APPENDIX B

EXPLANATORY NOTES ON COMBINATION WASTE AND VENT SYSTEMS

(See Section 910.0 of the UPC–AD for Specific Limitations.)

B 1.0

Combination waste and vent systems, as outlined in Section 910.0 of this code, cover the horizontal wet venting of a series of traps by means of a common waste and vent pipe. Pipe sizes not less than two pipe sizes larger than those required for a conventional system are designed to maintain a wetted perimeter or flow line low enough in the waste pipe to allow adequate air movement in the upper portion, thus balancing the system. Sinks, lavatories, and other fixtures that rough in above the floor, shall not be permitted on a combination waste and vent system, which, at best, is merely an expedient designed to be used in locations where it would be structurally impractical to provide venting in the conventional manner.

Combination waste and vent systems are intended primarily for extensive floor or shower drain installations where separate venting is not practical for floor sinks in markets, demonstration or work tables in school buildings, or for similar applications where the fixtures are not adjacent to walls or partitions. Due to its oversize characteristics, such a waste system is not self-scouring and, consequently, care should be exercised as to the type of fixtures connected thereto and to the location of cleanouts. In view of its grease-producing potential, restaurant kitchen equipment should not be connected to a combination waste and vent system.

B 2.0

Caution must be exercised to exclude appurtenances delivering large quantities or surges of water (such as pumps, sand interceptors, etc.) from combination waste and vent systems in order that adequate venting will be maintained. Small fixtures with a waste-producing potential of less than 0.5L/s (7.5 gpm) shall be permitted to be safely assigned a loading value of one unit. Long runs should be laid at the minimum permissible slope in order to keep tailpieces as short as possible. Tailpieces shall not exceed 60cm (2 ft.) in length, which may necessitate slopes up to 0.8 radian (45 degrees) (see definition of *horizontal pipe*) on some branches.

B 3.0

It is essential that the pneumatics of such a system be properly engineered, as the air pressure within the line must at all times balance that of outside atmosphere in order to prevent either trap seal loss or air locking between traps. Long mains shall be provided with additional relief vents located at intervals not exceeding 30m (100 ft.). Each such relief vent shall equal not less than 1/2 of the inside cross-sectional area of the drain pipe served.

B 4.0

Trap sizes are required to be equivalent to the branches they serve, two pipe sizes larger than normal, and tailpieces between fixtures or floor drains and such traps should be reduced to normal size.

B 5.0

Duplicate layout drawings of each such proposed piping system must be presented to the Authority Having Jurisdiction and approval obtained before any installation is made. Complicated layouts should be checked by qualified personnel.

B 5.1 Example of Sizing.

A floor drain normally requires a 50mm (2 in.) trap and waste. On a combination waste and vent system, both trap and waste must be increased two pipe sizes through 65mm and 80mm (2-1/2 in. and 3 in.), which would make the trap 80mm (3 in.). Pipe sizes recognized for this purpose are 50mm, 65mm, 80mm, 90mm, 100mm, 115mm, 125mm, 150mm, etc (2 in., 2-1/2 in., 3 in., 3-1/2 in., 4 in., 4-1/2 in., 5 in., 6 in., etc.). The tailpiece between the floor drain and its trap should be 50mm (2 in.) (or normal size) to ensure that the amount of wastewater entering the trap only partially fills the waste branch. A 80mm (3 in.) floor drain would thus require a 100mm (4 in.) trap, a 100mm (4 in.) floor drain, and a 125mm (5 in.) trap, etc., for the reasons previously stated.

WHEN IN DOUBT, CHECK WITH YOUR LOCAL AUTHORITY HAVING JURISDICTION.