptied in the water closet, sewer gases will enter the facility. In the same manner, if the waste water pushes back to hard, it can cause the trap seal to become broken. This may also cause gas to be released and can cause health problems.

Per the plumbing codes, every fixture must have an internal or external trap. Additionally, with some exceptions, every fixture must be vented. Most codes require a main vent stack terminating at the roof. There are minimum limitations as to what can be near the vent to eliminate any air being drawn into the building and being contaminated with sewer gases.

If you experience slow draining sewer piping, it may be caused by a clogged vent. Slow draining piping, traps that empty or if you see bubbles in your water closet it may be a clogged or partially clogged vent. Vents can be clogged by debris such as leaves, a dead animal or even ice build-up in the northern climates. If this happens, call a licensed plumbing contractor. Those roofs can be hazardous to your health!



A vent pipe run up the side of a building. This was very typical for many years and particularly in a retrofit installation.



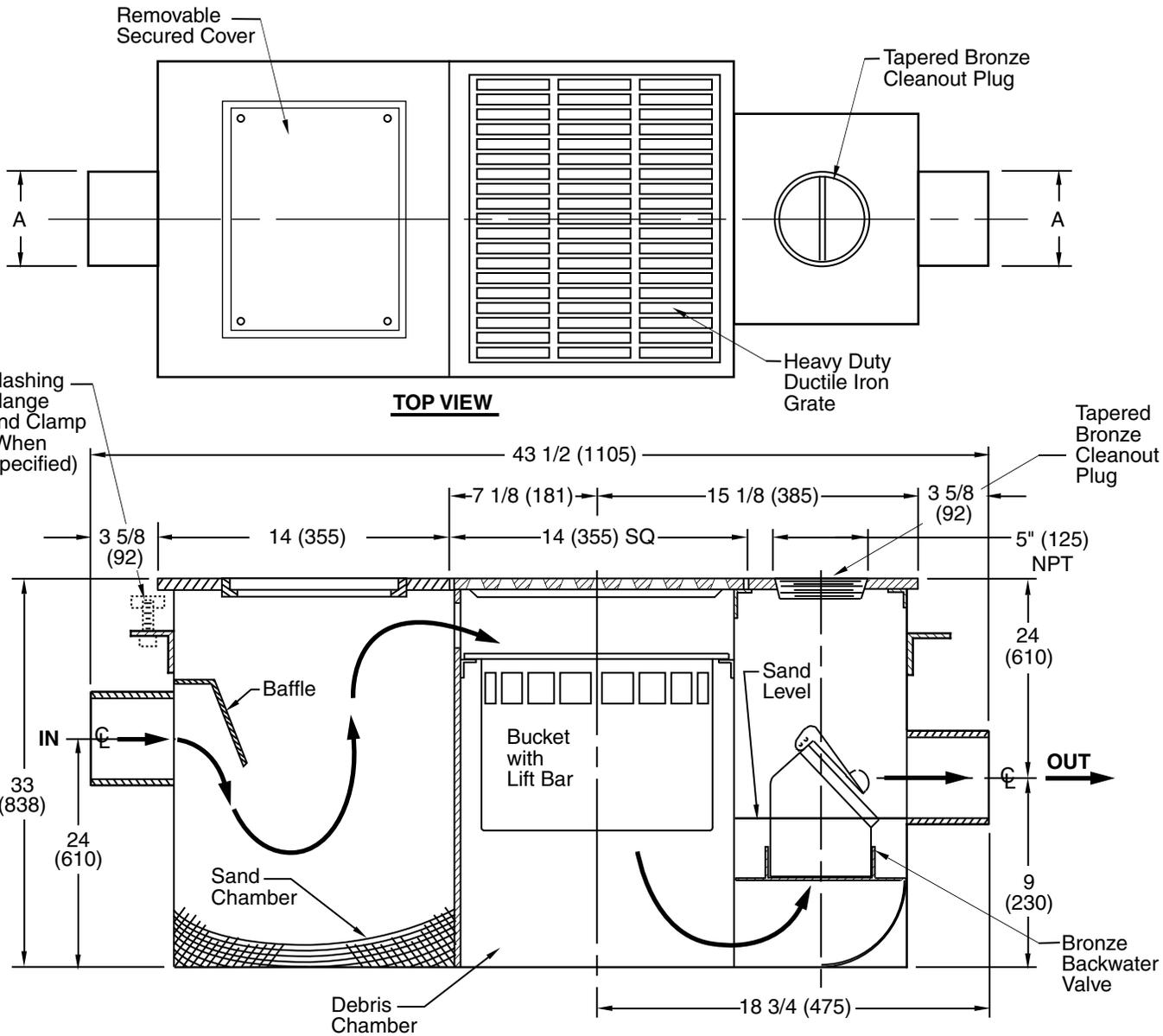
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MEMBER OF:

LOCATION

SPECIAL INDUSTRIAL DRAIN



A (Pipe Size) = 03(75) or 04(100)
 Fig. SQ-2-3201Y NO HUB IN & OUT

NOTE: Dimensions shown in parentheses are in millimeters.

REGULARLY FURNISHED:
 Galvanized Coated Fabricated Steel Body with H.D. Ductile Iron Grate, Suspended Bucket, Bronze Cleanout Plug, Backwater Valve.

VARIATIONS:
 Flashing Flange -F
 Flashing Flange and Flashing Clamp -F-C

DRAWING NUMBER
SQ-2-3201

SIZE
A

SCALE:
NONE

DATE:
10-2-03

APPROVED BY:
JMC

CHECKED BY:
JMC

DRAWN BY:
RN

SQ-2-3201

FIGURE NUMBER

WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA

DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE

| | | | | |
|------|--------|----------------------------|----|---------|
| A | 7-9-04 | Add and Changed Dimensions | RN | CL |
| REV. | DATE | DESCRIPTION | BY | CKD. BY |

| | |
|---------------|-------------------|
| WEIGHT POUNDS | VOLUME CUBIC FEET |
| | |

FIGURE NUMBER
SQ-2-3201