

January - December 2001

Mechanical Inspection Memo

Mechanical Inspection Memos are provided as a reference of updated procedures and code clarifications. This information does not change or replace the Pikes Peak Regional Building Code, adopted as law to provide minimum standards to protect the public health and safety. Reference the adopted Codes for exact standards. Permits for work are subject to the latest codes as amended by the Pikes Peak Regional Building Code.

The information is categorized as general information, administrative inspection policies, mechanical, plumbing, manufactured homes and townhomes. Topics are alphabetized for easy reference and includes the month that it was published. You also may use word search.

PIKES PEAK REGIONAL BUILDING DEPARTMENT

General Information

ADMINISTRATIVE RULINGS — Administrative Rulings by the Building Official are policies instituted by RBD departments. Most are generic to several departments, such as the “advance inspection notice” and “hazardous construction sites.” (Sept 2001)

BASEMENT FINISH PERMITS — A basement finish during construction requires a separate permit when a rough inspection (inside gas, plumbing or residential rough inspection) has been performed before the basement is framed. Inspectors will note comments regarding the presence or absence of framing in the basement during routine inspections. (July 2001)

CHANGES TO APPROVED PLANS — Variations from approved plans, including appliance sizes and numbers, bath and dryer exhaust numbers and locations, must be resubmitted for approval by plan check. (Sept 2001)

CHANGES TO PREVIOUSLY INSPECTED SYSTEM — Changes to a system that was previously inspected and approved, will be entered as a complaint for that discipline. The status of the previous inspection will be changed to “Reject” and will require a re-inspection. NOTE: If the building frame inspection has been completed, a STOP WORK order will be issued. (August 2001)

CO & TCO DECISIONS — Mechanical Division inspectors are not authorized to issue a CO (Certificate of Occupancy) or TCO (Temporary Certificate of Occupancy) or make recommendations regarding the occupation of a structure, residential or commercial. Granting or denying a TCO or CO is an administrative decision based on the input from governmental agencies and Pikes Peak Regional Building Department that considers inspection reports from several divisions, including Mechanical. Please see Section 16-4-202 of the 1999 Pikes Peak Regional Building Code. (May 2001)

CONSENT CALENDAR ITEMS — The following variance requests are eligible for the Consent Calendar, but are restricted to basement finishes and additions: *Dimensions that vary significantly from the listed items require a formal variance request.*

- 1) Water closet clearances of 14 inches at the sides, 22 inches at the front;
- 2) Showers with rough dimensions of 32 inches by 32 inches; and
- 3) Bath exhaust that terminates within 24 inches of an opening into a building. (June 2001)

INSPECTION REQUESTS BEFORE WORK IS READY — Inspections will record the work was not ready and a \$30 re-inspection fee will be assessed. Inspectors do not provide a detailed list of work to be completed; this is the job of the site supervisor/contractor. (Feb 2001)

LIST OF CODE CORRECTIONS AFTER INSPECTION — If a correction notice or list of code deficiencies is left at the inspection site, it will be attached to an orange supplemental inspection log card and placed with the building permit card. (Nov 2001)

PLACARD (YELLOW) — Place the inspection placard in a readily accessible place on site for the inspectors. (March 2001)

PLACARD (BLUE) — A blue-colored, permit inspection record card signifies the structure is located within the floodplain and requires a final inspection completed by the Floodplain Administration prior to the issuance of a Certificate of Occupancy (CO). This applies to all new construction including manufactured, both temporary and permanent sets. (May 2001)

RESIDENTIAL PLANS ON SITE — Plans must be on site during residential rough inspection to verify furnace, boiler sizing as well as bath and toilet exhausts. This applies to any new master, site specific or revised master plans that received a permit on or after January 1, 2001. (April 2001)

UTILITY METER RELEASE — Only after the construction meter inspection (HC) is completed and entered on the permit record will a meter release statement be faxed to the utilities department. (March 2001)

VALUATION — Permit applications should contain accurate valuations that include all material, labor and overhead. If the valuation appears excessively low, the permit application will be reviewed by the Supervisor of Mechanical inspections and a copy of the contract may be required for verification. (March 2001)

VARIANCE REQUESTS — Inspectors do not grant variance requests, even if eligible for the Consent Calendar. The requests must be formally requested in writing and placed on the Mechanical Committee meeting agenda. (Feb 2001) Applicants for “consent” items do not have to be present at the meeting. Applicants for other items, such as “variance” requests, must attend the meeting. All other requirements are the same. (Sept 2001)

WORK WITHOUT PERMIT VIOLATION — Clarification of Section 16-3-210, regarding assessment of fees for work performed without a permit. When a complaint is filed and/or inspection validates work has been performed without a permit, the violation is noted on record by address. A double fee will be attached and assessed to the individual who pulls the permit on the same work, regardless if it is the original contractor, new contractor or property owner. (April 2001)

* Administrative Ruling

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Inspection Policies

ACCESS REQUIREMENTS — When an inspector cannot access the property the inspection will not be performed.

- 1) A notice will be put on the front door, unless impeded (dogs, etc.). Federal law prohibits putting materials other than official mail in mail boxes. (April 2001)
- 2) Inspectors do not enter premises for inspections unless an adult, 18 years or older, is present.* (June 2001)
- 3) Sites must be safely accessed by inspector's vehicles or within a reasonable walking distance. Inspectors may not ride in a contractor's or other individual's vehicle while performing their jobs.* (May 2001)
- 4) See "Unsafe Site Conditions" policy (below)

ACCESS & UNSAFE SITE CONDITIONS — Inspections will be cancelled if there is no safe access to the site and/or hazardous conditions present a health risk to inspectors. When an inspection must be cancelled due to unsafe conditions or access, a trip fee will be assessed. Unsafe conditions will be reported to the Building Official who may contact the contractor/builder or directly report the site to OSHA, depending on the level of danger and/or repetitive reports.* (May 2001)

CIVIL DISPUTES — Inspectors do not get involved or offer opinions in disputes between contractors, subcontractors, property owners or other person or entity.* (May 2001)

DESIGN ADVICE REQUESTS — Inspectors do not give advice regarding design or changes to approved plans. Design factors include furnace numbers and sizes, bath and dryer exhaust numbers and locations, etc. Discussion is limited to code. (May 2001)

INSPECTION DECISIONS & VARIANCES — The inspector is authorized to pass, partial or reject work based on the code standards. If the work does not meet the minimum standards prescribed in the Code and is rejected, you may request a variance through the appeals process. PPRBC Section 16-1-402 and 16-1-403. (May 2001)

LIMITATION OF WORK INSPECTED — Inspections must be specifically requested by the contractor responsible for the work. The inspector will not check work performed by another contractor who did not request an inspection prior to the site visit.

NO TRESPASSING SIGNS — When a "NO TRESPASSING" sign is posted on a property, an inspection will not be made regardless if a permit was issued; it will be reported to the Building Official. If work is performed without a permit and a "NO TRESPASSING" sign impedes posting of a "STOP WORK" order, the violation will be forwarded to the governmental attorney in the jurisdiction.* (Feb 2001)

REPORTING DANGEROUS CONDITIONS/WORK WITHOUT PERMIT — If dangerous conditions are observed during inspection or work without permit, inspectors will note and inform the Supervisor of Mechanical Inspections. (May 2001)

REMOVAL OF MATERIALS — If work appears to violate code requirements, the inspection will require removal of materials, such as tape and/or screws. If a contractor objects to an inspector removing materials, the inspection will be discontinued until the contractor is present and removes the material; PPRBC Section 10-14-102.

Examples include, but are not limited to, the following common situations: (June 2001)

- 1) Removal of tape to verify crimp joint connections; and
- 2) Installation of joints in type B vents are fastened with screws that appear to penetrate the lining. (RBD and manufacturer's installation instructions allow screws to be used as fasteners, but they cannot penetrate the lining.)

Mechanical

ACCESS TO EQUIPMENT FOR REPLACEMENT — In compliance with the 1997 UMC Section 307.1, access to equipment for replacement is mandatory, and extends to the service side of the appliance. Installations requiring equipment to be "lifted" over drain lines, water lines, meters, etc. do not comply with the code provisions. (Aug 2001)

AIR DUCT & PLENUM SUPPORT — UMC Sections 603.4 and 601.1.2 allow ceilings to be used as support for factory-made air ducts and complete plenums. (June 2001)

AIR EXHAUST ENVIRONMENTAL — A reminder that environmental air exhausts serving dryers, bathrooms and toilet compartments must terminate at least 3 feet from any opening that allows air entry into occupied portions of a building. The exception is an opening into the room from which the exhaust originates. (Oct 2001)

* Administrative Ruling

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Mechanical

APPLIANCE SPECIFICATIONS FOR INDOOR/OUTDOOR USE — Appliances and equipment must be installed according to their listing and the manufacturer's installation instructions; 1997 UMC Sections 302.1 and 303.1. The 2001 edition of the Underwriters Laboratories (UL) Directory of Heating, Cooling, Ventilation and Cooking Equipment states, "Unless outdoor use is specifically indicated in the general Guide Information for the product category or included in the individual Listings of the product, individual products have been investigated only for use indoors, unless the product by its inherent nature is obviously intended for use outdoors." This also applies to items listed in the 1997 UMC Section 901. (Dec 2001)

APPLIANCE IN CONFINED SPACE — Regarding Table 7-A, column 1, condition #2 of Table 7-A of the 1997 UMC. If this method is used when a home is built with an unfinished basement, modification of the combustion air system may be required when a permit is issued to finish the basement. (May 2001)

CLEARANCES — Dimensions for clearances to combustibles of gas appliances can be found on the data plate and may vary per each manufacturer's specifications. Refer to UMC Section 304.6. Clearances for maintenance and replacements may differ from and override the clearances to combustibles. Dimensions in UMC Section 304.7 apply to rooms/spaces that are not large in comparison to the size of the equipment as defined in UMC Section 220. The side, back and top clearances of replacements should comply. (Jan 2001)

CLEARANCES FROM COMBUSTIBLES FOR VENTS — Maintain clearances throughout the structure, including the vibration isolators at the supply and return air ducts. Unless listed 0/0 for flame/smoke, isolators are combustible materials. (Aug 2001)

COMBUSTIBLE/NONCOMBUSTIBLE VERSUS RATED/NONRATED CONSTRUCTION — As stated in the "reduced clearance to combustible" letter from Heat-N-Glow regarding all fireplace installations, if Duro Rock/cement board/tile is installed over combustibles at the face of the fireplace, clearances may be reduced. The recessed part of the fireplace must maintain the clearance as stated in the manufacturer's installation instructions. (March 2001)

COMBUSTION AIR — All or part of the required combustion air is to be obtained from the inside a building of ordinary tight construction; 1997 UMC Section 701.3. (May 2001)

COMBUSTION AIR DUCT CALCULATIONS — When applying combustion air via a vertical duct, the installation of two elbows, which are joined directly together for offset purposes, is considered a vertical duct and combustion air is calculated at 1-square inch/4,000 BTUs. If any length of pipe is inserted between two elbows used as an offset, the combustion air duct is considered horizontal and is sized at 1-square inch/2,000 BTUs. (May 2001)

COMBUSTION AIR DUCT (UPPER) — The upper air duct must "extend horizontally or upwards to the outside of the building;" 1997 UMC Section 703.1 #2. (Aug 2001)

COMBUSTION AIR GRILL INSTALLATION — When finishing a basement, if it is structurally impossible to install the upper combustion grill within 12" of the ceiling, the grill is to be installed as high as possible. If the top of the grill is below the door frame level, a fully louvered door is required. This applies to both basement finishes and new construction. (June 2001)

COMBUSTION AIR GRILLS (LOUVERS) — Total overall dimension is reduced 25 percent to calculate the free opening area. Grills not within this standard must be replaced or sized per the manufacturer's specifications of net free area. (Aug 2001)

COMBUSTION AIR TO MECHANICAL ROOMS — If a mechanical room only contains a furnace and combustion air from outside is connected to the return duct on the furnace, a permanent opening on the supply duct is an acceptable method to obtain combustion air to the unit. (April 2001)

CRIMP JOINTS — For round ducts, crimp joints must have a minimum contact lap of 1 1/2" and be mechanically fastened with at least three screws evenly spaced. The use of a 1 1/2 " band around joints as a repair does not comply with UMC Section 601.1.1 or the standards of the Sheet Metal & Air Conditioning Contractors National Association (SMACNA). (Oct 2001)

DUCT SYSTEM SUPPORT MATERIAL — Support material for residential duct systems must be either galvanized steel or material that meets the flame and corrosion requirements of UL 181; 1997 UMC Section 603.4 (Jan 2001)

DURA/CONNECT II VENT CONNECTOR — The Dura/Connect II vent connector is now considered a type B double wall connector when applying the (Gas Appliance Manufacturers Association) GAMA Tables, Table 3. This information was received from Simpson DuraVent and Underwriters Laboratories. (Nov 2001)

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ELECTRICAL DISCONNECT FOR EQUIPMENT — A means of disconnect to each piece of equipment is required per the Electrical Code. A breaker at the panel meets this requirement for electric water heaters. Note: Electrical wiring entering the water heater jacket must be protected with appropriate sleeves/collars. 1997 UMC Section 306.2. (Oct 2001)

FIREPLACE INSERT/APPLIANCE REPLACEMENT INSTALLATIONS & VENTS — If a new vent is required for installation, the work must be stated on the permit and have an HV inspection; vent installation is an additional fee to the flat rate permit charge. (Feb 2001)

FIREPLACE INSTALLATION INSPECTION — The residential rough inspection of a fireplace inspection includes: (Feb 2001)

- 1) Joints in duct system, "S" and rive joints as well as crimped and flange joints at takeoffs;
- 2) Flapper function in back-draft dampers; and
- 3) Roof jack, collar and care are in place. If jack is not permanently in place, spacer/stays are required on the vent to prevent movement during the roofing installation. Exception: Installation of a roof jack from the inside as well as one above the roof, an inside jack is acceptable in lieu of spacer/stays.

Note: Installation in existing structure with new electrical wiring for operation won't pass final inspection without an electrical permit. (Jan 2001)

FIREPLACES — Wood-burning fireplaces with gas outlets stubbed into the firebox are inspected by the Building inspectors. When or if a gas log is installed, the inspection will be performed by Mechanical inspectors. (March 2001)

FLEXIBLE AIR CONNECTORS — Whether listed or non-listed, flexible air connectors as a Class 0 or Class I are not permitted by the 1997 Uniform Mechanical Code (UMC), Sections 601.5 and 704.1. (Nov 2001)

GAMA VENTING TABLE — When applying note 19b of the GAMA Venting Tables, references to the listed appliance area, flue collar and draft hood outlet are considered one and the same. This clarification was received from the Simpson Duravent engineering staff. (Nov 2001)

GAS METER RELEASE — For structures requiring an outside gas line inspection, a meter release will be issued after the inside gas, residential rough and outside gas line inspections are completed and the shut-off valve at the house is installed and capped or plugged. The connection between the inside and outside gas lines is not required for the meter set. NOTE: If the gas shut-off valve is not present and capped or plugged, a follow up inspection and \$30 trip fee is required to release the meter. (May 2001)

GAS LINE ONLY PERMIT THAT EXCLUDES APPLIANCE — An additional permit for the appliance/appliances served by the gas line is required with the exception of a portable appliance (barbecue). The inspection of the gas permit will not be delayed; a separate inspection of the appliance/appliances is required. (August 2001)

GAS PIPING HANGERS — Hangers in UPC Sections 314.7 & 1312.9 are acceptable for gas piping, including CSST. (Aug 2001)

GAS PRESSURE REGULATING VALVES — Vents for gas pressure regulating valves must be piping material that complies with UMC Section 1319.3. (Aluminum and soft copper is unacceptable material.) A shut off valve must be installed immediately preceding each regulator. These regulations also apply to gas pressure regulating valves at the house for step-down systems, including LP. (Jan 2001)

GAS STANDARDS — For gas product approval purposes, the mark of CSA is the same as AGA. The American Gas Association (AGA) was replaced by the Canadian Standards Association (CSA) in United States, effective January 1, 2000. (March 2001)

GAS SHUT OFF VALVES — In compliance with UMC Sections 1311.1 and 1311.4, gas shut off valves approved for fuel gas must have embossed stamp of UL or AGA. NOTE: Valves stamped WOG are only approved for medical gas, NOT fuel gas. (Jan 2001)

GAS SYSTEM LABELING — Section 1319.7 of the Pikes Peak Regional Building Code requires all medium and high pressure gas lines to be labeled every 6 feet on center. This also applies to both risers for underground installations, including propane systems. (Jan 2001)

HOME THEATER VENTILATION — The mechanical inspection includes outside air as well as exhaust. If the heating system has the combustion air attached to the return plenum and a heat run is installed in the theater room, an "on" fan switch either at the thermostat or furnace is acceptable. (March 2001)

HYDRONIC PIPING (HWP) INSPECTIONS — HWP inspection is limited to piping within the structure, not exterior work. (Aug 2001)

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INSPECTION & HEAT LOSS CALCULATIONS — Plans approved after Jan. 18, 2001, and included heat loss calculations, must be on site during the rough mechanical inspection to verify appliance BTU inputs and bathroom exhaust requirements. (Aug 2001)

INSULATION OF B-VENT CHASE — Using insulation as a fire stop around a B-vent chase in an R-3 occupancy is acceptable if the insulation depth does not exceed the depth of the floor joists. (March 2001)

LP DRAIN AND PLACEMENT OF APPLIANCES — UMC Section 304.5 does not allow liquid petroleum-burning appliances in an area where fuel vapors may dangerously collect, including walkout basements. PPRBC Section 16-4-102.D, #5 requires inspection of the liquid petroleum (LP) drain. The LP drain must be installed inside the structure and inspected at the time of the plumbing base inspection. Note: An LP detector is acceptable only when an LP drain cannot be installed as stated in the PPRBC. (June 2001)

MARTIN'S COMBUSTION AIR DUCTS INSTALLATION GUIDELINES — Martin Industries has sent written clarification to install required combustion air ducts according to the fireplace installation guidelines — do not use the air kit instructions as they are in conflict. (Nov 2001)

METAL FAB FLEXIBLE FLUE LINERS — Metal Fab stated that flexible flue liners may be joined to create longer lengths, but requires "a minimum of four #8 - 32 x 1/2 inch sheet metal screws evenly spaced around the circumference of the connector." (July 2001)

METAL FAB B-VENT — Metal Fab B-Vent has been evaluated and listed by UL to mate with six specifically identified and UL listed round gas vents in 3-inch through 6-inch diameters. Adapting to the female end of a specified existing gas vent does not require a special adapter. However, adapting to the male end does require a special adapter. (Oct 2001)

REFRIGERATION LINE SUPPORT — It is acceptable to use sheet rock on the ceiling as support without installing additional hangers. However, make certain that insulation on the lines is not torn, leaving lines exposed. This could damage the ceiling. Using plastic pipe as a conduit is an acceptable method of protection. (April 2001)

REFRIGERATION SYSTEM & UNDERGROUND JOINTS — All underground joints in a refrigeration system must be brazed. Sta-Brite cannot be used in this application. Mechanical Committee decision. (Aug 2001)

REFRIGERATION LINES - PROTECTION OF SOFT COPPER LINES — 1997 UMC Section 1110.3 requires refrigeration lines of soft, annealed copper to be protected from damage. Note: Exception #2 is not applicable for refrigeration lines installed in a garage that is classified by UMC as U occupancy. (June 2001)

SIMPSON DURAVENT ADAPTERS — The manufacturer's installation instructions require the inner wall of the adapters go on the outside of the inner liner of the existing vent regardless of the flue gas direction. Simpson Duravent adapters are approved for use in all jurisdictions served by Pikes Peak Regional Building Department. (April 2001)

STA BRITE SOLDER — The Mechanical Committee approved the use of Sta Brite solder to join copper refrigeration lines as an alternative method to Section 1110.7 of the 1997 Uniform Mechanical Code. However, if a particular manufacturer's installation instructions refer to "brazing only" for connections to units, approval from the manufacturer must be obtained prior to the use of Sta Brite in a letter from the manufacturer or their agent, and NOT from a dealer or supplier. (May 2001)

STYROFOAM FOR RESIDENTIAL FURNACES — The Mechanical Committee approved the use of Styrofoam in supporting residential furnaces under the following conditions: There is a minimum 300 square inches of bearing surface, a maximum height of 6 inches, and the Styrofoam does not extend outside of the furnace cabinet. (Jan 2001)

TRANSFER MAKEUP AIR GRILLS — To size transfer grills for makeup air to clothes dryer compartment/room, reduce outside dimension of grill by 25 percent to obtain net free area. Unlike combustion air, gaps around and under doors may also be counted. (Oct 2001)

VENT INCREASER FOR CATEGORY 1 APPLIANCE — When a vent outlet from a Category 1 appliance is smaller than the vent or vent connector size required by the Gama tables, a listed vent increaser must be used to attach the vent or connector to the appliance. A water heater diffuser may have the larger vent/ connector attached directly to it if properly fastened and sealed. (Sept 2001)

VENT CONNECTOR- SINGLE WALL — Single wall vent connectors must be a minimum 28 gauge metal; UMC Section 815.2.1. (June 2001)

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VENT CONNECTOR INSTALLATION — Connectors should be installed as high as the available head room in all instances regardless if gas appliances are contained in a mechanical room or unfinished basement. Review Section 816.8 of the 1997 Uniform Mechanical Code. In addition, Sections 804.2, 805.1 and 815.9 of the UMC address physical protection and prevention of joint separation. (April 2001)

VIBRATION ISOLATORS — If vibration isolators connecting duct work to the furnace are missing during the residential rough inspection, it will be noted on the inspection card. Installation will be verified on the final inspection. (Nov 2001)

WATER HEATERS & WOOD SHIMS — Do not use untreated wood shims to level water heaters; UMC Section 314.7. (Aug 2001)

Plumbing

AIR ADMITTANCE VALVES ON ISLAND FIXTURES — Listed air admittance valves can be installed on island fixtures; this exception also applies to "peninsula" fixtures that can be considered "island" fixtures due to structural conditions. 1997 UPC Section 906 as amended by the PPRBC. (Dec. 2001)

CLEANOUTS — Building drains and their horizontal branches require cleanouts at the upper terminals. Exceptions include:

- 1) A horizontal branch drain less than 5 feet in length and not serving a sink or urinal;
- 2) A horizontal branch drain that rises more than 18 degrees from the horizontal; and
- 3) Any horizontal branch drain above the first floor (building drain). All cleanouts are to remain accessible with the proper clearance in both finished and unfinished basements at the time of the final plumbing inspection. (July 2001)

CLEANOUTS AT TOP OUT AND FINAL INSPECTIONS — Per Section 707.4 of the 1997 UPC, clean outs must be accessible for top out and final inspections, including basement finishes. See exceptions in the code section, particularly #2 and #3. (March 2001)

DRAIN & VENT FOR FUTURE FIXTURES — When future plumbing fixtures are roughed in, the drains, except for traps and trap arms, and the vents for the system must be complete at the time of the top out inspection. (July 2001)

DRAINS, ACCESS FOR INSPECTION — Drains must be accessible and in full view. (May 2001)

ELECTRICAL DISCONNECT FOR EQUIPMENT — A means of disconnect to each piece of equipment is required per the Electrical Code. A breaker at the panel meets this requirement for electric water heaters. Note: Electrical wiring entering the water heater jacket must be protected with appropriate sleeves/collars. 1997 UMC Section 306.2. (Oct 2001)

FIXTURE VALUES FOR PARTIAL/TOTAL EMERGENCY USE — Floor drains intended solely for emergencies have a fixture unit value of 0. If used as an indirect waste receptor, the fixture unit value is equal to the flow it receives. (May 2001)

FLOOR DRAINS IN CRAWL SPACES — Floor drains located in under floor areas must be protected by a backwater valve. This will be verified during the final inspection. (May 2001)

FLOOR DRAINS & LOCATION — Floor drains are required in mechanical rooms or areas containing a furnace, water heater or black-flow prevention device and be located within 10 feet of each. A floor drain is not required under the following conditions:

- 1) In a new single family dwelling, when the furnace is located in the crawl space, and is not a condensing appliance and there are no provisions for air conditioning installation prior to the final inspection;
- 2) Water heaters with a drain pan located above a suspended ceiling; or
- 3) Water heaters located above a floor drain that is installed in the crawl space may have an area drain or pan with a drain indirectly wasted to the crawl space floor drain. (May 2001)

FLOOR DRAINS VENTED/UNVENTED — As plumbing fixtures, floor drains require traps with vents. However, the Pikes Peak Regional Building Code does allow an unvented floor drain if the following criteria is followed: (May 2001)

- 1) The unvented floor drain is located at least 18 inches and 15 feet maximum total developed length from a 3-inch or larger building drain or building drain branch.
- 2) The unvented floor drain has minimum 3-inch P-trap and tailpiece at least two pipe sizes smaller than the trap size, and the maximum vertical distance to the outlet is 24 inches. Exception: If a one-piece floor drain with an integral backwater valve is used, a 3"x2" reducer may be installed on the horizontal immediately prior to the floor drain.
- 3) The fixture drain of the unvented floor does not slope more than 45 degrees from the horizontal.

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FLOOR DRAIN UNVENTED ON BUILDING DRAIN — Section 902, 1997 UPC, as amended by PPRBC, allows one unvented floor drain on each building drain. The unvented floor drain branch and trap must be 3 inches in diameter with a 2-inch inlet. A floor drain branch is perceived as a wye branch by itself, connecting either to a 3-inch building drain or building drain branch. Unlike conventional installations, the 3-inch unvented floor drain connects to the side of the wye — not the straight-through portion. (Oct. 2001)

FLOOR SLOPE — Code does not dictate the floor slope to the drain. The terminal elevation of the floor drain must allow the drain to function for its intended use. When in contact with wood floors, as a fixture, the floor drain must be set level and sealed at the floor. (May 2001)

FREEZE PROOF YARD HYDRANTS — Freeze proof yard hydrants with an automatic drain valve located below ground do not comply with code. To comply, the inlet side must be provided with a back-flow prevention device; UPC Section 906. In addition, the hose outlet must be labeled “non-potable”; UPC Section 601.2.2. (A variance is required to use an unlisted product.) (Dec 2001)

FREEZE PROTECTION OF TRAPS — UPC Section 1005 requires traps to be protected from freezing. When a trap is located in the floor joist between the house and an unheated garage below, the bottom of the trap must be no less than 4” above the bottom of the floor joist. Traps must be set true with respect to their water seals; installation that deepens or shallows the designed water seal depth does not comply. (Oct 2001)

INDIRECT WASTE RECEPTOR FOR CLOTHES WASHER — Installation of an indirect waste receptor for a clothes washer requires a stand pipe that is neither less than 18” nor greater than 30” in length, and a trap is neither less than 6” nor more than 18” above the floor. In both cases, the dimensions are taken to/from the trap weir. UPC Section 804.1. (Oct 2001)

MAGIC VENT PRODUCED BY RECTOR SEAL — Magic Vent air admittance valve meets the ASSE standard and is listed, and complies with the 1997 UPC Sections 301.2 and 906.1 as amended by the Pikes Peak Regional Building Code. (August 2001)

MULTIPLE KNOCK OUTS — If there are multiple knock outs on the automatic clothes washer box, the inspector will verify the correct one has been removed on the final inspection. (March 2001)

PEX INSTALLATION — Cross-linked polyethylene installation instructions require a 6-inch minimum clearance to a single wall vent, including the water heater vent connector. (March 2001)

PIPING & DAMAGE — Piping must be protected from mechanical damage, including protection from damages caused by a soldering torch during the original installation; 1997 UPC Section 313.5. Replacement is required for any plastic drain pipe that has been burned to the extent that it does not meet the physical requirements of Schedule 40 DWV. (August 2001)

PLUMBING BASE INSPECTION — The plumbing base inspection includes verification that the building drain extends outside the foundation and all portions are tested except the one joint on the outlet side of the test tee. In order to accomplish this, some projects may require a partial base inspection due to grade, depth and location of the basement. (August 2001)

QUEST PEX PIPE INSTALLATION — Requires maximum 32” horizontal support spacing; bending radius is a minimum 8 times the diameter; and the 6-inch clearance to an appliance vent applies to a single wall vent pipe. (Feb 2001)

REHAU PEX PIPE INSTALLATION CLARIFICATIONS — Pipes exposed to direct sunlight through the glazing must be protected in unfinished basements; a 12-inch clearance at a water heater vent applies only to the single wall; and a 50# air test is acceptable. (Feb 2001)

RUNNING TRAPS — Running traps are acceptable and not prohibited by code. Common usages may be for freeze protection, accessibility at lavatories and relocating fixture roughs under concrete floors. Tailpiece lengths are limited to a maximum of 24 inches on vertical and 30 inches on horizontal. For more information, see Sections 1001.2 and 1001.4 of the 1997 Uniform Plumbing Code. (April 2001)

SHOWER HEAD LOCATION — The control valve and shower head must be located so that the bather can adjust the valve before stepping into the shower spray and prevent the shower from discharging directly at the compartment entrance. (A hand held shower head mounted on a vertical rod complies with this code provision.) 1997 UPC 412.11. (Dec 2001)

STRAINERS — Strainers are required on all floor drains. However, a strainer inserted into the floor drain tailpiece is not accepted. Code requires the net free opening of the strainer to be equal to the cross section of the tailpiece. (May 2001)

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TOILET SEATS — Final inspection does not require toilet seats to be installed with the exception of commercial projects where open front seats are required. (March 2001)

TOP OUT INSPECTION — Vents are tested to the attic as well as the last group of fittings if joined together or offset in the attic. (March 2001)

TUB SPOUTS — Tub spouts mounted on decks around sunken tubs must provide a 1-inch air gap. (Oct 2001)

VENT AREA CALCULATIONS — Automatic air admittance valves are not used in calculating the vent area through a roof. (May 2001)

VENTS — All vents connecting to a horizontal drain line must have their invert above the flow line (rolled up) with the exception of wet-vented water closets. All horizontal dry vents serving water closets are to be “rolled up.” When applying UPC Sections 905.2 and 905.3, as amended by the PPRBC, the following is considered: (March 2001)

- 1) Structural conditions, floor joists, etc.
- 2) Location of trap weir to vent pipe opening, above or below.
- 3) Position of fittings, horizontal versus vertical.

WASHER (AUTOMATIC) ROUGH INSPECTION — An automatic washer is adequately supported if at least one side of the washer box is secured to the structure. (August 2001)

WATER SERVICE LINE CONDUCTOR — A #18 gauge copper tracer wire or other approved conductor must be installed in all plastic water service yard lines. The electrical feed to a pump on a well system, installed in the same trench as the yard service line, is an approved conductor. UPC Section 609.1 as amended by PPRBC. (Oct 2001)

WET VENTING SYSTEM — PPRBC amendments to the UPC Section 908 allow both vertical and horizontal wet venting. A wet vented system starts at the fixture(s) with a continuous vent and terminates at the last wet vented fixture, (a maximum of four). If the wet vented system contains any horizontal piping, size according to PPRBC Section 908.4. If the wet vented system contains only vertical piping (stacked tees), size according to UPC Section 908.2. Exceptions: Kitchen sinks and dishwashers in single family dwellings. (July 2001)

Manufactured Homes

OUTSIDE GAS LINE INSPECTION & MANUFACTURED, TEMPORARY SET HOMES — A separate permit and inspection is required for an outside gas line. The gas shutoff and pressure reducing valves (if applicable) must be present to final out the permit. (May 2001)

REPLACEMENT WATER HEATER & FURNACE INSPECTIONS IN MANUFACTURED HOMES — RBD no longer provides permits/inspections for replacement water heater & furnace installations unless the appliance is located outside the manufactured unit or in a basement. These functions are performed by the state. (Sept 2001)

STATE INSPECTIONS OF MANUFACTURED HOUSING — RBD will no longer issue permits or perform inspections of manufactured housing, but will complete inspections on permits issued prior to September 1, 2001. (Aug 2001)