

2009 PLUMBING CODE REQUIREMENTS

ANTRIM COUNTY – BUILDING DEPARTMENT

PO BOX 188 – 205 CAYUGA STREET

BELLAIRE, MI 49615

(231) 533-8373 FAX (231) 533-6041

Inspection Request Line – (231) 533 - 3510

Plumbing requirements for residential buildings per the 2009 Michigan Residential Code Chapters 1, 3 and 25 through 33.

Signed and sealed construction documents prepared by a registered design professional for a plumbing **layout** plan is required for all commercial projects and projects that meet the requirements as on the plumbing application for large residential (over 3500 sq ft) for plan review. See the following example pages for venting requirements, bathroom fixture clearance and ceiling height.

Most common violations on plumbing installation:

1. P2708.3 & P2713.3; Shower valves **MUST BE pressure balanced and thermostatic mixing** in accordance with ASSE 1016. Tub valves temperature limit 120° by ASSE 1070 Device.
2. No ALL purposes glue on PVC or CPVC pipe and fittings.
3. P3003: Use only approved glue for PVC, CPVC, and ABS.
4. P3003: Use approved primer on PVC, CPVC pipe and fittings.
5. P3005.1: No tees on sewer horizontal drain lines, **MUST** use wyes.
6. P3005.2: Install clean-outs at base of stack's, change of directions, and at exit of buildings. Must allow 18 inches in front of clean out.
7. P3103.2: Minimum size sewer vent through the roof 3 inches.
8. P3005.3: Minimum slope on 2 inch drain lines and smaller, ¼ inch of fall per foot.
9. P3005.3: Minimum slope on 3 inch drain lines and larger, 1/8 inch of fall per foot.
10. P3003.10.3 & P3003.11.3: Use lead free solder on copper water lines.
11. P2603: Must install fire stopping and nail-guards as required on floor and ceiling penetrations.

12. Chapter 2 - Water temperature should be 110° - 140°, and showerhead should be maximum 120°. Commercial barrier free accessible should be 110° maximum.

SECTION R305 – CEILING HEIGHT

R305.1 Minimum Height. Habitable space, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). The required height shall be measured from the finish floor to the lowest projection from the ceiling.

- Exceptions:
 1. For rooms with sloped ceilings, at least 50 percent of the required floor area of the room must have a ceiling height of at least 7 feet (2134 mm) and no portion of the required floor area may have a ceiling height of less than 5 feet (1524 mm)..
 2. Bathrooms shall have a minimum ceiling height of 6 feet 8 inches (2036 mm) at the center of the front clearance area for fixtures as shown in Figure R307.1. The ceiling height above fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a minimum ceiling height of 6 feet 8 inches (2032 mm) above a minimum area 30 inches (762 mm) by 30 inches (762 mm) at the showerhead..

SECTION R306 - SANITATION

R306.1 Toilet Facilities. Every dwelling unit shall be provided with a water closet, lavatory, and a bathtub or shower, and automatic clothes washer connection.

R306.2 Kitchen. Each dwelling unit shall be provided with a kitchen area and every kitchen area shall be provided with a sink.

R306.3 Sewage Disposal. All plumbing fixtures shall be connected to a sanitary sewer or to approved private sewage disposal system.

R306.4 Water Supply to Fixtures. All plumbing fixtures shall be connected to an approved water supply. Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs and washing machine outlets shall be provided with hot and cold water.

SECTION R307 – TOILET, BATH AND SHOWER SPACES

R307.1 Space Required. Fixtures shall be spaced as per Figure R307.1 & P2705.1.

R307.2 Bathtub and Shower Spaces. Bathtub and shower floors and walls above bathtubs with installed showerheads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet (1829 mm) above the floor.

P2503.6 Shower Liner Test. Where shower floors and receptors are made water tight by the application of materials required by Section P2709.2, the completed liner installation shall be tested. The pipe from the shower drain shall be plugged water tight for the test. The floor and receptor area

shall be filled with potable water to a depth of not less than 2 inches (51mm) measured at the threshold. Where a threshold of at least 2 inches high does not exist, a temporary threshold shall be constructed to retain the test water in the lined floor or receptor area to a level not less than 2 inches deep measured at the threshold. The water shall be retained for a test period of not less than 15 minutes and there shall be no evidence of leakage. *****This must be witnessed by an Inspector*****

SECTION P3105 – FIXTURE VENTS

P3105.1 Distance of Trap From Vent. Each fixture trap shall have a protecting vent located so that the slope and the developed length in the fixture drain from the trap weir to the vent fitting are within the requirements set forth in Table P3105.1.

Table P3105.1
MAXIMUM DISTANCE OF FIXTURE TRAP FROM VENT

SIZE OF TRAP (INCHES)	SLOPE (INCH PER FOOT)	DISTANCE FROM TRAP (FEET)
1 1/4	1/4	5
1 1/2	1/4	6
2	1/4	8
3	1/8	12
4	1/8	16

FOR SI: 1 INCH = 25.4 mm, 1 FOOT = 304.8 mm, 1 INCH PER FOOT = 83.3 mm/m.

P3105.2 Fixture Drains. The total fall in a fixture drain due to pipe slope shall not exceed one pipe diameter, nor shall the vent pipe connection to a fixture drain, except for water closets, be below the weir of the trap.

SECTION P3111 – COMBINATION WASTE AND VENT SYSTEM

P3111.1 Type Fixtures. A combination waste and vent system shall not serve fixtures other than floor drains, sinks and lavatories. A combination waste and vent system shall not receive the discharge of a food waste grinder.

P3111.2 Installation. The only vertical pipe of a combination drain and vent system shall be the connection between the fixture drain and the horizontal combination waste and vent pipe. The maximum vertical distance shall be 8 feet (2438 mm).

P3111.2.1 Slope. The horizontal combination waste and vent pipe shall have a maximum slope of one-half unit vertical in 12 units horizontal (4-percent slope). The minimum slope shall be in accordance with Section P3005.3.

P3111.2.2 Connection. The combination waste and vent systems shall be provided with a dry vent connected to a point within the system or the system shall connect to a horizontal drain that is vented in accordance with one of the methods specified in this chapter. Combination waste and vent systems connecting to building drains receiving only the discharge from a stack or stacks shall be provided with a dry vent. The vent connecting the combination waste and vent pipe shall extend vertically not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented before offsetting horizontally.

P3111.2.3 Vent Size. The vent shall be sized for the total fixture unit load in accordance with Section P3113.1.

P3111.2.4 Fixture Branch or Drain. The fixture branch or fixture drain shall connect to the combination waste and vent within a distance specified in Table P3105.1. The combination waste and vent pipe shall be considered the vent for the fixture.

P3111.3 Size. The minimum size of a combination waste and vent pipe shall be in accordance with Table P3111.3.

**TABLE P3111.3
SECTION P3114 AIR ADMITTANCE VALVES
SIZE OF COMBINATION WASTE AND VENT PIPE**

DIAMETER PIPE (Inches)	MAXIMUM NUMBER OF FIXTURE UNITS (d.f.u.)	
	Connecting to a horizontal branch or stack	Connecting to a building drain or building sub-drains
2	3	4
2 ½	6	26
3	12	31
4	20	50

For SI: 1 inch = 25.4 mm.

P3114.1 General. Vent systems utilizing air admittance valves shall comply with this section. Individual-and branch-type air admittance valves shall conform to ASSE 1051. Stack type air admittance valves shall conform to ASSE 1050.

P3114.2 Installation. The valves shall be installed in accordance with the requirements of this section and the manufacturer’s installation instructions. Air admittance valves shall be installed after the DWV testing required by Section P2503.5.1 or P2503.5.2 has been performed.

P3114.3 Where Permitted. Individual vents, branch vents, circuit vents and stack vents shall be permitted to terminate with a connection to an air admittance valve. Individual and branch type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain.

P3114.4 Location. Individual and branch air admittance valves shall be located a minimum of 4 inches (102 mm) above the horizontal branch drain or fixture drain being vented. Stack-type air admittance valves shall be located a minimum of 6 inches (152 mm) above the flood level rim of the highest fixture being vented. The air admittance valve shall be located within the maximum developed length permitted for the vent. The air admittance valve shall be installed a minimum of 6 inches (152 mm) above insulation materials were installed in attics.

P3114.5 Access and Ventilation. Access shall be provided to all air admittance valves. The valve shall be located within a ventilated space that allows air to enter the valve.

P3114.6 Size. The air admittance valve shall be rated for the size of the vent to which the valve is connected.

P3114.7 Vent Required. Within each plumbing system, a minimum of one stack vent or a vent stack shall extend outdoors to the open air.

P3114.8 Prohibited installations. Air admittance valves without an engineered design shall not be used to vent sumps or tanks of any type.

