

provided that the wet vent from the lavatories and their dry vent is two (2) inch (50 mm) minimum pipe size and the length of all trap arms comply with the limits in Table 10-1.

### L 7.0 Circuit Venting.

**L 7.1 Circuit vent permitted.** Circuit venting shall be designed by a registered professional engineer as an engineered design. A maximum of eight fixtures connected to a horizontal branch drain shall be permitted to be circuit vented. Each fixture drain shall connect horizontally to the horizontal branch being circuit vented. The horizontal branch drain shall be classified as a vent from the most downstream fixture drain connection to the most upstream fixture drain connection to the horizontal branch.

**L 7.1.1 Multiple circuit-vented branches.** Circuit-vented horizontal branch drains are permitted to be connected together. Each group of a maximum of eight fixtures shall be considered a separate circuit vent and shall conform to the requirements of this section.

**L 7.2 Vent size and connection.** The circuit vent shall be a minimum of 2 inches (50 mm) in diameter and the connection shall be located between the two most upstream fixture drains. The vent shall connect to the horizontal branch on the vertical. The circuit vent pipe shall not receive the discharge of any soil or waste.

**L 7.3 Slope and size of horizontal branch.** The maximum slope of the vent section of the horizontal branch drain shall be 1 inch per foot (25 mm per 305 mm). The entire length of the vented section of the horizontal branch drain shall be sized for the total drainage discharge to the branch.

**L 7.3.1 Size of multiple circuit vent.** Multiple circuit vented branches shall be permitted to connect on the same floor level. Each separate circuit-vented horizontal branch that is interconnected shall be sized independently in accordance with Section L 7.3. The downstream circuit-vented horizontal branch shall be sized for the total discharge into the branch, including the upstream branches and the fixtures within the branch.

**L 7.4 Relief vent.** A 2-inch (50 mm) relief vent shall be provided for circuit-vented horizontal branches receiving the discharge of four or more water closets and connecting to a drainage stack that receives the discharge of soil or waste from upper horizontal branches.

**L 7.4.1 Connection and installation.** The relief vent shall connect to the horizontal branch drain

between the stack and the most downstream fixture drain of the circuit vent. The relief vent shall be installed on the vertical to the horizontal branch.

**L 7.4.2 Fixture drain or branch.** The relief vent is permitted to be a fixture drain or fixture branch for a fixture located within the same branch interval as the circuit-vented horizontal branch. The maximum discharge to a relief vent shall be four fixture units.

**L 7.5 Additional fixtures.** Fixtures, other than the circuit-vented fixtures, are permitted to discharge to the horizontal branch drain. Such fixtures shall be located on the same floor as the circuit-vented fixtures and shall be either individually or common vented.

### L 8.0 Single-Stack Vent System

**L 8.1 Where permitted.** Single-stack venting shall be designed by a registered professional engineer as an engineered design. A drainage stack shall be permitted to serve as a single-stack vent system when sized and installed in accordance with Sections L 8.2 through L 8.9. The drainage stack and branch piping in a single-stack vent system shall provide for the flow of liquids, solids, and air without the loss of fixture trap seals.

**L 8.2 Stack Size.** Drainage stacks shall be sized according to Table L-3. A maximum of two water closets shall be permitted to discharge to a 3-inch (80 mm) stack. Stacks shall be uniformly sized based on the total connected drainage fixture unit load, with no reductions in size.

**L 8.2.1 Stack Vent.** The drainage stack vent shall have a stack vent of the same size terminating to the outdoors.

**L 8.3 Branch Size.** Horizontal branches connecting to a single-stack vent system shall be sized according to Table 7-5.

#### Exceptions:

(1) No more than one water closet within 18 inches (457 mm) of the stack horizontally shall be permitted on a 3-inch (80 mm) horizontal branch.

(2) A water closet within 18 inches (457 mm) of a stack horizontally and one other fixture with up to 1-1/2 inch (40 mm) fixture drain size shall be permitted on a 3-inch (80 mm) horizontal branch when connected to the stack through a sanitary tee.

### L 8.4 Length of horizontal branches.

**L 8.4.1** Water closets shall be no more than four (4) feet (1,219 mm) horizontally from the stack.