

NOVEMBER/DECEMBER 2006

1) COMBUSTION AIR FOR APPLIANCES IN PROHIBITED LOCATIONS

Section 303.3, 2003 International Fuel Gas Code (IFGC) — Exceptions are deleted in IFGC and replaced with Section RBC303.4.5, 2005 Pikes Peak Regional Building Code (PPRBC) that states:

Exceptions. Appliances may be located in the areas listed above provided they comply with the following conditions:

1. Direct vent appliances;
2. Vented fuel gas-fired appliances, provided that the room meets the required volume criteria of Section 304.5, 2003 IFGC;
3. Appliances installed in a dedicated enclosure in which all combustion air taken directly from the outdoors in accordance with Section 304.6, 2003 IFGC. Access to the enclosure shall be through a solid door, weather stripped in accordance with the exterior door air leakage requires of the International Energy Conservation Code (IECC) and equipped with an approved self-closing device.

Discussion — Exception 2 references rooms communicating directly with the space in which the appliances are installed - including openings that are furnished with doors, and combustion air openings sized and located in compliance with Section 304.5.3 (transfer grilles).

Summary of clarification — RBC303.4.5 allows gas-fired appliance to obtain combustion air from spaces prohibited under Section 303.3, 2003 IFGC. In addition, the Mechanical Committee determined that transfer air grilles cannot be used, and that the acceptable options are use of louvered doors or no doors at all.

2) CHIMNEY LINERS

Section 503.5.3, 2003 IFGC, as amended by Section RBC305.4.66, 2005 PPRBC, deletes and replaces the exception.

Summary of clarification — In some cases a listed chimney liner cannot be installed at a close radius right angle. In this situation, a B vent elbow may need to be installed to transition the liner at the entry to the chimney. If the liner instructions are on site and a B vent transition has been installed, RBD does not require an additional external liner identification label.

3) CRAWL SPACE VENTILATION

Section R408, 2003 International Residential Code (IRC), allows the following methods for crawl space ventilation.

- a) Ventilate the space naturally with outside air per Section R408.2 (also see Section 406, 2003 IMC);
- b) Ventilate the space mechanically with outside air per Section R408.2, Exception 2;
- c) Condition the space through fixed openings connected directly to a conditioned space per Section 408.2, Exception 1;
- d) Condition the space mechanically with conditioned air per Section 408.2, Exceptions 3 & 5.*

*Discussion & Summary clarification — This can be accomplished with a supply air duct and return air path/duct both located in the space. Because the Code neither implies nor specifies the arrangement of the duct openings, there is no requirement for a distinct separation between the supply and return air openings. However, the amount of air supplied to the space needs to be controlled by a damper, register or by design.

4) WATER HEATER EXPANSION TANKS/PRESSURE RELIEF DEVICES FOR REPLACEMENT WATER HEATERS

If the expansion tank or pressure relief device was part of the original installation, it should be maintained. The tank or device is required at the time of inspection for any water heater designated as "commercial." Commercial is defined as a water heater installed to service any occupancy other than a single family dwelling (R-3), this includes "point of use" water heaters. Please refer to Section 608.3, 2000 Uniform Plumbing Code.

5) TEMPORARY GAS LINES & RELATED EQUIPMENT

Discussion — Temporary gas lines and equipment are not considered as "portable equipment and fuel sources" which are exempt from permits and inspections per RBC105.2.1, 2005 PPRBC. Because temporary gas lines and related equipment (usually leased) are not exempt and cannot be assumed to be in safe condition, these installations are viewed the same as a permanent installations.

Summary of clarification — Permit and inspections are required for temporary installations of gas lines and equipment in the same manner as permanent installations. Temporary gas lines are subject to appropriate testing under Section 406, 2003 IFGC, and will include 10 lbs for low pressure and 60 lbs for medium pressure. The temporary heating equipment are also checked for flame safety devices.

6) INSTALLATION OF REGISTERS, GRILLES & DIFFUSERS

Installations are required per Section 603.17, 2003 IMC

Discussion — Registers, grilles and diffusers are inspected at the final mechanical inspection. However, at that time there may be carpet or wood flooring being installed which prevents the register, grilles and diffusers from being in place. Therefore, it's agreed that the inspection will not be failed because these items were not in place at the time of inspection. This does not include areas such as crawl spaces and unfinished basements.

MECHANICAL - OCTOBER 2006

1) GAS PURVEYOR METER SETS & POLICIES

a) Meter Banks — Grouped meters that each serve a unit in a building (apartment buildings). A brass tag must be affixed to the fuel gas pipe indicating the address served. These must be in place before releasing the gas meter set to the gas purveyor. In addition, meter bank installations must be verified for gas delivery to each unit by the gas purveyor before the inspection is considered complete.

b) Multiple Meters — Individual meter that serves a unit and is not grouped with other meters (condominium or tenant finishes). A brass tag must be affixed to the fuel gas pipe that indicates the address served, and must be in place before releasing the gas meter set to the gas purveyor.

2) COMPLAINTS OF CODE VIOLATIONS — Complaints are now being investigated by the corresponding department of the specific type of complaint.

3) GAS APPLIANCE LOCATIONS — Section 303.3, Exception 2, 2003 IMC, is amended by the PPRBC to allow gas-fired appliances to be installed in locations when the criteria for an “unconfined space” is met. “Unconfined Space” is defined in Chapter 2 of the 2003 IMC.

4) WATER HEATER INSTALLATIONS IN NEW CONSTRUCTION — If a contractor has incurred problems of water heater thefts, he or she may call Jim Vernon to request a rough inspection without the water heater installation. If approved, Jim will communicate this exception to the appropriate inspector.

MECHANICAL - SEPTEMBER 2006

- 1) DRYER VENT & BATH EXHAUST DUCT ROOF TERMINATIONS — These terminations will now be inspected to comply with the manufacturers' installation instructions for the roof cap. The change to follow manufacturers instructions will affect the penetration hole size, length of duct above the roof line, and discontinued use of sealant at the roof deck.
- 2) RETURN AIR PLENUMS — Materials exposed within plenums such as electrical wiring ordinarily require 25/50 rated materials (refer to Section 602.2.1, 2003 International Mechanical Code). Because the code has exempted one and two family dwellings, wiring in plenums in these residential occupancies will be handled by the Electrical Inspection Division.
- 3) HRR INSPECTION CLARIFICATION — The Heating Residential Rough (HRR) inspection does not include the insulation envelope. The HRR inspection includes the duct work designed to be external of the insulation envelope and it must insulated by the time of the HRR inspection.
- 4) ATTIC FURNACE/AIR HANDLER INSTALLATIONS — A means of access (ladder) is required for inspections of new and replacement attic furnace/air handler installations in compliance with Section RBC109.2, 2005 Pikes Peak Regional Building Code. (This includes final inspections.)
- 5) WATER HEATER INSPECTIONS — In new construction, the Mechanical Inspection Division performs inspections of gas and vent piping, (the plumbing work is inspected by the Plumbing Inspection Division). Replacement water heaters are solely inspected by the Mechanical Inspection Division, including the relief drain termination installed with a minimum 1" air gap.
- 6) DRAIN LINES TERMINATING AT FLOOR DRAIN — When terminating at a floor drain, the drain lines (condensate or equipment) are situated so that the effluent will flow onto the strainer. This may be accomplished by zip tying the drain line to the edge of the strainer without damaging or impairing its function.
- 7) BATH EXHAUST DUCT INSTALLATION — Basement finish bath exhaust ducts may be installed by the general contractor.
- 8) RETURN AIR IN RESIDENTIAL BASEMENT — In a residential basement, return air:
 - a. Cannot be within 10' of the firebox or draft diverter of a gas-fired appliance per Section RBC305.4.100, 2005 Pikes Peak Regional Building Code. EXCEPTION: Basements constructed before November 1, 2005;
 - b. Cannot be greater than the square inches of supply air delivered to a finished or unfinished basement per Section RBC305.4.99, 2005 PPRBC;
 - c. Is not required in unfinished basements;
 - d. If return air is not installed in a finished basement, then it should be provided with a path of low resistance in size equivalent to 200 square inches, (RBD Mechanical Division interpretation of codes).

MECHANICAL — AUGUST 2006

- 1) ADMINISTRATIVE — Due to budget constraints, overtime is not approved for normal daily activities, but is acceptable if contractors want to schedule after hours inspections. Dress code reviewed.
- 2) *Welcome Jeff Bonner, our department's new mechanical inspector!*
- 3) LOCATION OF OUTSIDE AIR INTAKE OPENINGS — When addressing "Intake openings for outside air", there is no distinction between ventilation and combustion. Outdoor air intake openings must be located a minimum of 10' from any hazardous or noxious contaminant, (Section 401.5.1, 2003 IMC).
- 4) RESIDENTIAL AIR DUCT EXHAUST OPENINGS — Not considered hazardous or toxic are bath and dryer exhaust for group R-3 (includes single family dwelling). Bath and dryer exhaust is considered environmental exhaust, and code allows the air duct exhaust openings to be located 3 feet from an opening into the residential structure, (Section 502.7.3.6, 2003 IMC, item #3).
- 5) RESIDENTIAL GARAGE HEAT LOSS CALCULATIONS — Heat loss and design calculations are not required for a residential garage if it is not designed primarily for human occupancy and does not fit in the classifications in Section 101.2 of the 2003 International Energy Conservation Code.
- 6) GAS PIPE LABELING — Labeling is required for lines delivering elevated pressure. In addition to the product labeling, flexible stainless steel piping should be labeled as CSST, TRAC PIPE, etc.
- 7) DUCT PENETRATIONS IN A RESIDENTIAL GARAGE — Ducts penetrating the walls or ceiling which separate the garage from the dwelling, do not have to be fire dampered or enclosed in a shaft if the duct construction is minimum 26 gage and there are no duct openings in the garage area, (Section R309.1.1 of the 2003 International Residential Code.)

MECHANICAL & PLUMBING INSPECTION NOTES 2006

PLUMBING - OCTOBER 5 - 12, 2006

- 1) **PROTECTION OF WATER LINES THROUGH CONCRETE WALLS** — Waterlines through concrete walls must be encased in a minimum of 1.25 inch diameter sleeves. The sleeve can be 1.25 inch Armaflex or similar insulation with the interior hole to accommodate 3/4 inch ID water pipe centered in the material. However, where the pipe rests on concrete, it is unacceptable for the sleeve to consist only of caulk or foam. To protect the piping from concrete, there is to be a minimum of 1/4 inch annular cushion around the pipe for the entire depth of the wall. In addition, the hole in the concrete is to be smooth to avoid pipe damage and potential corrosion. (Please also refer to Oct. 26, 2000 staff notes.)
- 2) **AIR ADMITTANCE VALVES** — Identify where air admittance valves (AAV) will be located at the PTO inspection; this will help avoid a potential problem of a fixture without a vent at the final inspection.
- 3) **NOTE BACKFLOW DEVICE INSTALLATION** — Even though the backflow prevention device is part of the final plumbing inspection, please note in the inspection records the presence or absence of the device as a reference for the installation of a sprinkling system in the future. Note in the record if the device is installed and if it is not installed.
- 4) **TRAP GUARD PRIMER DEVICE** — Trap Guard primer devices, manufactured by ProSet Systems Inc., have been recommended by the Mechanical Committee as an acceptable alternate method and material for trap primers. This recommendation is subject to the approval of the Board of Review, and a decision is anticipated October 18.

PLUMBING - SEPTEMBER 14, 2006

- 1) **INSULATION IN GARAGE CEILINGS** — At the Plumbing Top Out inspection, verify 4" clearance to sheetrock for insulation in garage ceilings to provide proper freeze protection for plumbing piping. (Refer to Oct. 18, 2001 staff notes)
- 2) **HOLES IN METAL STUDS** — Holes in metal studs can have a maximum width of 1.5 " in weight bearing situations. This effectively precludes any drainage piping passing through metal studs. Non-bearing studs can have holes up to 3.25 " wide as long as the two metal outside bands are left intact. Nail protection is still required whenever piping is within 1" of the stud surface.
- 3) **FLOOR DRAIN STRAINER HOLES** — Floor drain strainers must have holes sufficient to meet the cross-sectional area of the tailpiece served by the strainer per Section 412.1, 2003 Uniform Plumbing Code (UPC). This requirement also applies to concrete floors where several different devices may have drain pipes, but they should not block this required area.
- 4) **T & P DRAIN MATERIALS** — Materials are restricted to galvanized steel, hard drawn copper, CPVC or other listed relief drain tube per Section 608.5, 2003 UPC.
- 5) **T & P FREEZE PROTECTION & DRAINAGE** — The T & P is to be protected from potential freezing which would make it inoperable per Sections 603.3.8 and 608.5, 2003 UPC. However, the option in Section 608.5 that allows the T & P to drain to the outside is not viable. To clarify the "other approved locations" referenced in this code section, the areas are defined as:
 - a) Concrete floors within 10 feet of a floor drain or floor sink;
 - b) Directly over a floor drain or floor sink (within 10 feet and in the same room if new construction);
 - c) Into a water heater pan which allows for disposal;
 - d) Into a sump pit with 3.2 gpm pump as an acceptable alternate method and material for existing construction (not an option for new construction).

NOTE: The T & P must terminate into its receiver via an approved air gap of at least two diameters of the T & P drain size.

- 6) **PRESSURE RELIEF VALVE IN LIEU OF EXPANSION TANK** — When a valve with pressure relieving capacity is installed in lieu of an expansion tank, the drain line may be terminated per the valve's listing into the water heater pan (if used) provided that the water heater is supported by bricks or other materials unaffected by water and above the outlet height of the pan drain. This will prevent corrosion of the legs or bottom of the water heater. This pan is not an approved disposal location for other condensates or drainages.

PLUMBING - SEPTEMBER 7, 2006

- 1) **ACCESSIBLE INDIRECT WASTE RECEPTORS** — It will be noted on the plans when accessible indirect waste receptors are required to comply with Sections 804 and 1006, 2000 Uniform Plumbing Code. In addition, inspectors will make notes on the yellow inspection placard (or red) and in the computer log to inform the contractor that the indirect waste receptors must be visible and accessible.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

PLUMBING - AUGUST 31, 2006

- 1) **EJECTOR PUMP SYSTEM ON PLUMBING PLANS** — When plans call for an ejector pump system that pumps more than 2000 gallons per day, RBD Plans Reviewers refer plans to appropriate people to obtain approvals, including the utility purveyor and state of Colorado. Inspectors who have questions about a plan with an ejector pump system, please call Daryl and/or Bob Croft.

- 2) **PEX WATER PIPE EMBEDMENT** requirements:
 - a) For “snake” type layment, the PEX tubing is on the bottom of a flat trench without hollows, lumps or rocks greater than 1/2 inch. (To meet this requirement, 6” of backfill material may be necessary.) The trench must be of adequate in depth to ensure the pipe is buried at least 5 feet beneath ground level. Because the pipe is plastic, it must be buried with 18 gauge wire in order to locate the pipe in future years.
 - b) The trench will have a minimum depth of 6” backfill over the pipe. Sand or gravel smaller than 1/2” in size is acceptable for backfill and embedment materials. Unacceptable are clay, silt and organic materials.
 - c) Pipe must be pressurized to 50# or normal operating pressure during embedment and until inspection is complete.
 - d) Manufacturer approved fittings are acceptable for underground use unless the trench contains acidic or chemically contaminated soil.
 - e) Installation also must comply with manufacturer’s instruction.

- 3) **SHARKBITE FITTINGS**

“Sharkbite” fittings are approved as an alternative method and material to Section 606, 2000 Uniform Plumbing Cod, effective August 16, 2006.

Sharkbite fittings are acceptable when installed underground, beneath concrete, and in locations that are not readily visible, and in accordance with the product listing. This does not conflict with the UPC because the “boiler plate” information is included with each IAPMO listing, and is neither specific to this product nor its application per Charles Gross and Anish Desai of IAPMO.

- 3) **DEFINITIONS of APPROVED WASTE RECEPTORS**

Floor sink — indirect waste receptor installed flush with the floor and of approved shape and capacity to prevent splashing or flooding from substances draining into it. Refer to Section 804, 2000 UPC.

Hub/funnel drain — Indirect waste receptor above floor grade of size and shape to prevent splashing or flooding from the substances draining into it.

Standpipe — Indirect waste receptor for pumped fixtures such as clothes washers and dish washers.

Floor Drain — Plumbing fixture for recess in the floor having a floor level strainer intended for the purpose of collection and disposal of waste water used in cleaning the floor and for the collection and disposal of accidental spillage on the floor.

PLUMBING - AUGUST 17, 2006

- 1) The Building Field Inspectors have found notching and boring in bearing beams and studs in violation of the Code; this also occurs after the framing inspection has been performed. Plumbing (and electrical) inspectors are asked to note, in the inspection record, any holes that appear too large, especially through bearing 2x4 studs. Please remind contractors that inspections will fail when piping holes are too large relative to the dimension of the material penetrated.

Code does not allow drain waste and vent piping to penetrate any bearing 2x4 construction. Code accepts 1 ½" and 2" diameter piping only when FHA straps are used to support the 2x4 in non-bearing wall situations.

- 2) Temperature sensing devices attached to shower arms before the shower head are not approved for use as thermostatic or pressure balancing tub/shower or shower valves as required by Section 420, 2000 UPC.
- 3.) All inspectors should be leaving RBD by 9:15 a.m. to perform inspections unless there is a work matter that requires a later departure as instructed by Curtis Martinell.
- 4) Commercial kitchens requirements and responsibilities:
 - El Paso County Health Department is responsible for ensuring that all the correct appliances are contained in the commercial kitchen. In addition, the health department requires interior grease traps to be flush with the floor and sealed. Water heater sizing is determined by the health department.
 - Colorado Springs Utilities (CSU) is responsible for determining the type and size of grease trap(s)/interceptor(s) needed. Per CSU, ALL plumbing fixtures within the kitchen area and any fixtures potentially used as kitchen equipment (i.e. hand sinks adjacent to the kitchen) must drain through the proper trap(s) /interceptor(s). Any trap/interceptor must be at least 25' from the last plumbing fixture.
 - Pikes Peak Regional Building Department is responsible for verifying proper installation and connection to the correct drain lines of piping for fixtures required by the County Health Department. In addition, RBD is responsible for verification of properly sized water piping.

Contact will be made with other waste water divisions regarding their requirements.

PLUMBING - AUGUST 10, 2006

- 1) "Sharkbite" fittings are IAPMO listed for underground and hidden location installation for copper, CPVC and PEX piping. If embedded in concrete, the fitting needs to be wrapped with non-acidic materials to prevent degradation from contact with the concrete. According to IAPMO officials there is no conflict with the UPC the "boiler plate" information.

Recommendation from the Aug. 9 Mechanical Committee meeting as approved by the Board of Review on Aug. 16, 2006:

"Sharkbite" fittings as alternative method and material to Section 606, 2000 Uniform Plumbing Code

Sharkbite fittings are acceptable when installed underground, beneath concrete, and in locations that are not readily visible, and in accordance with the product listing. This does not conflict with the UPC because the "boiler plate" information is included with each IAPMO listing, and is neither specific to this product nor its application per Charles Gross and Anish Desai of IAPMO.

- 2) Sub drains into ejector pits/pumps are considered as part of the base plumbing and therefore can have unvented floor drains connected to them. — Code interpretation recommended by the Mechanical Committee and approved by the Board of Review on Aug. 16, 2006.
- 3) PEX underground water line installations instructions are still being acquired from the various manufacturers that have products listed for this application. A discussion will follow.

Administrative

- 4) Concerns were expressed about the amount of unnecessary e-mails that interfere with inspector field duties. Daryl agreed to discuss the matter with the other supervisors.
- 5) Kye reminded everyone of the policy against use of abbreviations in BDA inspection records/notes with the exceptions of those found in a dictionary or codes such as PPRBC, UPC, etc.
- 6) Owen is handling inspection cancellations after 9:00 a.m. and determining when associated trip fees are waived.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

MECHANICAL INSPECTION NOTES OF JULY 2006

- 1) GAS PIPE LABELING- Required again for medium pressure systems. Excerpt from the June 14 Mechanical Committee meeting as approved by the Board of Review on June 21, 2006:

Regarding Section 401.5, 2003 International Fuel Gas Code, the provision is amended in the 2005 Pikes Peak Regional Building Code, to state the requirement that:

All medium and high pressure gas piping systems shall be plainly marked every six feet by a permanent label with the words "Medium Pressure Fuel Gas" or "High Pressure Fuel Gas", accordingly.

- 2) HVAC SYSTEM PERFORMANCE AGREEMENT — (Formerly called a Certificate), the Agreement and Inspection procedures are being reviewed and the documents will be available on the web site after the documents are reviewed and approved.
NOTE: The Agreement and inspection compliance and/or performance test are optional until inspections of work for permits issued on and after January 1, 2007.
- 3) DUCT DESIGN PLANS REVIEW — Changes have been made to streamline some requirements, the document will be available on the web site after final reviews.
- 4) BATH EXHAUST TERMINATIONS — Updated and remain on the Consent Calendar for variance requests. Recommendation from the July 12 Mechanical Committee meeting as approved by the Board of Review on July 19, 2006:

Variance request to allow a bathroom fan to terminate within 36" but not less than 24" of an opening into the building, Section 502.7.3.6, #3, 2003 International Mechanical Code, *is amended to state:*

Variance request to Section 502.7.3.6, #3, 2003 International Mechanical Code to allow a bathroom exhaust fan to terminate within 36" but not less than 1" from an opening into a single-family residence.
- 5) UNDERGROUND GAS PIPING — Where both ends terminate inside a building can be unvented, unsealed. Recommendation from the July 12 Mechanical Committee meeting as approved by the Board of Review on July 19, 2006:

Approved as an alternative method for underground gas piping: Underground gas piping may be installed in a conduit with both ends terminating inside the building and unsealed.
- 6) RINNAI TANKLESS WATER HEATERS — Installation is allowed without pressure/temperature relief device. Recommendation from the July 12 Mechanical Committee meeting as approved by the Board of Review on July 19, 2006:

Approved as an alternate method and material: Rinnai tank-less water heaters are acceptable without the installation of a pressure relief valve due to IAPMO testing.
- 7) RETURN AIR OPENING — Within 10' of a firebox or draft hood, 2003 IFGC Section 618.5, Exception: buildings constructed prior to this code, as amended by Section RBC305.4.100, 2005 PPRBC.
- 8) CRAWLSPACE VENTILATION — Per Section 406.1, 2003 IMC, when ventilated by mechanical means, the supply air openings in such spaces must have a means to balance air and the opening be fixed to deliver the correct cfm. Return openings located in this space maybe equal to the supply, or provide a return air path.
- 9) PIPING SUPPORTS — Per Section 305.2, 2003 IMC, piping supports or installations causing galvanic reaction are not acceptable.
- 10) REGISTERS, GRILLS & DIFFUSERS WITH BALANCING DAMPERS — These will not have to be present at the mechanical final inspection.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

PLUMBING - JULY 27, 2006

- 1) Floor drains need to be visible per Section 1006, 2000 UPC, including floor drains under clothes washers, even if not required.
- 2) The first 3' of building drain inside the building need to be 4" in diameter per RBC306.4.25, 2005 PPRBC. This is not in conflict with Section 904.1, UPC 2000, that requires the vent to be sized according to the required building drain size per Table 7-5.

Breakfast will be served at 7:30 a.m. tomorrow.

PLUMBING - JULY 20, 2006

- 1) Air admittance valves on remotely located basement bar sinks are acceptable per RBC306.4.34, 2005 PPRBC. "Remotely located" does not apply to new construction because every fixture (other than the kitchen sink which has its own special exemption) can be properly vented through the roof as the house is being built.
- 2) Floor drains must be within 10 feet of any furnace per RBC413.10. It is the responsibility of the plumbing contractor to install a functioning floor drain even in crawlspaces, and to make certain the piping has sufficient fall and is properly located. Check the plans for furnace location or assume that the furnace will be centrally located to verify drain location.
- 3) Tub traps and drainage fittings used for the waste and overflows are to be included in the testing process at the PTO inspection if the tub is installed. Tubs are expected to be installed at the time of the PTO Inspection unless they are very expensive or on back order.

PLUMBING - JUNE 29, 2006

Plumbing

- 1) Under floor cleanouts must be within 20' of access per Section 707.10 UPC 2000, so cleanouts must be within 20' of the crawl space access.
- 2) Brasscraft BWB series water heater water connectors are UPC approved.
- 3) Piping to sand and oil interceptors from area drains (including trench drains) do not transmit waste (by definition of waste). This is not considered as indirect waste piping (by definition). Therefore it is not subject to the trap and vent requirements of Chapter 8 of the 2000 UPC. The Drain Waste Vent (DWV) system starts at the outlet of the clarifier. (This appears to be current practice, and is a clarification.)
- 4) Non-potable water must be labeled per Section 601.2.2, 2000 UPC.
- 5) Discussion was held regarding proper treatment of customers and fellow employees.

PLUMBING - JUNE 22, 2006

Plumbing

- 1) Discussion of code changes regarding venting of grease traps and flow control devices.
- 2) Daryl will get verification of who is responsible for grease trap sizing. (This is not done by the El Paso County Health Department.)
- 3) When measuring the 2 feet clearance from the front of a toilet, there must be a 2 feet vertical column at the front of the toilet. For example, the lavatory of a powder room cannot intrude into this measured spaced.

PLUMBING - JUNE 15, 2006

Plumbing

- 1) The use of 20 gauge brass is acceptable for continuous waste piping under fixtures per Section 405.3, 2000 UPC.
- 2) When utilizing indirect waste receptors as the termination point for a pumped fixture, refer to Section 702 and Table 704, 2000 UPC. The receptor must be properly sized to handle the load. When using direct connect, use two (2) fixture units per gallons per minute (gpm) as stated in the paragraph beneath Table 704.
- 3) Plumbing piping in a residential garage wall can be of the same piping material utilized in the home, but the hole around the piping must be tightly sealed. (This applies only to R-3 occupancies.)
- 4) Discussion of Plumbing Base (PB) inspections that involve drainage piping around support pads and have more than 135 degrees in offsets without benefit of cleanouts. Inspections will verify compliance with Section 707.5, 2000 UPC.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

PLUMBING - JUNE 9, 2006

Plumbing

- 1) Effective July 1, 2006, traps for tubs will be tested. Exception: The tub is not installed, such as a special order tub.
- 2) Abbreviations for inspection notes: standard dictionary abbreviations are acceptable.
- 3) Commercial Plumbing Top Out (PTO) Inspections verify the following:
 - a) Cleanout access (simplifies final inspection);
 - b) Clearance to vent through roof to a rooftop unit makeup air intakes;
 - c) Noncombustible piping in plenums, (ceiling spaces can be return plenums);
 - d) Piping sizing per plans;
 - e) Pipe insulation per IECC*;
 - f) Water hammer arrestors at quick closing valves (simplifies final inspection)*;
 - g) Trap primer installation (emergency use floor drains), access to trap primer for future repair, adjustment or replacement, and backflow protection*;
 - h) Rated assembly protection at pipe penetrations;
 - i) Grease interceptor/trap is properly vented and tested*;
 - j) Food prep sinks are indirectly connected, and hand-wash sinks are directly connected*;
 - k) Dishwashers and 3-compartment sinks are directly connected, & there is an associated floor drain per plans;
 - l) Each disposal has an individual trap, and disposals are directly connected per plans;
 - m) Trap sizes for mop sinks, floor drains, etc. per plans;
 - n) Materials and layout match plans;

* This information should be on the plans.

MECHANICAL - MAY 23, 2006

Administrative

- 1) Congratulations to Curtis Martinell, who has been appointed new Assistant Building Official.
- 2) Congratulations to Dave Hendrian for successfully passing the IMC Certification exam.

Mechanical

- 1)* Return air openings must be a minimum of 10 feet away from a gas burning appliance, and applies to all installations, per Section 618.5, 2003 IFGC, as amended by Section RBC305.4.100, 2005 PPRBC.
- 2)* Net free area of return air openings located in an enclosed basement cannot exceed the net free area of all supply airs in the same place, applicable to all installations, per Section 618.2, 2003 IFGC as amended by Section RBC305.4.99, 2005 PPRBC. EXCEPTION: Duct systems designed in accordance with ACCA Manual D.
- 3)* A low water cut off device is required for all boilers, residential and commercial use, per Section 1007.1, 2003 IMC as amended by Section RBC304.4.86, 2005 PPRBC. EXCEPTION: Tube type boilers with a flow switch in R-3 occupancies (single family home).
- 4* Insulation for hydronic piping, at temperatures greater than 125 degrees, is required only in the equipment room per Section 503.3.3.1, 2003 IECC as amended by Section RBC308.4.16.

PLUMBING - MAY 19, 2006

Plumbing

- 1) Because residential end-of-line cleanouts are rarely used when drain cleaning is required, only the 3" stacks are now required to have accessible cleanouts. The cap/plug access to the drain line must reside within the wall thickness — not behind the wall. Cleanouts that are required to be accessible are to be noted in the inspection report at the time of the Plumbing Top Out (PTO) inspection.
- 2) Mechanical Committee decision: A 3.2 gpm pump is allowed in a sump pit (bucket) in lieu of floor drain/receptor for:
 - a) Replacement condensing furnaces if the required floor drain is not feasible.
 - b) Replacement water heater installations in a crawl space when the pit is greater than 12" deep, (considered a new installation because of required new wall construction); and

Pump termination choices, stipulations and permit requirements:

- a) Outside: Recommended method; Mechanical Permit is required; Plumbing Permit is not required because it's not regulated by the UPC.
- b) Indirect receiver of sufficient volume to handle sump pump volume. Pipe sizing from the receiver is based on the fixture count in compliance with Sections 703 and 710.5, 2000 UPC. Mechanical Permit is required, and Plumbing Permit is required. Floor drains cannot be used for this application because they are for emergency use and just for floors. (Not a recommended method.)
- c) Tied directly into the plumbing system. The pit must meet the requirements of Sections 710.2, 710.4 and 710.5., 2000 UPC. Mechanical Permit is required; Plumbing Permit is required.

NOTE: Replacement water heaters in crawlspaces in a pit 12" deep or less are considered "replacements" and do not require wall linings, and do not need a drain/indirect waste receptor if one is not present. Mechanical Permit is required.

- 3) Because of the change in materials now used to hook up tubs, the Plumbing Inspection division will encourage contractors to make it routine to test waste and overflows on tubs prior to the Plumbing Top Out Inspection (PTO).
- 4) Because the price of copper is rising rapidly, PEX will likely become the choice of water pipe material. If PEX is appropriately listed, it is approved for use inside and outside per code in this jurisdiction.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

MECHANICAL - MAY 16, 2006

Administrative

- 1) Scheduled inspections: Make sure it is the appropriate contractor for the inspection type; this will protect permit history.

Mechanical

- 1)* Gastite Division has a new IAPMO listed coupler fitting for use on underground polyethylene gas piping. This fitting uses a stab-lok installation without the fusion weld process, and is approved for installation in this jurisdiction.
- 2)* Flue Sentinel Inc. has a new CSA listed electronic damper that is used in a gas log fireplace vent installation, it is approved for use in this jurisdiction.
- 3)* Discussion about damaged B Vent and direct vent piping for fireplaces: Dented or creased B Vent piping may be damaged enough to void its listing, therefore requiring its replacement. However, a similar type of damage to a direct vent pipe may not cause it to malfunction because of the increased spacing around the interior vent liner.
- 4) Duct design flexibility (Section 501.15, 2003 IFGC, as amended by RBC305.4.62, 2005 PPRBC): Discussion about trunk line sizing which can vary because of structural conditions. However, the cross sectional area of the duct must be maintained and have no offsets.

PLUMBING - MAY 11, 2006

Plumbing

- 1) The plumbing base inspection technically starts from 2 feet outside the building per code. However, one exception was made for a utility contractor at one specific site to allow piping to extend much further into the building on the condition that it was tested and inspected by Colorado Springs Utilities to ensure compliance with code. This contractor and others assumed erroneously that the exception was to become standard practice. I have contacted the utility providers in El Paso County to clarify that RBD's inspection procedures have not changed. RBD inspects to the 2000 UPC as amended by the 2005 PPRBC.
- 2) Inspectors have been asked to provide suggestions to formulate a consistent way to make cleanouts accessible on residential basement finishes.
- 3) The Mechanical Committee reviewed the issue of floor drains or floor sinks to accommodate multiple appliances that have a condensate or overflow drain which requires indirect waste receptors. (Item 3, May 4, 2006 Plumbing Inspection Notes) Gradually over the next month, we are urging contractors to provide adequate sized drains/receptors in compliance with Section 413.10, 2003 UPC.

The staff research found that shallow floor drains with large area grates are available and reasonably priced. The grates are screwed to the bowl and can be drilled to provide access for indirectly drained appliances with minimal chance of floor damage by spillage (acceptable as a receptor), and having sufficient remaining area to allow the receiver to be considered a floor drain.

- 4) Floor drains are to be suitably flanged to provide a water tight seal to the floor, Section 412.1, 2000 UPC. This code provision will be checked at the final inspection.

PLUMBING - MAY 4, 2006

Administrative

- 1) Meeting convened at 8:40 a.m., Jeff and Marty were absent.

Plumbing topics

- 1) Shower head and its location to the door and the bather per Section 412.11, 2000 UPC: Shower heads that spray straight down do not spray at doors, and angle shower heads can be turned so that bathers can adjust the water flow without entering the spray, therefore protecting themselves from potential scalding.
- 2) Piping attached to a tailpiece of a lavatory or tub is considered to be part of the plumbing system. Appliances that need an indirect water disposal system cannot be tied directly to this piping. The following will be discussed with the Mechanical Committee for input:
 - a) Section 807.2, 2000 UPC, infers that AC condensate can enter a branched tailpiece with a direct connection.
 - b) Sections 807.1 and 807.3, 2000 UPC, indicate that the effluent from fuel burning condensing appliances can enter a branched tailpiece but only indirectly.
- 3) A floor drain is for draining floors. A floor sink is a receptor of indirect waste. All appliances now have a condensate or overflow drain which require indirect waste receptors. In residential use, the problem is accommodating this increased usage with a small diameter head floor drain. It was decided to check into possible drains or shallow floor sinks that are easily installed in floor joist areas, and provide sufficient surface and attachment area to accommodate multiple dripping appliances. This will be discussed with the Mechanical Committee.
- 4) Because there is no code provision stating otherwise, it is acceptable to have a dishwasher hooked up to the inlet of a garbage disposal. However, an approved air gap fitting is necessary prior to connection, see Section 807.4, 2000 UPC.
- 5) Foot-baths must meet backflow prevention requirements of Sections 603.3.5, 603.4.7 and 603.4.8, 2000 UPC.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

MECHANICAL - MAY 2, 2006

Administrative

- 1) 388 permits were issued for new single family dwellings in April, and 88 permits for townhomes.
- 2) New dates for submitting Residential Mechanical Plans or Performance Testing (duct design) are on the web site. (The schedule was revised to: Sept. 1, 2006 for Residential Mechanical Plans, (new Masters and site specific), and Jan. 1, 2007 for updating Residential Master Plans.)

Mechanical

- 1)* Gas pressure regulators serving a medium pressure to low pressure system do not have to be installed when performing the required pressure test associated with the inside or outside gas inspections. (Section 406.3.3, IFGC) Installations of the regulators will be verified at final inspection along with checking for leaks (Section 406.5.1 IFGC)
- 2)* Gas pressure tests for systems 14 inches of water column and less are 10# for 15 minutes; for systems greater than 14 inches of water column, the test is 60# for 30 minutes, (Section RBC305.4.48, PPRBC).
- 3)* The requirement for 3 screws evenly spaced for crimp joints in residential round metal ducts is now found in SMACNA HVAC Duct Construction Standards per Section 603.9, IMC.
- 4)* The minimum pressure test for field erected refrigeration piping must be based on the lower side of the condensing unit, (Section 1108.1, IMC). If no condenser is installed at the time of the a residential system "rough" inspection, the test pressure must be 300#.
- 5) ABS, PVC or CPVC vent pipe joints serving a category IV appliance must be installed per manufacturer's instructions, (Section 503.3, IFGC). Inspection of the installation of the vent system includes verification of joint integrity.
- 6)* All masonry chimneys are to be properly lined unless serving two or more draft hood appliances only, (Section 503.5.3, IMC, as amended by Section RBC305.4.66, PPRBC).

APRIL 18, 2006

Plumbing

- 1) WATER HEATER REPLACEMENTS IN CRAWL SPACES — The Mechanical committee's recommendation to the Board of Review was discussed. It was noted that because water heaters are now under the Mechanical Code, the plumbing inspection is limited to checking the floor drain requirement (or 3.2 gpm minimum sump pump and pit) in new construction. The T & P termination is required to be 6" - 24" above the flood area receiving the discharge, Section 608.5, 2000 UPC.
- 2) COMMERCIAL BASE PLUMBING ISSUES UNIQUE TO COMMERCIAL PLANS — Lee discussed the following:
 - a) Floor drain, floor sink and mop sink drain sizing must agree with the plans.
 - b) End of line and change of direction clean-outs should be per code and caught at plan check.
 - c) Trap primers should be as shown on plans.
 - d) Verify condition of under slab water lines in terms of proper joints, no kinks, etc.
 - e) Be aware of possible code violations such as horizontal dry vents below grade. These issues should be caught at plan check but that is not always possible.
 - f) Interior grease traps need to be accompanied with installation instructions and the instructions need to be followed.
 - g) Triple compartment sinks must be directly connected and comply with the county health regulations. Exception: Glass washers which are indirectly connected or treated like dishwashers.
 - h) Commercial dishwashers are to be directly connected and comply with the county health regulations.

APRIL 11, 2006

Administrative

- 1) 419 permits were issued for new single family dwellings in March, and 85 permits for townhomes.
- 2) At this time, RBD will fund the cost for inspection certification in both plumbing and mechanical. However, in the future funding will be limited to certification that pertains directly to the inspector's job duties.

Mechanical

- 1) As a professional courtesy, before attempting to help schedule an inspection for another division, please consult the inspector in that division.
- 2)* The Building Inspection division considers any finished room in excess of 70 square feet to be habitable space, even if it labelled "storage" on plans. As habitable space, ensure the room is provided with heat per Section 309.1 and ventilation per Section 401.2, 2003 International Mechanical Code.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

MARCH 28, 2006

Administrative

- 1) Daryl and Bob agreed that the split of mechanical and plumbing divisions will be on April 10, 2006. Dale J will remain in the mechanical division until Troy completes training. Inspectors with assigned areas are asked to provide proposed modifications in regards to the split divisions of their areas to Bob and Daryl.

Plumbing

- 1)* Vertical wet venting will continue to be enforced per Section 910.0, 2000 Uniform Plumbing Code.

Mechanical

- 1)* The requirement for water heater pans only applies to new construction. Replacement of an existing water heater does not require a pan to drain to an approved location unless the manufacturer's installation instructions state that requirement. (Also see Jan. 18 notes: The requirement of Sections RBC304.4.81 and RBC305.4.103, 2005 PPRBC, applies only to water heaters installed in new construction; it does not apply to water heaters replaced in existing structures. This interpretation is a result of the Mechanical Committee's code workshop and meeting with the Regional Building Official.)
- 2)* If a full height water heater is used to replace an existing "stubby" or "low boy" in a crawl space, a pit is required and must conform to Section 303.7, 2003 International Fuel Gas Code. In addition, a floor drain/sump is required per Section RBC306.4.9, 2005 Pikes Peak Regional Building Code.
- 3)* Section 502.4, 2003 IFGC, requires an insulation shield ONLY when a vent passes through an insulated assembly that is interpreted as the building envelope as defined by the 2003 IECC. When a vent passes through a floor/floor level, a sheet metal pan/flashing of no less than 26 gage is required. The pan/flashing must begin within 1/16 inch of the vent and extend horizontally beyond the hole in the floor.
- 4) Inspectors received a letter from Hart & Cooley Inc. regarding fire stops, listings and wall brackets.

MARCH 22, 2006

Plumbing

- 1) Weld-On 794 cement is used at the transition from the building drain to the building sewer when one system is ABS and other is PVC. It is not to be indiscriminately used as a universal type of glue for joining dissimilar materials.

Mechanical

- 1) Vent sleeves: Building inspectors are seeing insulation being blown into the open end of the sleeve. To prevent this, it is recommended that the sleeve be extended at least a foot above the insulation even though code requires only 2".
- 2) The IBC and IRC allows insulation for fire stop, however, the IFGC does not allow insulation against any vent — and therefore the more restrictive IFGC is to be followed. Mechanical contractors are to provide a tight-fitting sheet metal seal to prevent insulation from being placed against the vent where the fiberglass fire stop was installed under previous building codes. It is further recommended that a sleeve be installed where the vent passes through any floor-ceiling or wall assembly to prevent the insulation from getting too close to the vent.
- 3) Clarification of Feb. 22 notes: A 110 volt outlet is not required for replacement of an existing AC condensing unit — it is required for new installations of AC condensing units. (This applies to both residential and commercial occupancy classifications.)

MARCH 16, 2006

Mechanical

- 1) Vent Connections: Vents may be connected to the vertical stub of a water closet below the closet flange through a wye or wye-1/8 bend combination fitting.
 - a) Dry vents must rise vertically to 6 inches above the flood level rim of the water closet before a horizontal offset.
 - b) Wet Vents must comply with standard wet venting rules.
- 2) Insulation Shields at the Heating Rough Inspection are checked for compliance with Section 502.3, 2003 International Fuel Gas Code (IFGC). The insulation shield requirements include:
 - a) Extends at least 2 inches above the attic insulation from which the vent is to be protected;
 - b) Is constructed of not less than 26 gage sheet metal; and
 - c) Clearance to the insulation complies with the vent manufacturer's instructions for clearance to combustibles.
- 3) New residential homes & future A/C system installation: Coil status pressure drop and cfm (cubic feet per minute) are recorded by the inspector in the inspection record at the time of the Heating Rough Inspection (HRR). This data is available on most duct design plans, but not all. Having this information in the inspection record will ensure proper sizing of the A/C coil if it this system is added in the future.

MECHANICAL & PLUMBING INSPECTION NOTES 2006

FEBRUARY 28, 2006

Administrative

- 1) A big thank you to all who have and are participating in the HBA Home & Garden Shows and residential plan review.

Mechanical

- 1)* Clarification from Terry Schneider, supervisor of Electrical Field Inspections: A 110 volt outlet is not required for replacement of existing AC condensing units — only for new installations of AC condensing units. (This applies to residential and commercial occupancy classifications.)
- 2)* The condensate drain for a 90 percent Category IV furnace is not considered potable water, and therefore may discharge into the drainage system via an air break per Sections 307, 2003 IMC, and 801.6, 2000 UPC.
- 3)* Please be aware that manufacturers limit the depth of the drain pan in which the water heater is placed. If the depth of the pan exceeds the manufacturer's installation instructions, the water heater must be elevated using water resistive material.

Plumbing

- 1)* Section RBC306.4.9, 2005 PPRBC, requires floor drains at water heaters, boilers, back-flow prevention devices, furnaces and equipment that generate liquid by-products. A floor drain is now required for any furnace located in a crawl space, thus rescinding the Mechanical Committee decision of June 2000. Exception: A floor drain is not required for a furnace located in an attic because of potential freezing.

FEBRUARY 7, 2006

Administrative

- 1) 348 permits were issued in January for new single family homes, and 51 permits for townhomes.
- 2) HBA Home Show will be held this weekend, starting Feb. 10.

Mechanical

- 1)* Section RBC304.4.38, 2005 PPRBC, requires bath exhausts to be insulated with a minimum R-6 insulation and be limited to a maximum 25 feet in length when located outside of the building envelope. Bath exhausts located in the attic, which run perpendicular on top of the bottom chord of roof trusses, are considered as outside the building envelope. Exception: bath exhausts covered with batt insulation. ("Bathroom" is defined in Chapter 2, 2003 IMC. "Building Envelope" is defined in Chapter 2, 2003 IECC.)

Plumbing

- 1)* Section 313.6, 2000 UPC, prohibits waste and water drain pipes to be located outside of the structure. "Outside of the structure" is interpreted as being located outside of the "building envelope," ("Building Envelope" is defined in Chapter 2, 2003 IECC). Water lines in attics must be installed on the house side of the insulation to comply with Section 313.6, UPC. These provisions are consistent with the practice of installing washing machine drains and water lines on an outside wall. (Refer to 2002 Inspection Memo)
- 2)* Section RBC306.4.26, 2005 PPRBC, requires all building drains to be a minimum 4" in diameter for at least 3 feet inside the structure.

JANUARY 25, 2006

Administrative

- 1) See Baub to sign up for HBA Show, Feb. 10 - 12.
- 2) Universal permits for basement finish construction: Inspections should be handled/noted the same as for new construction.

Mechanical

- 1) Potable water certificates are required for modular units set on temporary foundations prior to completing the final inspection.
- 2)* All gas line installations permitted on or after Nov. 1, 2005 will be inspected to the 2003 IFGC. All inspections will assume the system to be designed at a 0.5 inch water column pressure loss. If the gas pipe system is designed at a higher pressure loss, it must be noted at the time the inspection is requested. Due to different minimum operating pressures of appliance gas valves, any gas pipe system designed at or more than 3-inch water column pressure drop will need to be provided with a medium pressure service from the gas purveyor.
- 3) Required clearance to combustibles for both single and double wall vents is applicable at plastic humidifier components.
- 4)* Section 409.5, IFGC, as amended by Section RBC305.4.51, PPRBC, allows gas shut off valves to be installed inside the appliance. Furthermore, Section 411.1.2, IFGC, as amended by Section RBC305.4.56, PPRBC, allows a listed appliance fuel connector to be located inside the appliance

MECHANICAL INSPECTION NOTES 2005-2006

JANUARY 18, 2006

Administrative

- 1) Congratulations to Ted for becoming Certified as a Mechanical Inspector!
- 2) For the month of December, 334 permits were issued for new single family dwellings and 62 for town homes. These permits in 2005 total 5,314 for single family homes (NSF), and 931 for town homes (TH), surpassing the 2004 record of 5,060 NSF and 714 TH permits.
- 3) If a meter release is not issued under the construction meter inspection (HC) due to a code issue, it may then be released under the heat final inspection (H=). If a meter release is all that is requested for the H= inspection, remember to enter the result as a partial (p) in order to keep the permit open for future inspection requests.
- 4) All manufactured home permits issued on or after Nov. 1, 2005, require a gas meter release to the utility purveyor. This is to be done after the completion of either a HT or HO= inspection. Please also enter a corresponding completed "HC" inspection.
- 5) All appropriate inspections listed in Section RBC309.11 , 2005 PPRBC, must be performed under the singularly coded PT, HT, PO=, HO= inspections.
- 6)* The requirement of Sections RBC304.4.81 and RBC305.4.103, 2005 PPRBC, applies only to water heaters installed in new construction; it does not apply to water heaters replaced in existing structures. This interpretation is a result of the Mechanical Committee's code workshop and meeting with the Regional Building Official.
- 7) If in need of code books, please see Terri in Licensing.
- 8) Please see Baub for an "inch" to "gauge" conversion table which is needed for enforcement of Section 603, 2003 IMC.

DECEMBER 28, 2005

Administrative

- 1) Steve is working on a "prompting" system to allow inspectors to set a reminder date for follow up inspections; this will be similar to complaint inspections. The purpose is to track inspections that may have potential life safety issues.
- 2) Comments on inspections:
 - a) They are public record; and
 - b) Comments should note if code can or cannot be met on items for which variances are being requested.
- 3) Please review the monthly Mechanical Committee meeting summaries. When you have inspection records pending variances that were granted, clear the inspection records accordingly.

Mechanical

- 1)* Residential inside-gas line installations will begin changing on March 1, 2006 when Colorado Springs Utilities (CSU) initiates the use of new gas riser brackets and meter bars for new home construction. Previously, inside-gas line installations had the pipe stubbed out to the exterior and tested to that point. The new bracket and meter bar will require the gas pipe to be run to the exterior and then extended with elbows and additional piping for proper connection to the meter bar terminal . This will be verified at the time of the RBD inside gas-line inspection. The new bracket and meter bar will eventually be installed on all new residential construction, but may not include all new homes in March. For more information or to ascertain if a specific residential site will receive the new meter, call Bryan Gagnon of CSU at 668-7308.

DECEMBER 15, 2005

Administrative

- 1) Due to the holidays, time cards need to be handed in Friday, Dec. 30, 2005. Check them for accuracy.
- 2) Please return your signed job description forms to Renee.
- 3) Requests to update uniforms need to be given to Bev no later than Friday, Dec. 23, 2005.
- 4) RBD policy: Do not enter an occupied home unless an adult is present; occupied means personal belongings are present.
- 5) The 4th annual "Next to the last, last breakfast of the year" is Friday, Dec. 30, 2005 at 6:30 a.m. at Perkins Restaurant at the corner of Platte & Chelton.

Plumbing

- 1)* The discharge drain from expansion relief/shut-off valves is treated the same as the drain for the T & P valve. Refer to Section 608.5, UPC.
- 2)* A shut-off valve is required for the water heater serving a manufactured home and should be verified as part of the manufactured home installation. (Refer to Dec. 8, 2005 Notes, #4 under Administrative.)
- 3)* Steamers serving shower vents in either new or existing homes, must have the drain from the relief valve discharge to the corner of the shower. (Refer to April 25, 2002 Notes, #1 under Plumbing.) If the unit requires a service drain, it may connect to the relief valve drain. If the steamer is located below the shower unit, it must be provided with a drain pan conforming to Section 624.8, IFGC. However, the drain for the pan may be reduced to 3/4".

MECHANICAL INSPECTION NOTES 2005

DECEMBER 8, 2005

Administrative

- 1) Order forms for uniforms will be handed out in the near future, and include an unlined coverall limited to one per person who chooses to include that on their order.
- 2) In November, 385 permits were issued for new single family dwellings, and 71 permits for townhomes. The year-to-date total of permits is 4,980 for new single family dwellings.
- 3) The new procedures for processing basements finished without permits went into effect November 1. If you encounter a basement finish where work appears to have been done before the permit was issued and new procedures were not followed, please make a notation in inspection comments and notify Baub.
- 4)* Required inspections for manufactured buildings on temporary foundations are:
HT and PT for Commercial;
HO= and PO= for Residential.
Each building will require all inspections set forth in Section RBC109.2.6, 2005 PPRBC. In addition, please review the check list in the Installation Handbook published by the Colorado Division of Housing.
- 5) Whenever a required test for a plumbing of HVAC system appears to have been conducted in a deceitful manner, immediately contact Baub.

Mechanical

- 1)* Clarification: AM Blue flexible duct, manufactured by J P Lamborn Company, is an approved exhaust duct for bathrooms/toilets this jurisdiction.

DECEMBER 1, 2005

Administrative

- 1) Wednesday, Dec. 7, all inspectors will begin changing their phones to new Blackberry palm pilots with GPS systems.
- 2) Do not "trip fee" inspections for gas appliance replacements.

Mechanical

- 1)* Clarification: The 2003 International Fuel Gas Code (IFGC) does not specify that all vent connectors are to be double wall vent material. This requirement is determined by proper usage of Tables 504.2 and 504.3 of the IFGC.
- 2)* Gas riser requirements for polyethylene (PE) pipe are located in Sections 403.6.1 and 404.14.1 of the IFGC. The applicable standards are: ASTM D 2513 for PE pipe; ASTM F 1948 for mechanical metal fittings; and ASTM F 1973 for factory/field gas risers.

Each of these standards requires material to be identified and marked with the appropriate standard, verifying the product is manufactured, inspected, stamped and tested to that standard and meets all specifications.

In addition, the stated IFGC sections restrict the use of PE to below grade/underground installations only. Therefore, riser lengths are limited to a maximum 45" above grade.

NOVEMBER 15, 2005

Administrative

- 1) In October 2005, 345 permits were issued for new single family dwellings, and 64 for new townhomes. The year-to-date totals are 4,495 permits for single family dwellings and 798 for new townhomes.
- 2) As a reminder, comments/notes entered in the inspection results are public record.
- 3)* Sections 301.1.1 of UPC and 302.1 of UMC require products/equipment to be Listed. The term "Listed" is defined in Chapter 2 of both codes, and states that a product is Listed when it is marked or identified with the following:
 - a) The appropriate standard; and
 - b) The agency that provides the Listing Service. Products containing the IAPMO/UPC logo or ICC logo are automatically accepted in this jurisdiction. Products listed by other agencies are considered on a case by case basis for acceptance.

Mechanical

- 1)* Appendix B of the 2005 PPRBC contains a new provision for "quasi-universal" permits for new and replacement air conditioning installations. The mechanical contractor's permit will cover both mechanical and electrical inspections. Mechanical inspections may be requested by the mechanical contractor who obtained the permit. Electrical inspections may be requested by a state licensed electrical contractor (registered with RBD), using the same permit number. Inspections may be requested by phone, automated system or web site.

MECHANICAL INSPECTION NOTES 2005

OCTOBER 5, 2005

Administrative

- 1) Renee Adams, ESM, addressed the Mechanical Inspectors and gave an overview of her job duties which will help all employees.
- 2) Permits for the month of September totaled 398 permits for single family homes and 37 for new townhomes.
- 3) RBD managers will meet monthly with El Paso County Development Service managers to exchange information and coordinate activities to better serve the customers at Regional Development Center (RDC).
- 4) Please remember that plans & inspection record cards at the job site are the property of the contractor, and should be treated with respect.

Mechanical

- 1)* Section 16-2-203, Item AR, 1999 PPRBC, will now be enforced by the Electrical Inspection Division of RBD because the requirement to bond gas piping is part of the 2005 National Electrical Code, now in effect.

SEPTEMBER 28, 2005

Administrative

- 1) Starting Oct. 3, 2005, Renee Adams joins RBD as Employment Services Manager (Human Resources).
- 2) Daryl concluded his presentation on the new residential duct design requirements. As new plans are approved and built, Daryl will be doing individual or small group training with inspectors.

SEPTEMBER 21, 2005

Administrative

- 1) New trip fee policy was discussed in depth. (The policy is posted on the web site under CONTRACTORS/Contractors, Inspections & Policies. Or go directly to: http://www.pprbd.org/confiles/POLICY_tripfee.pdf)

Plumbing

- 1) The new un-shielded Fernco coupling, designated by XJ- (pipe size), has an IAPMO Listing and therefore is acceptable for installation in this jurisdiction. NOTE: This coupling is listed for above ground installations.

SEPTEMBER 7, 2005

Administrative

- 1) 482 permits were issued for single family dwelling for the month of August, and an additional 94 permits for townhomes.
- 2) Daryl began instruction of how the new duct sizing requirements of Section 603.2, 2003 IMC, will be represented on approved residential plans, and what items are essential for inspecting such installations. Due to technical difficulties (no projector), the instruction was cut short of completion. Daryl will complete the presentation at a future meeting.

Mechanical

- 1) Policy regarding: Manufacturers of 90 percent direct vent appliances that require a "disk" to be installed in the outside air intake as part of the venting installation instructions, as discussed 8/10/05. Disks located in the outside air intake per the manufacturer's installation instructions will be considered part of the internal working portion of the appliance. As such, RBD will not disassemble the unit to verify. If there are questions, the inspector is to contact the installer.

Plumbing

- 1) To ascertain the technical differences between floor drains versus indirect waste receptors, and their correct code application, please review July 27, 2005 notes.

AUGUST 31, 2005

Administrative

- 1) Continuation of discussion regarding internal departmental policies, waiving fees, if and when help is available, etc.

Mechanical

- 1)* Policy regarding: Manufacturers of 90 percent direct vent appliances that require a "disk" to be installed in the outside air intake as part of the venting installation instructions, as discussed 8/10/05. Disks located in the outside air intake per the manufacturer's installation instructions, will be considered part of the internal working portion of the appliance. As such, RBD will not disassemble the unit to verify. If there are questions, the inspector is to contact the installer.

Plumbing

- 1)* To ascertain the technical differences between floor drains versus indirect waste receptors, and their correct code application, please review July 27, 2005 notes.

AUGUST 24, 2005

Administrative

- 1) Discussion of internal departmental policies, waiving fees, if and when help is available, etc.

MECHANICAL INSPECTION NOTES 2005

AUGUST 17, 2005

Administrative

- 1) There will be a Colorado Springs Fire Dept. safety seminar on Sept. 10. If you are interested in participating, please see Baub.

Mechanical

- 1)* Gas Line Bonding, Section 310.1, 2003 IFGC, allows an option to grounding gas lines to the electrical system if the appliance is grounded. Terry Schneider, supervisor of Electrical Field Inspections, confirmed that the National Electrical Code requires all furnaces/boilers to be grounded. Therefore, the Electrical Inspectors will be responsible for this code provision when new codes are adopted.

AUGUST 10, 2005

Administrative

- 1) 487 permits for single family dwellings were issued for the month of July; year to date is now 3,373.
- 2) Proposed codes are anticipated for adoption is Nov. 1, 2005. (amended from Oct. 8 date.)
- 3) If you receive an inspection for a permit coded "112 Temp Sales Trailer" please pass off to the appropriate commercial mechanical/plumbing inspector in the area.
- 4) "+" inspection procedures were reviewed. When this inspection is required, please enter in a "P11" for plumbing or "H11" for mechanical with a trip fee status and appropriate notes. Please do not change the status of the previously completed inspection as stated in the 8/30/01 notes.

Mechanical

- 1)* Procedures for providing outside air ventilation for a basement finish permit was discussed. Please refer to notes of 11/14/02 and 3/22/01. For newly constructed homes, please contact one of the mechanical plans examiners who, in turn, will resolve the issue with the contractor.
- 2) Some manufacturers of 90 percent direct vent appliances require a "disk" to be installed in the outside air intake as part of the venting installation instructions. A final policy will be presented in a follow up to this discussion.
- 3)* Please see the Mechanical Committee minutes of July 13, 2005 for prohibition of "trapping" bath exhaust for moisture control.

JULY 27, 2005

Administrative

- 1) Please see Dave L to have Nextel phones updated.
- 2) RESIDENTIAL PERMIT CODES — The following are universal permits for new construction and do not require individual permit attachments by subcontractors.
 - Permit Code **101** is for a new detached single family dwelling.
 - Permit Code **102** is for an attached new single family home (town home).
 - Permit Code **103** is for a duplex.*

* A true duplex is issued one 103 permit, and does not have a property line between units. Two town homes are issued individual 102 permits for each home, and have a property line between them.

- 3)* INSPECTION ACCESS CLARIFICATION — Section 16-4-102 of the PPRBC requires the contractor to provide access for all inspections. The contractor is also required to provide a ladder to enable inspections where access is difficult, including but not limited to basements, crawl spaces and attics. Failure to provide access can generate the same results as a locked house/building. Furthermore, Section 16-4-105 requires the inspection record card, commonly known as the "permit," to be posted in a "conspicuous place... to conveniently make required entries..." Please see Item Q of Table E of the PPRBC for fees.

Mechanical

- 1) Footnote #26 of the GAMA Tables requires all multistory venting systems to be vertical, without an offset. However, with the adoption of the 2003 IFGC, a single 45 degree offset will be allowed.

Plumbing

- 1)* FLOOR DRAIN CLASSIFICATIONS & CODE REFERENCES — Section 412.1 of the UPC states that floor drains are plumbing fixtures, and Section 413.10 as amended by the PPRBC specifies where floor drains are required. Floor drains may be classified as "emergency" or "receptor, indirect waste," (see the definition of "receptor" in Section 220.0).
 - a) Emergency classified floor drain must comply with Section 1006.0.
 - b) Receptor classified floor drain must comply with Section 804.1.
 - c) Floor drain in a pan serving an emergency drain for a residential clothes washing machine must comply with Section 1006.0.
- 2) Neo-angle showers must meet the door and size requirements of Sections 412.6 and 412.7 of the UPC, respectively. If a variance is requested for shower size that is less than that required by Section 412.7, please make certain that either the door opening complies with Section 412.6, or that a second variance is requested.

MECHANICAL INSPECTION NOTES 2005

JULY 20, 2005

Mechanical

- 1) Please be aware that some suppliers are providing roof caps for dryer vents that have an internal screen. Unless the screen is removed before installation, this roof cap will not comply with Section 504.3.1 of the UMC.
- 2) The procedure for adding gas appliance(s) to an existing gas piping system were reviewed. Please see June 1999 Mechanical Inspection Notes for details.

JULY 13, 2005

Administration

- 1) Permits issued for new single family dwellings in June totaled 499; in addition, 55 permits were issued for town homes.
- 2) If new inspection areas need to be tweaked, please see Kye or Baub.

Plumbing

- 1) Please review April 2003 notes when using 45 degree offsets to change elevation at the building drain entry in regards to clean out requirements.

MAY 3, 2005

Administration

- 1) Scheduling for GPS installations was discussed.
- 2) 533 new single family dwelling permits were issued for the month of April, bringing the year to date total to 1,924. An additional 201 permits were issued for town homes. *WHEW!*

Plumbing

- 1)* Automatic air admittance valves, manufactured by Jones Stephens, have an IAPMO listing and therefore are acceptable in this jurisdiction under the same conditions as those manufactured by Studor & Oatey.
- 2)* Yard hydrants manufactured by Hoeptner, Murdock & Woodford are listed to ASSE #1057, and therefore are acceptable in this jurisdiction.

Mechanical

- 1)* As a follow up to April 27, 2005 meeting, Rheem has provided a letter stating that two separate furnaces, sharing the same return air duct system, must be "twinned" in accordance with Rheem's installation instructions.
- 2) Permits, inspections, and meter release procedures for residential manufactured units were reviewed. Until policy changes with the adoption of new codes, RBD inspectors are to send a meter release to the gas purveyor anytime an HI inspection is required.
- 3) Correct termination of T & P relief valves was discussed. Baub will get with Jim V to review present policy.

APRIL 27, 2005

Administration

- 1) All complaints are handled by Joe Serio. Any complaint entered into the system will result in an automatic tripe fee being assessed. Please be cognizant of this.

Plumbing

- 1)* Sioux Chief Manufacturing Co. produces both a PVC (889-POM) and ABS (889-AOM) offset closet flange that has IAPMO approval and therefore is acceptable in this jurisdiction.
- 2) As a reminder, the Vanguard Manabloc System, using 3/8" tubing, was approved by the Mechanical Committee in July 2003.

Mechanical

- 1) Bob handed out a flow chart regarding manufactured housing. Please read and bring to the next meeting for discussion.
- 2) Previous notes dated Oct. 4, 2001 and April 10, 2003 state that dryer exhausts cannot be located within 3' of an opening that allows air entry into a normally occupied portion of a building. A combustion air opening, terminating in a mechanical room, does not fall within this parameter.
- 3) When replacing a draft hood furnace with a fan-assisted furnace, the water heater connector may remain as is, but the wye at the common vent must be changed to accommodate a 4-inch branch for a future water heater replacement.
- 4)* Two separate furnaces that share the same return air and/or supply air duct systems are allowed to have separate, individual thermostats only if this is allowed in the manufacturer's installation instructions. Written verification of acceptance or prohibition is required for all such installations.

APRIL 20, 2005

Administration

- 1) To learn more about PERA retirement, attend a meeting April 22, Friday, at 7 a.m. in the main conference room.
- 2) RBD is considering options for wide brimmed hats, and possibly fanny packs and coveralls, as part of uniform issues.
- 3) Breakfast at Perkins restaurant May 6, Friday, at 6 a.m.
- 4) Discussion of modular units was tabled for future meeting.

MECHANICAL INSPECTION NOTES 2005

APRIL 13, 2005

Administration

- 1) Please remember that head gear (hats) are considered part of the official RBD uniform. If you choose to wear a hat, it must be supplied by RBD. NOTE: If your hat has a US Flag insignia, that is still acceptable.
- 2) RBD staff members are not to be photographed or filmed on a job site without obtaining approval in advance. These requests and consent forms are handled through Leslie, and subject to Rolf's approval. If a situation arises, please call her cell phone at 331-9076 or e-mail.
- 3) If a back flow preventer device was installed at the time of the final plumbing inspection, please remember to note this. No notation will denote no device.

Plumbing

- 1) A "WAGS" cold water and gas shut-off valve, manufactured by TACO is listed and acceptable in this jurisdiction. When a watertight pan is used in conjunction with this device — but not required by Section 510.7 of the UPC — a 1 1/4 inch drain is not required. The use of a "WAGS" valve does not waive the requirement of a floor drain per Section 413.10 of PPRBC.

APRIL 6, 2005

Administration

- 1) 484 permits were issued in March for new single family dwelling permits, and 122 for townhomes.
- 2) As of this date, IAPMO has not responded to the inquiry about universal solvent cement.
- 3) Per Rolf, please get RBD patches on uniforms ASAP.

Mechanical

- 1)* Section 908.1 of the UMC requires a dryer vent to be installed; this code requirement improves safety and functionality. If the terminal end of the dryer duct in the laundry room is installed in such a manner that the dryer connector cannot be attached to the dryer vent, the installation does not comply with code.

Plumbing

- 1)* Three part shower drains, manufactured by Souix Chief, are acceptable to use in floor drain applications when properly sealed/masticed and secured to the floor.
- 2)* Listed dual purpose (solvent cement/slip-joint) plastic tubular waste, ABS/PVC, extensions are allowed. However, when installed horizontally downstream of the trap, the only acceptable joint is solvent cement. Such installation must have the slip-joint nut removed in order to verify code compliance.

Philosophy

- 1) Discussion of inspection priorities; new vs existing construction; and life safety vs. performance items vs. other items.

MARCH 30, 2005

Administration

- 1) As a follow-up to the notes of April 2002 and April 2003: On an existing structure, if a new opening is created within 3' of a gas meter for mechanical/code purposes, do not reject the installation. Instead, complete the inspection and notify the gas purveyor. The 3' requirement is not part of PPRBC, therefore, a variance cannot be requested from RBD.
- 2) When additional gas lines are added to an existing system in service, the gas meter should not be subject to the 10# air test; if this occurs please notify the gas purveyor.
- 3) Correction to Aug. 2004 notes: H=O inspections are not sent to utilities as a meter release per code and policies of RBD.
- 4) Per current code and RBD policy, entry into a manufactured home (UBC/IRC/UBC) for inspection is not required unless it is necessary to investigate the source of a pipe or duct terminating into a crawl space or basement area.
- 5) Please note any 60# gas test on HO and HI inspections; no notation will imply a 10# gas test.

Plumbing

- 1) The requirement for test gauges used on DWV air tests was reviewed per Jan. 28, 2000 notes.

MARCH 23, 2005

Administration

- 1) Codes are now expected to be adopted by all jurisdictions the first week of May.
- 2) Permit fees have been reduced 10 percent, and will be reevaluated in June.
- 3) Rolf has authorized purchasing the 2003 codes for installation on inspectors' laptops.
- 4) The computer, located to the left of the copy machine, is for inspectors to review plans/scanning files.
- 5) The elevator inspectors will be relocated to the remodeled "break out" area situated near Curtis' office. This will be necessary to make room for additional building and electrical inspectors.
- 6) GPS devices will be installed on all vehicles as they become due for PM. These devices help to provide accurate tracking of mileage and time between inspections; and to locate any "abducted" vehicle.

Mechanical

- 1)* Combustion air, obtained through permanent duct openings located in the mechanical room, is only acceptable for furnace replacements when the basement is finished and furnace room is not located on an outside wall. (4/2001 memo.)

Plumbing

- 1)* Three manufacturers produce an IAPMO Listed cement to join ABS to PVC pipe. The listing states that the cement must be produced in accordance with ASTM D 3138 that requires the glue to be green in color. Per the IAPMO Listing: "For non-pressure transition joint from building drain, this is not a universal solvent cement."

MECHANICAL INSPECTION NOTES 2005

MARCH 9, 2005

Administration

- 1) Baub will be looking at new "inspectors' areas" in the next few weeks. Input is appreciated.
- 2) RBD has an additional "back up" computer; this will allow better access to reading plans/images.
- 3) The anticipated date for adoption of new codes has been moved to the first week in May.
- 4) Baub will be teaching classes for the PPMCA each Thursday at 6 p.m. beginning March 10. All are welcome to attend.

Mechanical

- 1)* Lennox Hearth Products has updated information regarding installation instructions for fireplaces using a direct vent system. Unlike the information published in the December 2004 Mechanical Memo, the new instructions allow multiple direct vent terminals. As previously stated, the instructions specify that a decorative shroud may be installed over a vertically installed vent when using a SV4.5VTR termination. Installation must comply with the instructions amended by the manufacturer. **Note:** This does *not* apply to: Terminals for Type B venting systems.

Plumbing

- 1) Please continue to note if a back flow prevention device for a lawn irrigation system is installed at the time of the Plumbing Final Inspection.
- 2)* If there is any threaded joint on a relief valve drain — other than the female iron pipe (FIP) outlet on the relief valve itself — it is considered a violation of Section 608.5, UPC.

FEBRUARY 23, 2005

Administration

- 1) Clarifications of Paid Consultations (H16 and P16)
 - a) Limited to a maximum 20 minutes;
 - b) Limited to answering code questions, NOT design issues; and
 - c) Not be conducted in lieu of or in competition with the private sector.
- 2) As discussed January 12, 2005, gas meter releases are now e-mailed to the appropriate utility. In order for the releases to be sent, they must be entered in BDA by 7:59 a.m. — the morning after the inspection was performed. If not entered by this time, please see Baub. It is necessary that each inspector check their e-mails for each utility every morning well before 7:59 a.m. to ensure all meter releases are completed in a timely manner.
- 3) Check with Jeff or Jon on how to switch your phone or others to vibrate.

FEBRUARY 16, 2005

Administration

- 1) The schedule for "ride along" for Scott and Ted were distributed. If you did not get a schedule, please see Baub.

Mechanical

- 1)* When a Category IV (90 percent +) furnace is installed as a replacement for an existing furnace, the permit should reflect the new vent as part of the scope of work. (Mechanical Notes July 2002). The new vent must be visible at the time of inspection to verify compliance with UMC Section 802.5.

Plumbing

- 1)* Section 705 of the UPC distinguishes between a "molded rubber coupling" (unshielded) and a "shielded coupling". Each coupling must be listed per UPC Section 301.1.1 and be installed in compliance with UPC Section 310.4.

Note: MOST "molded rubber couplings" (unshielded) listed by the IAPMO are ONLY for underground installations.

FEBRUARY 9, 2005

Administration

- 1) New single family dwelling permits for January totaled 432 with an additional 54 permits for townhomes.
- 2) Reference and commentary books for the 2003 IMC and IFGC are available at the desks of Tim C, Jon and Mick.
- 3) Daryl will be the new residential plans examiner and will be making the transition over the next few months.
- 4) Please continue to make the appropriate notes regarding the status of AC systems on all finals.
- 5) As a reminder, RBD will be closed March 2 - 3 for training at the Colorado Educational Institute. More information will be provided as it becomes available.

Plumbing

- 1)* The 15" side and 24" front clearances required by Section 408.6 of the UPC are measured from the height of the bowl and extended vertically upward.
- 2) There are several projects where it will be necessary for CSU to inspect the building drain or a portion thereof. CSU will make specific notes regarding what was inspected by them. These projects can be identified by checking the dates of the PBS & BFT inspections. If you have questions, please see Baub or Kye.

Mechanical

- 1) When inspecting gas piping systems under the 2003 IFGC, RBD will use the "0.5 inch pressure drop" tables of Chapter 4 unless otherwise specified since RBD has received confirmation from CSU and Aquila that the standard setting for their gas pressure regulators is at 7 inches water column.

MECHANICAL INSPECTION NOTES 2005

FEBRUARY 2, 2005

Administration

- 1) If you have changed your address, home phone number or driver's license, please give the information to Teresa.

Plumbing

- 1)* "SharkBite" fittings manufactured by Cash Acme are listed by IAPMO, and therefore acceptable for use in this jurisdiction when installations comply with the listings and manufacturer's instructions.

Mechanical

- 1) Review of the Residential Mechanical Check List was completed. Discussion included:
 - a) Venting - Sections 503.6.9, 504.2, and 504.3 of the IFGC.
 - b) Gas Pipe Materials and Sizing - Sections 402.3, 402.5, and 403.1 of the IFGC.
 - c) Grilles required at Final Inspection - Section 603.17 of the IMC.

JANUARY 26, 2005

Administration

- 1) Rolf has hired two mechanical inspectors; they will start Feb. 14.
- 2) Proper phone etiquette discussed, including how to dismiss oneself from a call.
- 3) Baub will get clarification from staff regarding the purpose and time spent on a consultation inspection (H16/P16)
- 4) Dale, Daryl, Doug and Lynn will receive their 5-year achievement awards on Jan. 28.

Plumbing

- 1)* At the January meeting, the Mechanical Committee recommended to the Board of Review that domestic hot water circulating systems equipped with an integral programmable timer meet the Exception of Section 504.5 of the 2000 IECC. The Board of Review approved this recommendation on Jan. 19.
- 2)* Studor automatic air admittance valves, per manufacturer's installation instructions, cannot be installed in drainage systems with pressure conditions of plus one inch of water column or more. This condition exists when a drainage stack serves four or more branch intervals.

JANUARY 19, 2005

Administration

- 1) HBA Home & Garden Show will be Feb. 11, 12 and 13. Those who wish to volunteer before assignments, see Baub.
- 2) Please read the e-mail from Terry Schneider regarding vehicle maintenance procedures.
- 3) Baub will join Rolf in interviews to fill two new mechanical inspector positions.
- 4) The state of Colorado will not accept ICC/IAPMO certified inspector certificates in lieu of the state inspector exam for manufactured housing. Therefore classes and testing will be scheduled in February or March.

Plumbing

- 1)* Verification of the water meter will be a requirement of the final plumbing inspection for commercial building; this is in response to a request by Colorado Springs Utilities and the complexity of the structure. NOTE: Either the plumbing contractor or general contractor may request a water meter set from CSU for both residential and commercial construction. For more information, contact Lyla at 668-7352.

Mechanical

- 1) The Residential Inspection Check List, updated with 2003 IMC and IFGC provisions, was reviewed. Please study the gas materials requirements for discussion next week.

JANUARY 12, 2005

Administration

- 1) Baub covered the use of special labels & codes to be attached to all documents sent to scanning.
- 2) Fill out and return the Uniform Logs by January 28; if there are any questions about what is available, please contact Paul at Lorigs.
- 3) Meter sets are now sent via e-mail to CSPU and Aquilla. Inspectors should be copied each day; please verify for accuracy and if corrections are needed see Baub.

Plumbing

- 1)* Cleanouts required by UPC Section 707 are also required to be accessible. Verification is to be made at the time of final inspection of the basement finish. Please review previous notes of July 2003, July 2001, and March 2001.

Mechanical

- 1) Baub reviewed the new check list for furnace replacements in regards to the proposed new codes and amendments for adoption.

MECHANICAL INSPECTION NOTES 2004-2005

JANUARY 5, 2005

Administration

- 1) In December, 406 permits were issued for new single family dwellings and 128 permits were issued for townhomes. 2004 was a record breaking year for RBD as a grand total of 5,775 permits were issued for single family dwelling including townhomes - surpassing the previous record in 1986 when a total of 5,339 permits were issued.
- 2) For all 101/102 permits, please note on the final heat inspection "AC Rough" or "AC Installed."

Mechanical

- 1) Baub reviewed the new inspection check list for water heater installation in regards to the new proposed code and amendments.

DECEMBER 15, 2004

Plumbing

- 1)* Automatic air admittance valves must be installed per their listing and manufacturer's installation instructions; there are no code provisions in the UPC.

Mechanical

- 1)* Please use consistent language for meter sets for utilities. If no meter, state "OK for meter." If meter is installed, state "OK to unlock."

When a construction meter inspection request is generated after the HI and HRR inspections are completed, either complete or reject the HC — this is the one and only HC inspection. After this, meters are released via a H= (partial for meter) inspection. Please refer to notes of 10/1/99, 11/5/99, 12/17/99, 3/17/00, 10/6/00, 9/20/01, 10/18/01 and 11/15/01 for history.

DECEMBER 7, 2004

Administration

- 1) The total number of new single family dwelling permits issued for November was 362; in addition, 31 permits were issued for townhomes.
- 2) RBD will be closed March 2 & 3 for classes for the Colorado Chapter of IECC Educational Institute. Please return sign up sheets to Baub by the next meeting.

Mechanical

- 1)* Baub reviewed the revised AC inspection checklist - major points of emphasis are:
 - a) Encasement of refrigeration lines, IMC Section 1107.2
 - b) Protection of refrigeration system; IMC Section 1101.3
- 2)* The 3-inch separation between equipment and grade, required by Section 304.8 of the UMC is measured to the earth (ground) and not landscaping rocks.
- 3)* Regarding the replacement of a condenser on an existing AC system, an electrical service outlet within 25 feet of the unit is NOT required.

DECEMBER 1, 2004

Administration

- 1) Doug will be out for the next 4 - 6 weeks. During this time, Eric will take Doug's area and Jeff will take Eric's area.
- 2) Distributed were previous notes regarding inspection distribution and timeliness. (Refer to Oct. 19, 2000 & Oct. 12, 1998)
- 3) A "DRAFT" was distributed of the updated AC Installation Inspection check list that was used during the Nov. 17 seminar. Review and be prepared for discussion on Dec. 8.

Mechanical

- 1)* An update was distributed from Lennox Hearth Products regarding installation instructions for fireplaces using a direct vent system. This update specifies that a decorative shroud may be installed over a vertically installed vent when using a SV4.5VTR termination. Installation must comply with the instructions amended by the manufacturer.

Note: This does *not* apply to:

- a) Multiple direct vent terminals.
 - b) Terminals for Type B venting systems.
- 2)* Section 601.6 of the UMC requires "all joints, seams and fittings on duct systems..." to be sealed substantially air tight. In addition, Section 503.3.3.42 requires "all longitudinal and transverse joints, seams and connections of low pressure supply and return ducts..." to be sealed. This includes:
 - a) Metal ducts (Section 601.7 UMC)
 - b) Tinned steel (Section 601.8 UMC)
 - c) Vibration isolators (Section 601.9 UMC)
 - d) Factory-made air ducts (Section 603.2 UMC)
 - e) Concealed building spaces (Section 601.1.2 UMC)

All ducts must be sealed. With the exception of item e, UL 181 Listed tapes and mastics are required.

MECHANICAL INSPECTION NOTES 2004

NOVEMBER 24, 2004

Administration

- 1) Bob will be conducting code seminars, sponsored by the PPMCA, on Dec. 1, 7 & 15. Inspectors are welcome to attend.
- 2) Inquiries regarding voided permits for Roberts Heating & Air are to be directed to Kye or Baub.
- 3) Permits for the month of October totalled 401 for single family dwellings and 78 permits for townhomes.
- 4) 2005 RBD budget presented.

WHAT WOULD THE WORLD BE WITHOUT... HYPOTHETICAL QUESTIONS?

OCTOBER 27, 2004

Administration

- 1) Bob discussed improving the Mechanical Division's relationships with contractors. Borrowing a line from the movie *Finding Nemo*, "Fish are friends, not food."

Mechanical

- 1)* Vents located in closets must comply with Section 804.2 of the UMC. If the vent is completely located behind a gas appliance so that the appliance must be removed in order to access the vent, the installation complies with code.
- 2)* Tables 3-B and 3-C of the UMC require single wall vent connectors, serving a listed appliance without a draft hood, to be a minimum 18 inches from combustibles. Therefore, it is critical to check the distance of plastic condensate drains at this location.
- 3)* Sections 303.1 and 1311.1 of the UMC require corrugated stainless steel (CSST) gas systems to be installed per the manufacturer's installation instructions. Appropriate brackets/supports must be provided at gas meter and appliance outlet connections.

Plumbing

- 1)* P-traps located in garage ceilings must be installed so that adequate provisions can be made to protect the trap from freezing. Section 313.6 of UPC and Mechanical Notes of August 2002.

OCTOBER 13, 2004

Administration

- 1) New single family dwelling permits for September totaled 351 including 37 townhomes.

Mechanical

- 1)* Section 304.5 of the 1997 UMC prohibits gas fireplaces from being installed in a bedroom with the following exceptions:
 - a) The fireplace is a direct vent appliance per Section 206 of the UMC; or
 - b) The volume of the bedroom complies with the definition of unconfined space per Section 223 of UMC.

NOTE: There are several fireplace units that appear to be a direct vent appliance but are not listed as such. In these instances the bedroom must be an unconfined space (Section 223, UMC).

SEPTEMBER 15, 2004

Administration

- 1) Please make sure to exit BDA when switching from wireless to network or vice versa. If this is not done, automatic updates to the program will not be completed and the program will not function correctly.
- 2)* Per 1999 IGA with CSU, water meters are required to be in place at the time of the plumbing final. See April 2000 Mechanical Inspection Notes. Since January 2003, verification of the water meter installation became a function of the final building inspection and before the Certificate of Occupancy is issued.
- 3) BREAKFAST - at Maggie Mae's on September 24 at 6:30 a.m. (Kye is expected 9/25/04)

Plumbing

- 1)* A full way valve is required on the cold water supply pipe to all water heaters, new or replacement, per Section 605.2 of the UPC.
- 2)* Section 408.6 of the UPC requires a 15" clearance at each side of a water closet. This measurement is taken from the center of the drain. In addition, this section also requires a 24" clearance at the front of the water closet. This dimension is measured perpendicularly from a series of tangents at the front portion of the bowl until it intersects with the perpendicular extension of the 15" side clearance dimension. (For further explanation, see Daryl.)
- 3)* Section 905.2 of the UPC specifies how vents must connect to a horizontal drain. Refer to January 2003 and March 2001 Mechanical Inspection Notes, and amendment in the 1999 PPRBC.

MECHANICAL INSPECTION NOTES 2004

SEPTEMBER 8, 2004

Administration

- 1) 441 permits were issued for new single family dwellings and 87 permits for townhomes for the month of August.

Mechanical

- 1)* Installation instructions for forced air furnaces manufactured by Nordyne, prohibit the return air duct from connecting to the rear portion of the blower compartment of the furnace. If an error occurs, Nordyne has verified that it can be corrected by rerouting the return air duct to the side of the blower compartment and "patching" the hole at the rear.
- 2)* Section 1110.2 of the UMC does not specify the type of material to be used on refrigeration piping and tubing in order to be "securely fastened to a permanent structure." Consideration should be given to the inter-membering of dissimilar metals. Nonmetallic supports, such as plastic holy iron (plumbers' tape), and the webbing material used to support flexible duct are acceptable as well as recognizable.
- 3)* The joint connection of a dryer exhaust duct to a roof cap terminal was discussed. This joint must comply with Sections 504 and 601 of the UMC. If the roof cap terminal is not in place at the time of the residential rough inspection (HRR), the dryer exhaust duct must be securely fastened in place and terminate flush at the top of the roof sheathing.

SEPTEMBER 2, 2004

Administration

- 1) Rolf and the Building Committee extend their thanks and appreciation to the employees of RBD for their efforts through this year which is currently at a record pace.
- 2) Make sure that all computers have appropriate/direct links to the RBD web site and Intranet.
- 3) Matt/Steve will be conducting classes on how to operate and use all programs on the laptop. These will begin mid-month. In addition, please review "the book of knowledge" on the Intranet (see above!) for additional helpful information. If inspectors have any additional input for the "BOK" please see Baub.
- 4) Breakfast at 6:30 a.m. on Sept. 24. Place to be announced.

Mechanical

- 1) The makeup air requirement, per Section 908.2 of the UMC, for a room containing a dryer was discussed. Some inspectors require 100 square inches with a single opening, while others view this requirement as a cumulative of multiple openings. Further discussion to follow.
- 2)* Section 603.3 of the UMC requires ducts to be protected by approved barriers when exposed to mechanical damage by vehicles or from other causes. Dryer vents penetrating top and bottom plates of the 2 x 4 wall construction are considered to be protected when in compliance with Section 2320.11.7 of the Uniform Building Code.
- 3)* The 1997 UMC does not require joints on vents or vent connectors to be sealed. If tape is installed on a vent or connector, the tape must comply with the definition of noncombustible, Section 216, Item 1 of the UMC. In addition, tape used on B vents must be approved for such use. Refer to Sections 304.6, 803.1 and 805.3 of the UMC.
- 4)* Section 303.1.3 of the UMC requires appliance ignition sources, when installed in a garage, to be located a minimum of 18 inches above the garage floor. For furnaces, this includes the blower motor unless a shaded pole, PCM or equivalent motor is used.
- 5)* Sections 308.1 and 603.1.2 of the UMC require ducts to be supported. Supply and return air plenums connecting to a horizontal furnace must be supported at the ends as well as at the furnace when more than 36 inches in length.

AUGUST 25, 2004

Administration

- 1) Reimbursement for expenses more than \$20 require a form to be completed and the receipt attached. Please see Dorothy or Baub.

Mechanical

- 1) HO= and PO= inspections are required for all Manufactured Home Permits coded 112 or 1121, (see November 2003 notes). If there are no new utilities installed, please complete the inspection and note accordingly. When there is a completed test on the outside gas line, enter CSPU as the utility company and note "OK for meter."
- 2)* Some furnace manufacturer's installation instructions require a minimum 1-inch clearance to combustibles at the top of the plenum. Although the UMC does not mandate this specific requirement, installations must comply with Section 303.1 of the UMC. In addition, until further clarification this requirement is extended to installations where the top of the plenum is extended up into the floor joist cavity either via a duct or opening into this space.

AUGUST 18, 2004

Administration

- 1) Alton's Nextel number is 93.
- 2) It is:
 - a) ESPECIALLY CRITICAL — 2/15/01 Notes
 - b) ESSENTIAL — 12/20/01 Notes
 - c) MANDATORY — for inspection results to be uploaded from the previous day, if an inspector is to be absent the next day.

Mechanical

- 1)* Combustion air from the attic must comply with Section 703.1 of the 1997 UMC. See July 2003 Notes.
- 2)* Be aware of potential air leakage at the corners of flexible duct vibration isolators. These joints must be properly sealed per Section 601.6 of the 1997 UMC and 503.3.3.4.3 of the 2000 IECC.
- 3)* Terminating the secondary drain for an AC coil over a soffit vent in the attic does not meet the requirements of Sections 309.3 and 1105.12 of the 1997 UMC.
- 4)* The UMC listing for Thermo-Pan (ICBO Report #5398) does not allow the material to be used as a duct. The listing limits the use of this product to the panning of floor joist and stud cavities for return air systems. See notes from January 2003, April 2003, and April 2004.

MECHANICAL INSPECTION NOTES 2004

AUGUST 11, 2004

Administration

- 1) Inspectors are now able to make long distance calls from their desks. Please follow the policy.
- 2) Code requirements outside the UMC, UPC and IECC should not be enforced by the Mechanical Division. Please make the proper entry and then, inform the appropriate division inspector.

Mechanical

- 1)* The requirement to test refrigeration lines per Section 1122.2 of the UMC was reviewed. Please see inspectors notes of June 2000 and Item 5 under Piping of the AC Installation Inspection guide on RBD Internet.
- 2)* The 2000 IECC as amended requires insulation on the following piping systems:
 - a) Domestic water recirculating systems, both mechanical and gravity. Section 504.5
 - b) HVAC piping. Section 503.3.3.1

For both of the above, insulation is not required for runouts 12 feet or less in length.

AUGUST 4, 2004

Administration

- 1) Single family dwelling permits totaled 407 for July.
- 2) Rolf has approved Alton Oakes to become the "Red Hunt" of the Mechanical Division. Alton's first scheduled day is Thursday, August 12.

Manufactured Homes

- 1)* Manufactured homes set on permanent foundations require the same test on their DWV system as a site built structure. Refer to Sections 103.5.3 and 103.5.5.2 of the Uniform Plumbing Code.

Mechanical

- 1)* Requirements for sealing and protecting refrigerant piping at the coils were reviewed. Please review previous Inspector Notes of August 2003 and October 2000.
- 2)* Heat Loss Calculations are used to validate that the proposed equipment is correctly sized to meet the requirements of Section 310.11 of the 1997 Uniform Building Code (UBC), and are only required for R-Occupancies.
- 3)* Energy Calculations verify that the structure is insulated to meet the requirements of Chapters 4, 5 or 6 of the 2000 International Energy Conservation Code (IECC), and are required for all buildings (occupancies) that are to be heated.

Plumbing

- 1) The requirements of an unvented floor drain, as allowed by Section 16-2-403, Item AC, of the Pikes Peak Regional Building Code (PPRBC), were reviewed. Please review previous Inspection Notes of February 2004, October 2001, December 2000, and June 2000.
- 2)* If a two-way clean-out is installed outside the structure on the building sewer the following applies:
 - a) The upper end clean-out may be omitted;
 - b) The two-way clean-out may be applied to the 135° requirement.Refer to Section 707.4 of the 1997 Uniform Plumbing Code.

JULY 28, 2004

Administration

- 1) Please continue to use the car wash as needed; once a week appears to be the norm.
- 2) New chairs and Nextel phones have been ordered for all inspectors.
- 3) Nextel phones should be "on" during work hours, beginning at 7:30 a.m. — "On" refers not only to electronically, but the body as well.
- 4)* Provisions of new codes being considered for adoption, along with their proposed amendments, are NOT to be applied to current installations.

Mechanical

- 1)* Single wall vent pipe, located in attic areas of existing structures, is to be considered as an unsafe installation in regards to Section 810 of the 1997 UMC. Therefore, a new venting system will be required to be installed when replacing a gas appliance being served by this type of installation.
- 2) When replaced, dual purpose water heaters used for both environmental heating and domestic water, must be properly sized for both functions and will be verified at the time of inspection.
- 3)* Insulation used on the exterior of a water heater must comply with the clearance requirements specified on the water heater.
- 4)* A separate permit is not required for an air conditioning unit installed during the initial installation of a manufactured home on a temporary set.

Plumbing

- 1) The requirements for a floor drain to be installed when a furnace is located in a crawl space were reviewed again.

MECHANICAL INSPECTION NOTES 2004

JULY 7, 2004

Administration

- 1) For the month of June, 470 permits for new single family dwelling and 37 permits for new townhomes were issued.
- 2) Please remember that all requests for Matt's assistance must go through the appropriate supervisor via e-mail.
- 3) Office staff parking is assigned to the lot south of the building, behind the security fence. Inspector parking is in the unpaved portion of the east lot.
- 4) Materials and furniture located in the "common area" (main lobby) are NOT the property of RBD, please do not use.
- 5) New employee business cards with current address, phone numbers and e-mail address will be ordered. If you have any changes, please e-mail Bev with this information.

Mechanical

- 1)* In regards to manufactured homes set on permanent foundations, the following items are under RBD's jurisdiction:
Any water lines, drains, wastes, vents, gas piping, ducts and vents terminating or field installed within the crawl space or basement areas. These items are inspected to confirm compliance with applicable code.

MAY 5, 2004

Administration

- 1) Documents regarding self insurance and accident reporting were distributed to be placed in RBD vehicles.
- 2) Proposed code amendments to the 2000 UPC, 2003 IECC, 2003 IMC and 2003 IFGC are being posted on the web site under "Current Updates." The amendments will be the subject of discussion and training in future inspectors meetings.
- 3) Jim and Daryl have switched areas.
- 4) 490 new single family permits and 65 permits for new townhomes were issued for the month of April.
- 5) Breakfast at the Western Omelette will be 6:30 a.m. on May 19, followed by a tour of the Regional Development Center.

Plumbing

- 1)* Mechanical Notes of August 2003 applies to the outside water line inspection as well.

Mechanical

- 1)* When attaching the supply air plenum to a furnace, usage of raw, flange or "S" connections is acceptable in all cases; this joint/connection must be sealed per Section 503.3.3.4.2 of the 2000 IECC.

APRIL 28, 2004

Administration

- 1) Baub reviewed the RBD e-mail policy that was sent to inspectors last week.
- 2) Please remember there is a \$50 fee to process each variance request; one item per request.
- 3) Jack will be cross trained in commercial mechanical.
- 4) Baub is currently conducting interviews for a combination inspector to fill John Whitmore's position.

Plumbing

- 1)* The insertional back-water valve "flood guard" manufactured by General Pipe Cleaners is not acceptable for installation because it does not have an IAPMO or any other listing as required per Section 301.1 of the 1997 UPC. This has been verified by directly calling the manufacturer.

Mechanical

- 1)* Section 308.1 of the 1997 UMC requires equipment to be "fixed in position by substantial means which will prevent its incidental displacement." This may be required in certain situations when equipment is placed on a pad per Section 304.8 of the 1997 UMC.
- 2)* Acceptable use and installation practices of the thermo-pan where reviewed. Please see January 2003 notes. Thermo-pan is not approved to form a duct unless used in conjunction with building construction per Section 601.1.2 of the 1997 UMC.
- 3)* Per Section 503.3.3.4.3 of the 2000 IECC, UL listed 181A tapes and mastics must be used with rigid fibrous glass ducts. UL listed 181B tapes and mastics must be used with flexible air ducts. Both UL 181A and UL181B listed tapes and mastics may be used with metal ducts.

APRIL 14 2004

Administration

- 1) Baub went over additional information about the move to RDC from his April 8 staff meeting.

Mechanical

- 1) When inspecting new construction that is provided with an LP gas system, please remember to:
 - a) Check for the LP drain as part of the plumbing base inspection; and
 - b) Check for any openings into the building in respect to the step down regulator at the house. Refer to UMC Section 1314, item 9.

APRIL 21 2004

Administration

- 1) John Whitmore is the new elevator inspector; his last day in the Mechanical Division will be April 23. His position will be filled in house with a new combination inspector in the near future.
- 2) Please introduce yourself to Sean Angeley, the new building inspector, and Joe Baron, the new electrical inspector.
- 3) Bob went over the security access forms for RDC.

MECHANICAL INSPECTION NOTES 2004

MARCH 30, 2004

Administration

- 1) Baub thanked all volunteers for their participation in the HBA Home & Garden Show, and reviewed the schedule.
- 2) A new building inspector, Sean Angeley, will join RBD on April 12; please introduce yourself.

Mechanical

- 1)* A hole drilled into a vent connector (single or double wall), for the purpose of inserting a test probe to monitor CO levels for proper combustion is acceptable and is not considered a code violation. This hole should be covered when not in use.
- 2) The proper venting of replacement water heaters was reviewed. See notes from February 2004.
- 3) Samples of thread protectors, couplings and right/left couplings and nipples were passed around. Remember, thread protectors are not approved gas fittings and cannot be used as couplings. See notes from January 2004.

MARCH 24, 2004

Administration

- 1) Baub related the discussion of the move to the new building, Regional Development Center, from the staff meeting.
 - a) RBD will be closed June 25 - 28, 2004;
 - b) Inspectors are to report to work on June 25 and 28, but may dress casually.
 - c) A moving company will be hired. Inspectors are not to move heavy items, but are expected to assist with the packing, unpacking, organizing, set up, and the like;
 - d) All employees will be responsible for moving their own phone sets; and
 - e) There will be a "pre-move" meeting prior to June 25, where further details will be provided.
- 2) Steve Anderson is the newly appointed member of the Mechanical Committee, replacing Steve "Whitey" Pine.
- 3) Bob shared concerns expressed by the administrative staff regarding direction of phone calls prior to 8:30 a.m., obtaining faxes, and request to not gather at work stations in consideration of others.

Mechanical

- 1)* A single fully louvered door is considered as no door in regards to combustion air and enclosures. A set of double doors that are both "half louvered" are considered to be the same as a single fully louvered door.

MARCH 18, 2004

Administration

- 1) Jim and Daryl will be switching areas as of March 23.
- 2) Please do not enter results from H11 and P11 in your computer while in IMA. Wait until the next morning when BDA is available. This may necessitate calling one of the administrative assistants to enter a triple fee.
- 3) More than 400 permits were issued last month for single family dwellings.
- 4) All HO and HI inspections on existing structures (434 or 437 permits) within the city of Colorado Springs should have "CSPU" entered into the utility field. This will enable Colorado Springs Utilities to track new gas load increases and underground gas line inspections. This same entry should be made on P= inspections for commercial buildings that involve the installation of a testable back flow prevention device.
- 5) Regarding the installation of a manufactured home on a permanent foundation:
 - a) The 101 Permit covers all work unless a basement is being finished and was not part of the original plan approval.
 - b) Inspections are not made within the manufactured unit itself. Exception: 2-story units that come unassembled.
- 6) Unlike gas water heaters, there is no separate standard for electrical water heaters installed within a manufactured home.
- 7) Baub covered Rolf's concerns regarding business relationships with contractors as well as etiquette on the job sites.

FEBRUARY 25, 2004

Administration

- 1) ICC Educational Institute is set for Monday and Tuesday, March 1 & 2.

Mechanical & Plumbing

A review of property lines for townhomes & how they affect plumbing & mechanical terminations:

- 1) NO PENETRATIONS of property line walls are permitted. See Section 503.2.1 of the UBC.
- 2) Mechanical vents through the roof must be 4 feet minimum from the property line. See Section 806.6.1 of the UMC.
- 3) Plumbing vents through the roof must be 3 feet minimum from the property line. See Section 906.2 of the UPC.
- 4) Mechanical vents from direct vent appliances or side wall discharges: See manufacturer's installation instructions and Exception to Section 806.6 of the UMC.
- 5) No restrictions on combustion air ducts in regards to location to property line. See Chapter 7 of UMC.
- 6) Environmental exhaust must be a minimum of 3 feet from the property line. See Section 504.6 of the UMC.
- 7) When townhomes exceed more than 1000 square feet on any floor, including the garage, a 30-inch parapet is required. The exception is the creation of a minimum 5-foot fire resistive zone. See Section 709.4.1 of the UBC for parapets and Exception 5 for this "zone." If Exception 5 is used, note the following requirements:
 - a) No roof openings are allowed within 5 feet of the property line. This supersedes the above listed items 2, 3 & 6.
 - b) Any penetration of the fire resistive membrane by implementation of Exception 5, must be protected per Sections 709.7 and 710.3 of the UBC.

For related discussions, see Mechanical Contractor Notes on the Intranet, and go to March 2001, April 2000, and May 2000.

MECHANICAL INSPECTION NOTES 2004

FEBRUARY 18, 2004

Administration

- 1) Mick and Eric will be switching areas beginning Feb. 20, 2004.
- 2)* Variance fees will go into effect for the April Mechanical Committee agenda. Because fees are paid with variance applications, there will be no false claims of submitted applications. The \$50 fee applies to all variance requests, including Consent Calendar items, and covers the committee hearing as well as decision appeals to the Board of Review.
- 3)* New permit fees went into effect on Feb. 17, 2004.
- 4) For those who may be retiring in the next five years, there will be seminars conducted by ICMA Retirement Corporation at the end of the month. See Baub for details.
- 5) Time cards should reflect Tuesday's work load.

Mechanical

- 1) Consideration should be given to leakage around the overhead door in an existing garage when determining adequate combustion air for a replacement furnace and/or water heater. Baub will research this issue and report back.
- 2) Current policy that the house is to be dried in at the time of the HRR inspection will continue as presently enforced. Please continue to check for vent clearances at roof if in the attic at the time of final.
- 3) Remember that existing venting systems may continue to be used if in safe condition and the following:
 - a) Venting system serves two (2) draft hood appliances;
 - b) Venting system serves draft hood and fan-assisted appliance that was installed, permitted and inspected prior to November 1999.

FEBRUARY 11, 2004

Administration

- 1) Mick and Eric will be switching areas beginning Feb. 21, 2004.
- 2) Inquiries about variances for the Mechanical Committee should be directed to Mindy - not Shelly.
- 3) As a reminder, the ICC Educational Institute will be on March 1 and March 2. Please start making any necessary arrangements to be available for this group event.
- 4) Either a PT or HT inspection request for a permit for a manufactured unit coded 112 or 1121 is considered to be a commercial inspection and should be distributed accordingly.

Mechanical

- 1) Please continue to look for vent clearance at the roof if you are in the attic at the time of the heat final.
- 2) Baub will be meeting with the Building Inspectors about inspecting combustion air for basement finish permits. Please contact the inspector in your area to assure that you are available for assistance if needed.
- 3)* When a furnace is replaced, the venting system must meet the requirements of the GAMA Tables and provisions made for a future installation of a 40,000 BTU water heater. Additional provisions are not required if the existing venting system is already sized and configured so that a 40,000 BTU water heater can be installed.

FEBRUARY 4, 2004

Administration

- 1) 284 new single family permits were issued in January 2004, a total within 1 percent of those in January 2003.
- 2) RBD will be hiring an elevator inspector and building inspector this year. If interested, see Dave or Curtis, respectively.
- 3) Manitou Springs requires a use tax to be paid prior to any permit being issued within their city limits. Prior to inspections, please check plumbing/mechanical permits issued via the internet to verify this fee has been paid. If not, the permit is temporarily invalidated and inspections cannot be performed until the fee is paid. If this situation, please notify the contractor.
- 4) The 2000 IECC has been adopted by El Paso County and should be enforced on all permits issued on or after Feb. 17, 2004 for work in the unincorporated county. Other jurisdictions are still pending.

Plumbing

- 1)* When calculating required cross sectional area of vents through the roof as specified in Section 904.1 of the UPC, the area of automatic air admittance valves is excluded.

JANUARY 29, 2004

Administration

- 1) Friday, Jan. 30, is the Service Awards luncheon - recognized are Kye, Lee, John W & Marty.
- 2) Inspectors report that the IMA program is not working on their laptops. Baub will follow up with IT.
- 3)* The pros and cons of installing orange stickers on new construction were discussed. We will continue with the current policy of *not* putting these stickers on newly constructed buildings.

Mechanical

- 1)* Sections 503.3.3.4.2 and 503.3.3.4.3 of the IECC do not apply to ducts/plenums formed by building construction as allowed by Section 601.1.2 of the UMC. However, ducts/plenums constructed in this manner must continue to be sealed per Section 601.6 of the UMC.

MECHANICAL INSPECTION NOTES 2003 - 2004

JANUARY 22, 2004

Administration

- 1) Uniform lists are due to Bob.
- 2) Beginning February 4, 2004, our staff meeting day will be changed from Thursday to Wednesday.
- 3)* There are 7 different methods of providing combustion air per Table 7-A of the UMC. When a dryer is located in the same room as a gas burning appliance, the door to the room must either be fully louvered or removed in order to comply with code. (Inspectors: Remember this when making notes on the Permit Card.)

Mechanical

- 1) Please be aware that "ON DEMAND" water heaters are now being installed as replacements in existing dwelling units. Make sure the BTU capacity of the gas line as well as the common vent are adequate for these units.
- 2)* When CPVC vents for 90% + efficient appliances are installed in a garage, they must be enclosed/protected per Section 302.4, Exception #3, of the Uniform Building Code. The vent must be exposed adequately in order to verify correct installation prior to complete covering.
- 3)* Section 1312.12 of the UMC limits the use of unions in gas piping at exposed fixture, appliance or equipment connections as well as exterior locations immediately on the discharge side of a shutoff. Other locations require the use of right & left nipples and couplings.
- 4)* Section 1312.1 of the UMC requires gas piping and fittings, unless welded, to have approved standard threads. The fitting provided on the end of new pipe is a "thread protector" - it is not a "coupling." A "thread protector" is not allowed for use within a gas piping system; it does not comply with code.

JANUARY 15, 2004

Administration

- 1) Time cards are due Friday, January 16, 2004.
- 2) Russell will be out until Tuesday, January 20, due to a knee operation.
- 3) Beginning Tuesday, January 20, Tim Bush will report to the Calhan office and Dale will be at RBD.
- 4) Additional customer surveys are available in the cabinet with the other inspectors' supplies.
- 5) Beginning February 4, 2004, our staff meeting day will be changed from Thursday to Wednesday.

Mechanical

- 1) Example forms for entering "complaints" and "triple fees" were distributed and discussed.
- 2)* Section 503.3. 3. 4.2 of the 2000 IECC, as amended by the PPRBC, requires low pressure duct systems to be sealed with tapes and mastics as specified in Section 503.3.3.4.3. All tapes and mastics listed to UL181A, UL181B or UL181A/B are acceptable for use on metal ducts.

JANUARY 8, 2004

Administration

- 1) New single family dwelling permits totaled 292 for December; the total for 2003 is 4,356.
- 2) 219,99 inspections were made by all RBD divisions in 2003, more than 84,000 were by the Mechanical Division.
- 3) The Mechanical Division had a trip fee rate of less than 2.5%; and a rejection rate of less than 27%. *NICE JOB!*
- 4) Thank you to the Building Official for the 3.5 percent pay increase.
- 5) Enforcement of the IECC is only applicable to work within the city of Colorado Springs at this time.
- 6) The new fee schedule for 2004 will not become effective until all jurisdictions have adopted it. This includes the \$50 application fee to process variance requests (this fee applies to Consent Calendar items as well as variance requests and any appeals to decisions.)
- 7) The new RBD customer survey was distributed. Please hand these flyers to customers, homeowners and contractors.

Mechanical

- 1) When performing furnace inspections, please remember to check to ensure all compartment doors are secure.
- 2)* A new product by Selkirk/Metal Bestos was presented. This new "draft hood connector" is UL listed and is acceptable as a double wall connector, and must be installed per listing and manufacturer's instructions.

DECEMBER 11, 2003

Administration

- 1) New single family dwelling permits totaled 279 for November; the year to date total is 4,064.
- 2)* RBD will be closed Monday and Tuesday, March 1- 2, 2004 for staff training at the ICC Educational Institute in Denver.

Mechanical

- 1)* Regarding new construction, when portions of an air conditioning system are installed, such as coils and/or line sets, the final inspection will be notated to reflect what conditions exist at that time. This should not be construed that the AC system has been inspected and approved. In the future, a permit will be required to set the condensing unit, connect the refrigeration lines and energize the AC system. At that time, the entire AC system will be inspected.
- 2)* Exception #5, Section 304.5 of the 1997 UMC, does not limit the combustion air to be supplied by a single pipe system as detailed in Method #5 in Column 2 of Table 7-A of the UMC. Any of the methods described in 1- 6 are also acceptable.

MECHANICAL INSPECTION NOTES 2003

DECEMBER 4, 2003

Mechanical

- 1)* When determining if an existing masonry chimney needs to be lined per Section 813.2 of the 1997 UMC, consideration must be given to the portion of the masonry chimney exposed to the exterior above the roof. Determine what is interior versus exterior. A chimney exceeding 4 feet above the roof will be designated as an exterior chimney regardless of its configuration or classification below the roof.
- 2)* Inspection of a water heater replacement does not necessitate the verification of water temperature at shower valves.
- 3)* When permits are requested to install a gas line and/or heating equipment for an existing unheated structure such as attached or detached garages, the following is required:
 - A) Plans with energy calculations verifying compliance with 2000 IECC*; and
 - B) Building permit and insulation inspection.

*Currently the IECC has been adopted by the city of Colorado Springs. It's anticipated that El Paso County and other communities served by RBD will adopt the IECC in early 2004.

NOVEMBER 20, 2003

Administration

- 1) Please complete your employee benefit form by the end of this month. If you need assistance, please see Baub or Bev.
- 2) Sick hour conversions are due Monday, Nov. 24, to Bev.
- 3) Be aware that the yearly "use it or lose it" notice from payroll is forthcoming.
- 4) Please remember to print your name above your signature on all signed receipts.
- 5) Regarding notes made in the "inspection results" – distinguish between items needed for correction versus those that do not pertain to the correction.

Mechanical Committee

- 1) On Tuesday, Nov. 18, the Committee decided to pursue the following codes for adoption in late 2004 or early 2005 (these are estimated dates for adoption):

2000 UPC
2003 IMC
2003 IFGC (International Fuel Gas Code)
2003 IECC (International Energy Conservation Code)

Mechanical

- 1)* When a refrigeration coil is installed as part of a furnace replacement, the coil should be viewed as part of the plenum duct work, and no other permit is required.

NOVEMBER 13, 2003

Administration

- 1) Baub thanked the Mechanical Division for the extra effort on 11/12 inspection that totaled 530+. Please send overtime for the day via e-mail to Baub.
- 2) If a situation arises that requires assistance from the Red Tag Division of CSU, please call Deanna at 668-7351, or Dispatch at 668-8800.

Mechanical

- 1) Please be aware that furnaces which are installed on uneven floors in basements, and have the bottom of the furnace cabinet removed, could be in violation of Item 6, Section 404 of the UMC. Gaps should be sealed per Section 601.6 of the UMC.
- 2) The discussion regarding masonry chimneys was continued from Nov. 6; no decision has been made at this time.
- 3) The location of required gas shut-off valves and length limitations of appliance fuel connectors was discussed. Further discussion will be forthcoming.

NOVEMBER 6, 2003

Administration

- 1) Dave London is now Assistant Building Official.
- 2) Matt Johnston is now an RBD employee.
- 3) 374 permits for single family homes (R-3) were issued in October, year to date total is 3785.
- 4) Time cards are due today, Friday, because of Veteran's Day.
- 5) HT permits for manufactured home installations require HO= and PO= inspections performed by the Mechanical Division.

Mechanical

- 1)* Existing duct work is not part of the inspection for a furnace replacement. The installation of new transition ducts from the new furnace to the existing duct(s) is part of the inspection for compliance with Chapter 6 of the UMC.
- 2) The definitions of exterior and interior masonry chimneys were discussed. Stay tuned for future clarification of this topic.

MECHANICAL INSPECTION NOTES 2003

OCTOBER 2, 2003

Administration

- 1) Baub discussed the mechanical requirements in Sections 503 & 504 of the IECC and amendments by the Pikes Peak Regional Building Code. *The amendments are available on the RBD web site under "October updates" and code books are available for purchase at the RBD front counter. (Enforcement of the IECC as amended by PPRBD became effective for permits issued on Wednesday, Oct. 22, 2003.)

SEPTEMBER 25, 2003

Administration

- 1) In conjunction with Teresa's retirement, Dave London will manage the front counter as well as inspection divisions.
- 2) Baub passed out the new policy regarding electrical permits for hard-wired mechanical appliances. (Electrical permits are not required for installation of replacement furnaces.) This policy is available on the RBD web site under "September updates" and Contractor News & Code Information. (It is also available for staff in the Intranet under "IntraNews".)
- 3) Please do not upload before 8:35 a.m. to allow inspections to be entered for clients who are waiting on the phone.
- 4) Inspection areas will be tweaked starting Sept. 29.
- 5) Baub passed out the new 2000 IECC code books. Become familiar with Sections 503 & 504 – these sections and related amendments will be discussed next week.

Mechanical

- 1) Vent offsets occurring outside the furnace/water heater room were discussed. Stay tuned for further information and possible changes.

SEPTEMBER 18, 2003

Administration

- 1)* Electrical permits for furnace replacements are required. The new policy, effective Oct. 1, requiring electrical permits in conjunction with mechanical equipment installations is posted on the web site under "September updates" as well as "Contractor News & Code Information."
- 2) Please remember that inspection results and comments in BDA are part of the public record.

Mechanical

- 1)* Listed metal gas appliance connectors are allowed by Sections 305.3 and 1313 of the 1997 UMC. These devices are listed to ANSI Standard Z21.24 (American National Standard Institute). The standard states that the connector is designed only for use on the original installation. Therefore, when gas appliances are replaced, the associated connector must also be replaced per Section 303.1 of the 1997 UMC.

SEPTEMBER 11, 2003

Administration

- 1) Sean, Curtis and Bob will be doing a seminar on the 2000 IECC for HBA on Tuesday, Sept. 16. Baub will discuss items relevant to mechanical inspections in future inspectors meetings. Adoption of the 2000 IECC will require a new Energy Certificate be on the job site at the time of the newly required insulation inspections by the RBD building inspectors.
- 2)* Effective Oct. 1, 2003, electrical permits will be required for new and replacement AC condenser systems in compliance with Article 440 of the 2002 NEC. (Note: Electrical permits for new furnace installations are covered under universal permits for new construction; replacement furnaces do not require an electrical permit. This will be discussed at the Sept. 18 inspectors meeting.)
- 3) Representatives from Carlisle Coatings & Waterproofing Inc. gave a presentation on proper materials to be used in sealing duct joints.
- 4)* Effective with the formal adoption of the 2000 IECC, proper sealing of ducts will be inspected for compliance with Section 503.3.3.4 of the IECC and PPRBC amendments. The 2000 IECC can be purchased at RBD; the PPRBC amendments are available on the web site and at RBD.

SEPTEMBER 4, 2003

Administration

- 1) With colder weather approaching, please make sure to release gas meters in a timely fashion; there appears to have been problems recently with meter sets for Aquilla.
- 2) New single family dwelling permits for August totaled 423 with an additional 76 for townhomes.
- 3) Please make sure that work loads for the division are distributed and set as close to 8:30 a.m. as possible. Once established, inspections may remain in the office to complete previous day's duties. As a reminder, you'll be informed of any inspection cancellations shortly after 9 a.m. daily.
- 4) Inspectors meeting for next week will be moved to Wednesday, Sept. 10. There will be a presentation on the proper sealing/taping of ducts to the UL 181 Standard.
- 5)* Beginning Oct. 1, 2003, electrical permits will be required for replacement installations of both furnaces and condensers for air conditioning systems. This also applies to replacements of rooftop units on commercial buildings.

MECHANICAL INSPECTION NOTES 2003

AUGUST 28, 2003

Administration

- 1) Rolf has approved a backup data system for IMA; Steve will be installing it within the next few weeks.
- 2) In an effort to make our computer system more secure, passwords are to be changed periodically. Do this when you see the automatic prompt when logging into BDA.
- 3) If it becomes necessary to change a status of an inspection result in BDA, please be sure to make the appropriate documentation of the circumstances.

Mechanical

- 1)* Openings for refrigeration lines and condensate drains in a manufactured coil cabinet do not need to be sealed beyond the methods supplied with the unit and installed per the installation instructions. Any leakage at the top or bottom of the coil cabinet, where it attaches to the duct system and furnace, will need to be sealed per Section 601.6 of the 1997 UMC.

AUGUST 21, 2003

Administration

- 1) Variance requests are no longer accepted in letter format. Please remember when instructing individuals of this process that an application form is available on the RBD web site or can be obtained at RBD.
- 2) The new RBD Inspection Cancellation policy is on the web site and will go into effect September 1, 2003 along with the new procedure for clearing "A" status permits. Please read and become familiar with each of these policies.
- 3) In the near future, all RBD trucks will have GPS tracking devices installed for security purposes. This is a continuation of the program started earlier this month.

Mechanical

- 1)* When performing an outside gas line inspection on an existing structure, it is necessary for the inspector to have access to the interior to verify the BTU load being served.
- 2)* As a follow up to an earlier discussion regarding screens on combustion air intakes (see notes August 7, 2003), please be aware that the provisions of Chapter 7 of the 1997 UMC do not apply to direct vent appliances. See Section 701 of the 1997 UMC.

Plumbing

- 1)* *Section 608.8 of the 1997 UPC requires drains for T & P valves on water heaters to terminate in a downward position. It is acceptable to terminate the drain at a floor provided with a drain that complies with Section 413.10 of the 1999 PPRBC, regardless of how the floor is constructed. (Please see notes of Feb. 2, 2003 and Sept. 2, 2002.)

AUGUST 14, 2003

Administration

- 1)* Spare vehicles located in the south parking lot are locked and without keys. In order to use one of these units, obtain a key from the key box behind Kye's door and sign out accordingly. When finished, please return the keys and sign the vehicle back in.

Plumbing

- 1)* Section 604.1 of the 1997 UPC limits the use of PE (Polyethylene) pipe to outside a structure only. When supplying manufactured homes requiring a 101 Building Permit, the PE pipe must terminate outside the permanent foundation wall. When serving manufactured homes with 112 or 1121 T permits, the PE pipe may terminate under the structure.
- 2)* Section 203 of the 1997 UPC defines the parameters of building drains and building sewers. Projects that have multiple structures on the same lot have multiple building sewers and building drains. On such projects, all building drains are to be inspected by RBD. All building sewer installations and inspections are governed by the purveyor. For the City of Colorado Springs, please contact T. R. Tinan at 668-4428.

AUGUST 7, 2003

Administration

- 1) The number of permits issued for new R-3 occupants was 550 for the month of July.

Mechanical

- 1)* As a review, Section 702.3 of the 1997 UMC requires combustion air openings to be covered with 1/4" mesh screen with the exception of those terminating in the attic. If a manufacturer of a sealed combustion furnace provides installation instructions that conflict with the provisions of this section of the UMC, the most restrictive application is used. (Refer to Section 303.2 of the UMC.)
- 2)* Carrier Furnace, model 58STA/STX, prohibits return air ducts to be connected to the back of the furnace. Please be sure to read installation instructions from all furnace manufacturers in regards to this issue.

MECHANICAL INSPECTION NOTES 2003

JULY 31, 2003

Administration

- 1) New policies regarding "A status" permits, inspection cancellation and advance notification were distributed and discussed.
- 2) Dorothy has requested that gas credit cards and their associated pin numbers be kept separate.

Mechanical

- 1)* Section 703.1, Item 2.3 of the 1997 UMC requires combustion air ducts located in an attic space to be a minimum of 26 gauge. This requirement overrules Section 310.11 of the 1997 UMC.
- 2)* When appliance certificates list a fireplace as a means of complying with 310.11 of the 1997 Uniform Building Code, the fireplace Btu output rating must be verified on the accompanying data plate like all other heating appliances.

JULY 24, 2003

- 1) *Congratulations to Mick, Russ and Tim Langness for successfully obtaining their IAPMO certification in plumbing.*

Mechanical

- 1)* The exception to Section 504.3 of the 1997 UMC allows approved nonmetallic flexible connectors for dryer exhaust. This includes the plastic type provided with the dryer unit.
- 2)* When combustion air is obtained through crawl space vents/louvers, at least one of the vents/louvers must be made a permanent opening. See Sections 703.2 and 702.2 of the 1997 UMC.
- 3)* Air conditioning systems using multiple coils with a single compressor are acceptable when serving a single or "twined" furnace(s).

Plumbing

- 1)* Based on an IAPMO interpretation, it is permissible to alter the internal parts of a faucet in order to meet the requirement of Section 603.1 of the 1997 UPC for hot water to be on the left side of the fixture.
- 2) Make sure to check for clean out accessibility when performing a PTO inspection on a basement finish.

LOCK YOUR TRUCKS!

JULY 17, 2003

Administration

- 1) Please continue to inform Baub as to any IMA problems.
- 2) Mechanical Committee Minutes will now be distributed via e-mail.

Mechanical

- 1)* The department has received verification from NFPA (National Fire Protection Association) that when using the GAMA tables all common vent piping, including connecting wyes and/or tees, must be of a double wall type venting pipe.
- 2)* Section 1312.13 of the 1997 UMC requires all valves used in connection with gas piping systems to be accessible. This includes shut off valves installed when connecting new piping into an existing system. Please be aware of this when done in conjunction with basement finishes.
- 3)* Installation of duct work in conjunction with a new humidifier must comply with the appropriate sections of Chapter 6, of the 1997 UMC. Please refer to the Mechanical Inspectors Notes of 3/20/03.

Mechanical Committee

- 1)* The use of 3/8" PEX Pipe with the Vanguard Maniblock System has been approved. Installation and sizing must comply with the manufacturer's installation instructions.
- 2)* It is acceptable to use a single wall vent (tee/wye) for water heater replacements in conjunction with a fan assisted furnace that was permitted, installed, and inspected prior to 1/1/99 if the following criteria is met: The single wall vent (tee/wye) is in good condition and the installation complies with Section 810 of the 1997 UMC.

JULY 10, 2003

Administration

- 1) Permits for new single family dwellings numbered 377 for the month of June.
- 2)* RBD is working on a new policy for inspection cancellations. (Note: The Inspection Cancellation Policy, effective September 1, was approved by Rolf and posted on the web site on July 29. RBD will only accept cancellations requested by phone before 9 a.m. Other communications, such as e-mail and fax, are not acceptable. Cancellations attempted after 9 a.m. will remain on the inspection log and will be subject to a \$50 trip fee for rejected incomplete or inaccessible work.
- 3)* Section 601.1 of the 1997 UPC requires potable water supplied to all plumbing fixtures. According to the El Paso County Health Department, any well serving an occupant load of less than ten people is not regulated by the State Health Department. Effective immediately, all well systems serving structures with an occupant load of less than ten people require verification from a testing laboratory that the water is potable. Verification is required prior to occupying the structure.
- 4) Baub distributed maps showing the new inspector's areas. Please monitor carefully and let Baub know if there is any need for change.

(Continued next page)

MECHANICAL INSPECTION NOTES 2003

JULY 10, 2003 (Continued from previous page)

Mechanical Committee

- 1)* IAPMO has sent formal verification that Section 420.0 of the 1997 UPC limits the water temperature at all shower areas to a maximum of 120 degrees. This official interpretation is upheld by the Mechanical Committee, and was previously stated in the Mechanical Inspection Notes of April, 2003.

MAY 22, 2003

Administration

- 1)* Time cards are due on Friday.
- 2)* The Regional Development Review Center groundbreaking will be Wednesday, June 11 at Noon; and a photo of the entire RBD staff will be taken on the site between 11:15 – 11:30 AM. A professional photographer will be waiting, so please be prompt. RDRC site is located at 2880 International Circle.

Note: The Mechanical Committee Meeting will start at 2:00 PM instead of 1:30 PM on Wednesday, June 11.

- 3)* Please make sure that the details of a permit are correct and that the permit fee covers the inspection types and amounts. Permit Fees are based on RBD performing two (initial and re-inspection) inspections for each of the required in Sections found in Section 16-4-102 of the Pikes Peak Regional Building Code. Any inspections above and beyond **these**, especially partials requested for the convenience of the contractor, **must** be accounted and paid for either in the cost of the permit or via a re-inspection (trip) fee.

Mechanical Committee

- 1)* During the May 14 Mechanical Committee Meeting, a new consent calendar item was approved to eliminate the requirement for a metal chimney liner when:
 1. Replacing a water heater in an R-3 occupancy; and
 2. An unlined interior chimney serves the water heater and another draft hood appliance; and
 3. The contractor provides a letter of inspection verifying chimney is safe for the intended application.

Mechanical

- 1)* As a follow up to the Mechanical Inspectors Notes of May 8, 2003, Reflectix (bubble wrap) insulation material *may be used* to line stud and joist bays; *but may not be used* to form a return air plenum. Please see Mechanical Inspector Notes of August, 2002 for accepted rigid materials for return air plenum use.

MAY 15, 2003

Administration

- 1) Please make sure to inform Rolf, in detail, of any referrals directed to him.
- 2) June 11th, at 11:00 AM, will be the ground breaking ceremony for the new "One Stop Shop" (Regional Development Review Center). Please NOTE: A professional photo of the entire staff is planned on the site at 11:15 – 11:30 AM.
- 3) As a reminder, please change your voice mail when planning to be out of the office for more than one day. In addition, please make arrangements for a "Phone Buddy". See Mechanical Inspectors Notes of 9/29/2000.
- 4) Rolf has agreed, in principle, to allow the universal permit program to be extended to basement finishes, additions, and remodels in conjunction with R-3 occupancies. This change will not take place until the next code change cycle.

Mechanical Committee

- 1)* While not the best of practices, trapping of the bathroom exhaust duct (negative slope) in the attic is not a code violation.

Plumbing

- 1)* As discussed during The Mechanical Committee Meeting on May 14, 2003, limiting the maximum temperature at the shower head to 120 degrees Fahrenheit is to be temporarily put on hold until an official interpretation is received from IAPMO. Please see Mechanical Inspector Notes of April 10, 2003.

MAY 8, 2003

Administration

- 1) April figures show more than 400 starts for new single family dwellings and more than 50 for townhomes.
- 2) The new number to roll into the IAPMO Certification Program is 1-877-457-6482. Contacts are Inez Perez and Mike Macy.
- 3) Congratulations to Tim Crippen for successfully completing the Certified Plumbing Inspector Exam.
- 4) Regarding HRR inspections, "dried in" means the roof paper is installed around all the vents penetrating the roof, (see Inspectors Notes of January 2000). Note: Flashing, storm collar or vent caps are not required for release of the construction meter.
- 5) As a reminder, effective May 1, 2003, site specific letters are required for all fireplace installations that deviate from the manufacturer's installation instructions. The exception is Vantage Homes which is modifying the RBD approved plans to incorporate previously approved modification letters.

(Continued next page)

MECHANICAL INSPECTION NOTES 2003

MAY 8, 2003 (Continued from previous page)

Mechanical Committee

- 1)* Reflectix now has an R-6 rating for insulation when applied directly to a duct using spacers every 24 - 26 inches. (Refer to installation instructions.) According to the manufacturer's specification, the use of this insulation at joist and stud bays provides an R-7 value. However, it is not acceptable to form a return air plenum.
- 2)* The 10-foot separation between a return air opening and an appliance firebox is only applicable to the same enclosed room or confined space as stated in the 1997 Uniform Mechanical Code, Section 404.1, Item 6, Exception 3.3.

APRIL 24, 2003

Administration

- 1) Doug will be off at least until May 5, 2003 due to a knee operation.
- 2) Blaine and Dale will no longer be doing combination inspections as of April 28, 2003. They will each cover Eastern El Paso county performing inspections in their own disciplines. Exceptions may apply and Blaine and Dale will work together on these. This will necessitate the re-configuration of some areas.
- 3) If you are having trouble with keeping your IMA connected, please see Steve. There appears to be a method for better contact using a phone instead of a card.
- 4) Baub has met with Curtis regarding inspections of basement finishes, particularly areas of bath exhausts, combustion air and make up air. Curtis will discuss with the Building Inspectors next week.
- 5)* Terry with the Electrical Division has confirmed that an electrical permit is required for all new A/C installations, even if the house, including manufactured units, is pre-wired. There is concern in the area of fuse sizing and final connection.
- 6) Baub is conducting interviews to fill Alton's position.

Plumbing

- 1.)* There are no specific dimensions listed for whirlpool access in Section 415 of the 1997 UPC. Please continue to coordinate this requirement with the Electrical Inspection Division. (See Mechanical Notes of July 1999.)

APRIL 17, 2003

Administration

- 1)* Rolf has approved the voluntary use of the RBD check lists for furnace, water heater and air-conditioning installations as official documentation for code deficiencies. When using these lists, please check the box for the appropriate code items and leave at the job site. For items not covered by the check list, please hand write comments at the bottom.

Mechanical Committee

- 1)* Pex pipe and appropriate fittings manufactured by Stadler Viega have been accepted as an alternate water pipe material. See section 604.1 of the 1997 UPC. Sizing shall be in accordance with Section 610.0 of the UPC.
- 2)* The use of Therma Button strap has been approved for use in R occupancies to support one end of a plenum in horizontal furnace applications. See Section 603.1.3 of the 1997 UMC and the Mechanical Committee Minutes of April 9, 2003.
- 3)* During the April Mechanical Committee Meeting, it was determined that gas appliances listed solely as a Category III appliance, shall be vented accordingly. Manufacturer's installation instructions that allow the use of sealed single wall pipe or type B vent in lieu of a listed Category III vent are in direct conflict with Section 817.2 of the 1997 UMC. In such instances, Section 303.2 of the 1997 UMC requires the most restrictive provisions be followed. Therefore, Section 817.2 is considered minimum code.

APRIL 10, 2003

Administration

- 1) New members to the Mechanical Committee are Curt Putman and Daryl Lackey.
- 2) Thank you to all who participated in the HBA Home & Garden Show.

Mechanical

- 1)* Colorado Springs Utilities does not allow the discharge outlet on the gas pressure regulator for the gas meter to be within 3 feet of any opening into the building, including the dryer, bath and kitchen exhausts. This applies to both new and existing construction. (Refer to Mechanical Notes of April 2002.)
- 2)* Any installation of cooking equipment that appears to be contrary to the manufacturer's instructions is to be reported to the general contractor. Projects that have repetitive problems are to be reported to Baub.
- 3)* When an inspection is performed for a water heater replacement in a restaurant, please give the information to Baub who will contact the El Paso County Health Department. RBD inspections are limited to UMC and UPC provision issues. Approval of the size/capacity of the water heater is determined by the Health Department.
- 4)* If the installation instructions for a condensing appliance require the vent to be insulated, the insulation must be installed at the time of the inspection. This requirement applies to both new and replacement installations.
- 5)* Flexible Technologies has issued a letter stating that it is a temporary practice to handwrite the R-value of the insulation on the label for Thermasleeve. This will only be accepted by RBD for 90 days. (Continued next page)

MECHANICAL INSPECTION NOTES 2003

APRIL 10, 2003 *(Continued from previous page)*

Plumbing

- 1) Section 420 of the 1997 UPC specifies the type of shower and tub/shower combination control valve to be used as well as the maximum water temperature of 120 degrees Fahrenheit. Both provisions must be met in order to comply with Code. RBD will verify the correct valve installation at the top out (PTO) inspection. Water temperature will be verified at the final plumbing (P=) inspection that will require the water heater to be functioning.

APRIL 3, 2003

Administration

- 1) The deadline to purchase additional years from PERA is in November 2003; see Bev for details.
- 2) Kye will be off next week; Bob will be at the RBD exhibit at the HBA Home & Garden Show on Friday.
- 3) Bob distributed draft procedures for closing A status permits.

Mechanical

- 1)* For the replacement of existing gas water heaters only: If the venting of the appliance requires compliance with the GAMA tables, it is permissible to use the value of a 1-foot vertical rise even if it is physically impossible to obtain this dimension. This directive is based on the GAMA and NFPA 54 organizations.
- 2)* Note Thermo-Pan's new installation instructions; the spacing of the fasteners has increased from 2 to 4 inches on center.

Plumbing

- 1) Cleanouts are required when a horizontal drainage line exceeds 135 degrees in change of direction. Please refer to Section 707.5 and Section 707.4 exception #2 of the 1997 UPC. (Refer to 1997 UPC Section 707 for all cleanout requirements.)

MARCH 27, 2003

Administration

- 1) If you need dog spray repellent, please see Baub.
- 2) Thank you to all those participating in the HBA Home and Garden Show. (Happy Easter to Mick!)
- 3) Rolf has asked Bev to contact Lorigs' regarding "Jean" work pants. Baub will monitor.
- 4)* Please remember that new A/C installations on existing homes require an electrical permit to be in place prior to completing the heating permit. See Section 306 of the 1997 UMC.
- 5)* Effective May 1, 2003, RBD will no longer accept generic letters from fireplace manufacturers which alter/amend installation instructions. Any installation which does not conform to the installation instructions shipped with the fireplace unit will require a site specific letter from the manufacturer approving the modified installation.

Plumbing

- 1)* When separate drains and vents are provided for a kitchen sink and dishwasher, the vents must be a minimum of 6" above the flood level rim prior to connection. See Section 905.3 of the 1997 UPC.

MARCH 20, 2003

Mechanical

- 1)* Based on a recent interpretation from ICBO, humidifiers meet the definition of "equipment" as stated in Section 207 of the 1997 UMC. Although a permit is not required for the installation of a humidifier, there may be associated disciplines that require an inspection. Therefore when a humidifier is installed with a new or replaced furnace, RBD will inspect any related duct work or drains per Chapter 6 and Section 309.1 of the 1997 UMC respectively. See further clarifications in Section 309.1 that include:
 - A) If the humidifier is a reservoir type and contains an emergency drain for overflow only, the drain must be diverted away from the appliance to protect it from damage.
 - B) If the humidifier is a flow-thru type where water is a normal by-product of the function of the unit, the drain and disposal site must comply with the provisions of Section 309.3 of the 1997 UMC.

MARCH 13, 2003

Administration

- 1) Rolf has authorized inspectors who did not receive the correct uniform pants order to go directly to Lorig's to exchange them for the correct ones.
- 2) Please remember that some of the yellow door tags contain the old and incorrect phone number for RBD. For those tags it will be necessary to write in your direct number before leaving the tag at the residence.

Mechanical

- 1)* Baub distributed a new letter from Home and Hearth Technologies Fireplace Mft. that modifies their installation instructions for the Novus and Caliber models. A hearty discussion followed in regards to these types of letters. It appears policy will be reevaluated and may change in the near future.

MECHANICAL INSPECTION NOTES 2003

MARCH 6, 2003

Administration

- 1) Please make sure addresses and street signs are posted in your area. This is a requirement of Section 16-1-509, PPRBC.
- 2) If enforcement of the furnace filter door requirement can be done at the final heating inspection, please allow construction to continue by completing the HRR inspection and noting accordingly.
- 3) Homeowners operating under their own permit can install CSST and PE piping without a Heating Mechanic I or III license.
- 4) When telling an individual, "(RBD) will be back to reinspect," also communicate that this requires a formal inspection request and will not be done at the discretion of an inspector.

Mechanical

- 1)* As a follow up to the Nov. 12, 2002 staff meeting, Baub passed out examples of manufacturers' instructions for water heater installation in a manufactured/mobile home. Please note:
 - A) The water heater must be listed for use in a manufactured/mobile home; and
 - B) The installation must comply with the manufacturer's instructions particularly the location of the unit.
- 2)* Copies of the newly revised guidelines for chimney liner requirements were handed out. This can also be accessed on the web site under "Contractors", followed by "Contractor News & Code Information."

FEBRUARY 27, 2003

Administration

- 1) Rolf has approved dual certification from both ICC (formerly ICBO) and IAPMO. When the recertification package from ICC arrives, please complete and remit. If you wish to "roll into" the IAPMO certification program, access the web site provided by Jack. In either case, reimbursement will only occur if a copy of your check and application is given to Bev.
- 2) Steve is aware of the situations regarding IMA versus. BDA. Until resolved, use of either or both of these programs with the wireless is acceptable. Do not use either of these with Field Inspector.
- 3) It is of the utmost importance to follow division policy of calling the contractor in the presence of the home owner when any retrofit inspection does not pass. Please adhere.

FEBRUARY 20, 2003

Administration

- 1) Please remember to note if the basement is framed during the time of the first rough inspection on all 101 permits.
- 2) During this time of normal inspection activity, use field time effectively. This is an opportunity to tighten up on inspection check lists and communicate with contractors on the job sites.

Mechanical

- 1) Regarding replacement of condensers on existing AC installations, verification of correct breaker size is a concern. Baub will follow up with staff on the best way to handle this.
- 2)* Installation of new hydronic systems requires testing of all piping (HWP). Depending on the installation, there may be a need for multiple inspections. Do not complete this inspection (HWP) until all piping is completed, inspected and tested per Section 1201.1.8 of the 97 UMC. (Refer to mechanical notes for February, March and July of 2000.)

FEBRUARY 13, 2003

Administration

- 1) Each additional inspection for a universal (101) permit is scheduled as a "+" (plus) inspection. A separate permit is not to be issued for work on a site with a universal permit while construction is ongoing; the exception is a basement finish.
- 2) Time cards are due Friday.
- 3) Discussion of the new IMA computer program was held.

Mechanical

- 1)* During the February meeting of the Mechanical Committee, it was decided that Sections 304.5 and 1314.1 of the 1997 UMC, as amended by the PPRBC, are applicable to the installation of all types of new and replacement gas burning appliances. Please be aware that this applies to gas burning fireplaces installed with basement finishes.
- 2)* Please remember that the use of a permanent opening in the supply duct serving a "furnace room" to provide combustion air is applicable to replacement appliances only. Please see mechanical notes of April 2001.

MECHANICAL INSPECTION NOTES 2003

FEBRUARY 6, 2003

Administration

- 1)* When a variance is granted, it is still the responsibility of the contractor/permit holder to recall for the appropriate inspection in order to ensure the permit will be closed.
- 2) Copy both Steve and Matt on all correspondence regarding the function of the new "IMA" computer program.

Mechanical

- 1)* As a reminder, Section 1305.3.2 of the 97 UMC has been amended by the PPRBC. As amended, gas piping systems carrying pressure in excess of a 14-inch water column within structures classified as group R occupancies, require a 60 psi test on the entire gas piping system including the piping on the outlet side of the gas pressure regulator.
- 2)* When an "HI+" inspection is requested and the gas meter is not set, the entire gas piping system should be pressure tested. If the meter is set and the gas appliances are in operation, only the newly installed pipe is required to be tested (same as a retrofit).

Plumbing

- 1)* A listed trap adapter is considered to be a slip joint. As such, it is the only slip joint allowed on the outlet side of the trap per Section 1003.2 of the 97 UPC.
- 2)* Running traps are not prohibited by code. Section 313.6 of the 97 UPC, as amended by the PPRBC, cites a specific use for this installation. (See Mechanical notes from April of 2001 for additional information.)

JANUARY 22, 2003

Administration

- 1) Orders for uniform replacements are due to Bev by Thursday, Jan. 30.
- 2) If a plans examiner encounters the words "Blue Card" on a plan or an inspector sees a blue building permit card in the field, please contact Kevin Stilson in Floodplain for the appropriate information.
- 3) Refills for soap used in determining gas leaks are available in Baub's office.
- 4) Please remember to continue to mark the words "Finished Basement", if applicable, when performing the first rough inspection on a 101 permit. (Refer to July 2001 meeting notes.)

Mechanical

- 1) A Letter from Robert Shaw Controls states that AGA/ANSI Standard Z21.21 allows for 238 cubic centimeters per hour of gas leakage through the gas control. Please keep this in mind when performing inspections.
- 2) When new or replacement heating or cooling appliances are installed in an existing structure and no floor drain is available, a condensate pump may be used. In addition, the pump must be wired so the appliance cannot function if the pump is inoperative.

JANUARY 16, 2003

Administration

- 1)* The Board of Review accepted the recommendation of the Mechanical Committee to adopt the 2000 International Energy Conservation Code including the amendments approved by the Mechanical Committee. This code will proceed on to each of the government entities served by RBD for formal hearing/adoption.

Mechanical Committee

- 1)* The Mechanical Committee accepted as an alternate material, fittings manufactured by Sioux Chief, for use with Wirsbo and Vanguard PEX pipe. (See Mechanical Committee Meeting Summary of January 8, 2003 on the web site.)

Mechanical

- 1) Letters from Thermo Manufacturing Inc., makers of Thermo-Pan, were distributed. The letters are an update to their manufacturer's installation instructions which:
 - A) Specify details for connecting joist bays; and
 - B) Allows the use of this material below joists to increase the area of the return air plenum.
- 2) Refrigeration piping installed in commercial structures must comply with Uniform Mechanical Standard 11-2 as stated in Section 1110.8 of the 1997 UMC.

Plumbing

- 1) The use of an air admittance valve for a vent in a plumbing system was discussed. Baub will contact the manufacturers of these valves to verify whether or not the use of this device as a relief vent is permissible. Baub will report back.
- 2)* When a vent connects to a horizontal drain line, the invert of the vent must be above the flow line (wye rolled up) per Section 905.2 of the 1997 UPC. PPRBC amended this section to exclude wet vented water closets. (Refer to March 2001 meeting notes.)

MECHANICAL INSPECTION NOTES 2002 - 2003

JANUARY 9, 2003

Administration

- 1)* Complete all meter releases in an appropriate and timely manner. If the computer prompt is not working, see Baub or Kye.
- 2) All accidents are required to be reported per RBD policy. For details see the RBD Intranet. Please see Baub for the minor injury report form.

Mechanical Committee

- 1)* In December, the Mechanical Committee accepted an alternate to Section 6.308 of the 1997 UMC Standard 6-3. The alternate method of "splicing flexible duct" is to eliminate the metal collar and join by inserting one end into the other and "spiraling" at least 3 revolutions. The joint is to be completed with tape listed and labeled in accordance with UL 181 A.

Mechanical

- 1) Permits coded 434 for fireplace installations may be completed at the time of the vent and/or gas pipe inspection if there is no question regarding mantels or other protrusions. If there is a concern, a follow up inspection is required.
- 2) "Connection," distributed by Colorado Springs Utilities in December, included an article entitled "Tips on Saving Energy and Money." The article encourages readers to "...check your basement or crawl space. Make sure all vents, windows and other openings are tightly closed." If a gas appliance is located in a crawl space, the closure of vents in this location could interfere with the combustion air requirements of the 1997 UMC, specifically Sections 702.2 and 703.2, and could result in a build up of carbon monoxide. If questions arise regarding this matter, follow the UMC code requirements. Baub has informed CSU of this error.

DECEMBER 5, 2002

Mechanical

- 1) Bob will contact the appropriate entities regarding the 1 foot minimum rise requirement for vent connectors when applying the GAMA tables
- 2)* Draft diverters are required to be secured to the appliance by the appropriate method provided by the manufacturer such as screws, slots, holes etc.
- 3)* Clarification: fees are defined in Section 16-3-201 of the Pikes Peak Regional Building Code. The term "trip fee" is commonly used in field inspections and refers to the purpose and function of the fee defined in Item Q of Table E.
- 4) Before assessing a fee, please make certain it conforms to the purpose as stated above.

NOVEMBER 21, 2002

Administration

- 1) Due to the consistent heavy volume of inspections after Veteran's Day, Bob has asked inspectors to not plan time off all that week. Bob and Kye will also be scheduled to be in the field that same week.
- 2) With Blaine's accident, it will be necessary to have Dale perform inspections east of Peyton Highway.

Mechanical

- 1)* The department has received an amended interpretation from ICBO regarding the source of combustion air using the exception to Section 702.1 and Item #5 in Column II of Table 7-A of the 1997 UMC. Combustion air may either be provided from the outside as before or from an attic complying with Item #2 of Section 703.1.
- 2)* A letter was distributed from Hearth Technologies modifying the installation instructions for Model 6000-TR-OAK. Mantle clearances listed in manual 383-900E are correct. The use of any other manual will result in a nonconforming mantle installation.
- 3) Section 402.3 of the 1997 UMC requires filters to be installed upstream of fans. This implies that there be some means provided for securing the filter in place.
- 4)* Gas appliances used in mobile homes must be listed for such use. In addition, the listing should specify the placement/access of the appliance. Both items must be met in order to meet minimum code.

NOVEMBER 14, 2002

Administration

- 1)* The Building Committee has recommended to the Board of Review that when a permit is issued for a basement finish, a permit not be required by a licensed Heating Contractor B for the installation of an exhaust fan, and its associated duct, that serves either a bathroom or media room. This installation will be covered by the building permit and inspected by the Building Division of RBD.

(Continued next page)

MECHANICAL INSPECTION NOTES 2002

NOVEMBER 14, 2002 (Continued from previous page)

Mechanical Committee

- 1)* The Mechanical Committee has upheld the Department's position that "Bubble Wrap" duct insulation with an R value less than 6, will need to be doubled in order to conform with minimum code.
- 2)* The Committee has accepted clear PVC drain tubing by Becket Corporation for installation on the exterior of a building.
- 3) There will be a special hearing for the proposed amendments to the 2000 International Energy Conservation Code (IECC) on December 11, 2002 at 3:30 p.m. at RBD. The code and amendments will be adopted in 2003.

OCTOBER 31, 2002

Administration

- 1) Inspectors who wish to change to IAPMO certification or become "dual-certified," please call 1 800 451 5978 ext 112.
- 2) Remember that the notes on the yellow "inspection record card" in the field need to match computer entries.
- 3) Please be aware of multiple permits by the same contractor for the same address. If the issuance date for a permit is later than any inspection date, it is safe to assume that the work for the most recent permit has not been inspected. Bob will work with the permit technicians regarding this issue.
- 4) Inform Bob or Kye of any permit that is not coded correctly, such as residential versus commercial.

Plumbing

- 1)* For job site built showers, it is not necessary to have the liner installed at the "rough" plumbing inspection (PTO); however the special flanged shower drain with weep holes does need to be part of the inspection.
- 2)* Closet flanges must be in place and secured to the floor for all "rough" plumbing inspections (PTO), including those for basement finish permits.

OCTOBER 24, 2002

Administration

- 1) Interviews are in process for Eldon's replacement. The position is still open and applications are being taken.
- 2) Please check RBD intranet news for updates.
- 3) EAP class scheduled for November 7 is required attendance and participation. If you are already scheduled off for that day, please attend the seminar for Building Inspectors on October 30.

OCTOBER 17, 2002

Administration

- 1) Tim Bush will be back for limited service somewhere between the 13th and 18th of November.
- 2) Rolf has asked that no personal comments/opinions, such as "nice job", be recorded on official RBD documents. Comments should be limited to code items or notes regarding the same.

Plumbing

- 1) Vents for water closets and similar fixtures may connect to the vertical portion of the fixture drain, including the closet stub, see Sections 905.5; 1002.4 and 311.3 of the 97 UPC as amended by the Pikes Peak Regional Building Code. Also see Sections 1002.2 and 1002.3 of the 97 UPC for length and directional change limitations.

Mechanical

- 1) The requirements regarding furnace filters (see notes from April 2000) were reviewed. There are no revisions to the previous policy.
- 2) Doors to the burner and/or blower compartment are not required to be installed on furnaces/boilers at the time of final inspection. Please note that bypassing the blower and/or gas valve safety control to operate the appliance without the door(s) being in place is a code violation. See Sections 303.1; 311.1; 311.3; and 312.1 of the 1997 UMC.

SEPTEMBER 26, 2002

Administration

- 1) Rolf addressed the Division concerning the hiring of a replacement for Eldon's position and an additional inspector.
- 2) In the near future classes will be provided to all RBD employees to help develop/improve personal communication skills. Dates and times will be distributed when confirmed.
- 3) Tim Bush is scheduled to return somewhere mid-October.

Mechanical

- 1)* When a gas line is installed to serve a new vented gas appliance such as a gas log, fireplace, unit heater, etc. the gas line, appliance and required vent should be listed on the permit(s). If the gas line serves an unvented appliance such as an outdoor gas grill, fire pit, dryer, gas range, etc., the appliance is not required to be included in the permit process.

MECHANICAL INSPECTION NOTES 2002

SEPTEMBER 19, 2002

Mechanical

- 1)* Until further notice, insulation used for ducts with an R value less than 6 but more than 3, and doubled, will be considered in compliance with code.
- 2)* The vent connector is not required to be a minimum of 4 inches in diameter for all water heaters. Vent connectors are sized per Section 808.1 of the 1997 Uniform Mechanical Code (UMC) when the furnace is a draft hood type, or the GAMA tables when the furnace is a fan-assisted type.

Plumbing

- 1)* Per the February 2001 Mechanical Notes, the point of termination for T & P valve drains for replacement water heaters may remain the same as for the previous water heater. All other applications of Section 608.5 of the 97 UPC are applicable. Please remember that drain lines serving T & P valves are never to terminate at the exterior of a structure.
- 2)* Please be aware that some workers are using plumbing stacks located in an outside wall as studs to secure exterior siding. Pulling on these stacks at the time of a top out inspection is appropriate to check for damage from nail punctures.

SEPTEMBER 12, 2002

Administration

- 1) Rolf has clarified that the seminars sponsored by the Colorado Springs Police Department were conducted to provide information about potentially dangerous situations. Reporting suspicious activities to the police department is not part of your job. If you choose to report possible illegal activity, it is strictly a personal choice that is unrelated to RBD. Please see the intranet news of 9/6/02.
- 2) The Mechanical Committee has completed its review of the 2000 International Energy Conservation Code (IECC). Amendments to this code will be presented to the Board of Review. This document will also be distributed to the public for comments/meetings.
- 3) As discussed in January, any outside gas line inspections (HO) performed within the city of Colorado Springs should have the utility company entered in the inspection screen. This will in turn allow the inspection to be faxed automatically to CSPU for record keeping and tracking these types of installations.

Mechanical Committee

- 1)* At the September meeting, the Mechanical Committee changed the dimensions for showers qualifying for the consent calendar to an area not less than 729 square inches and able to encompass a 27 inch diameter circle. This consent item only applies to basement finishes, not new construction. Consent calendar items do not change the code; they are variance requests. The provisions of the UMC and UPC as amended by the PPRBC are still the minimum.

Inspections

- 1) Please be aware that there is a new brand of "Bubble Wrap" insulation being used in the field that does not provide the minimum insulation value of R-6 as required by code when used to insulate ducts located outside the building envelope.
- 2) "Kansas City" pattern floor drains (floor drains with integral trap, cleanout and backwater valve) need to have the floating ball type back water valve and cleanout plug in place in order to comply with minimum code provisions.
- 3)* Section 313.6 of the UPC prohibits soil, waste, and water pipes from being located in an outside wall unless adequate provision is made to protect the pipes from freezing. When a clothes washer drain and water pipes are installed in an exterior wall, the wall framing must consist of no less than 2 x 6 inch members. The plumbing pipes need to be positioned to the interior side of the wall and full batt insulation installed at the external portion of the wall in order to comply with this provision.

SEPTEMBER 5, 2002

Administration

- 1) Continue to note the number of heat runs in an unfinished basement when doing an H= inspection on new 101 permits.
- 2) Mechanical Inspector Meeting notes are now available on the RBD Intranet. To do a specific search, key "control F" and type in the word or phrase for which you are searching. Please see Kye or Baub for further instructions, if needed. (The notes are for staff only)
- 3) When encountering code violations while performing a retrofit inspection, continue the practice of calling the contractors via the homeowner's phone. Never express personal opinions to the homeowner regarding a contractor or the work.
- 4) Outside water line inspections (PWO) are called in under the general contractor's ID number for a new single family dwelling. The ID number for a homeowner is only used if the homeowner is the general contractor and pulled the permit.

(Continued next page)

MECHANICAL INSPECTION NOTES 2002

SEPTEMBER 5, 2002 (Continued from previous page)

Plumbing

- 1) New plumbing devices were viewed and discussed including a plastic backflow preventer, ASSE listed for use on carbonation machines, and an IAPMO listed ball valve with a side outlet pressure relief valve for use on water heaters.
- 2)* Section 314.3 of the 97 UPC requires underground piping to be "laid on a firm bed for its entire length". Sections 315.3 and 315.4 address backfill and maintaining the alignment and slope of the piping installation. Mounding dirt, pea gravel, rocks and structural dirt clods do not comply with these requirements.
- 3)* Section 710.3 of the 97 UPC states the size (discharge capacity) of an ejector or pump serving a water closet or urinal to be a minimum of 20 GPM (gallons per minute). Section 710.5 of the 97 UPC requires a value of 2 DFU's (drainage fixture units) be assessed to each GPM of the pumped discharge. When sizing the plumbing waste gravity drain line receiving this discharge, see table 7-5 of the UPC. Example: 20 GPM times 2 DFU equals a total of 40 drainage fixture units. The maximum allowable drainage fixture units for a 3" horizontal drain line from Table 7-5 is 35. Therefore the minimum allowable size for a horizontal gravity drain receiving the discharge from a soil ejector pump is 4".

AUGUST 29, 2002

Administration

- 1) The Board Of Review has revoked the license of Bob Soltani of Murrays Heating and Air-conditioning. Effective August 26, 2002, Mr. Soltani and Murrays are no longer authorized to do business in El Paso county. Please be aware and report any possible infractions.
- 2) Mechanical Inspectors Meeting Notes will soon be available on the RBD Intranet for staff only. (Notes of interest to contractors and the public are printed on the Internet web site.)
- 3) Regarding new construction, if the structure is occupied when performing a final inspection, please note the incident as part of the inspection record and report it to the appropriate building inspector the following day.
- 4) Please remember the "Inspectors hot line" is still active when attempting to contact support staff.

Mechanical

- 1)* Connecting return air duct(s) to the furnace casing requires an appropriate joint as specified in Section 601.6.3 of the 1997 UMC. Sheet metal screws located at each at each corner of the opening and at 6" on center between corners, are also acceptable. In all cases, this joint is also required to be sealed per Section 601.6 of the UMC as well.

AUGUST 22, 2002

Administration

- 1)* When inspecting permits that are in "A" status, if the inspection does not pass, please enter "L" for locked. This is a change in policy. Steve Hills will be working on a new entry code for this type of inspection.
- 2) If you wish to change your status, being added or removed from "after hours inspections," please see Baub

Mechanical Committee

- 1)* During the July meeting, the Mechanical Committee agreed that separate controls are required for hot water systems which supply heat for both environmental comfort and domestic water. Temperature limit stops set at a maximum 120 degrees Fahrenheit, plus signage, are required for the domestic water side of the system. This applies only to existing structures which do not have anti-scald valves installed at the tub/showers.

Mechanical

- 1)* Please remember that air originating from outside the structure and that is connected to the return air side of a duct system may be considered as combustion air per Section 703 of the 97 UMC, or outside air per Section 403 of the 97 UMC. Since Section 403 is the most restrictive, please be sure which applies when making that determination.
- 2)* Material used for ducts within concealed spaces of building construction in an R-3 occupancy must be of those normally used in construction such as wood, drywall, listed sheathing, etc. Cardboard from shipping boxes is not acceptable. Please see Section 601.1.2 of the 97 UMC.
- 3)* Drywall (even type X) is considered as a combustible material when determining clearances to flues, heating appliances or other sources of high temperature. Please see Section 216 in both the 97 UBC and UMC.

AUGUST 1, 2002

Administration

- 1) Please remember the following in regards to mobile home temporary sets:
 - A) The only inspections for mechanical are PO= or HO=.
 - B) HO= inspection includes checking for address compliance.
 - C) Inform the electrical inspector that the mechanical inspections are complete.
- 2) Please see "Intranet News" for interdepartmental policies. This is accessed via the RBD intranet. This site will also allow access to the complete Mechanical Inspectors Meeting Notes which can then be word searched. (Continued next page)

MECHANICAL INSPECTION NOTES 2002

AUGUST 1, 2002 *(Continued from previous page)*

Mechanical

- 1) Loose fitting bi-fold doors to areas containing dryers meet the 100 square inches requirement of Section 908.2. (Refer to inspectors notes of December 10, 1999.)
- 2) The installation of mechanical items associated with residential cooking equipment such as hoods, ducts, exhaust fans, etc., must comply with either the manufacturer's installation instructions or the appropriate sections of the UMC per Sections 303.1 and 303.2 of the 97 UMC. Because the residential cooking appliance might not be installed at the time of the final mechanical inspection, the installation of the appliance, with respect to clearances to combustibles, is the responsibility of the installer/contractor.

Plumbing

- 1) Be aware of the trap for tubs and/or showers located in the garage. Traps should be located high in the floor joists so that adequate insulation may be installed per Section 313.6 of the 1997 UPC.

JULY 25, 2002

Administration

- 1) Inventory forms were distributed. Please complete and return to Baub.
- 2) The Colorado Springs Police Department will present a program to RBD inspectors regarding chemical labs. Attendance is mandatory. The first one will take place on Wednesday July 31, 2002. Those who are to attend are: Mick, Daryl, Marty, Alton, John W., Dale, Tim C., and Lee.
- 3) The comment "Homeowner to get permit" found occasionally on the route summary printout is for information tracking purposes only. This should not affect the inspection request.

Mechanical

- 1) As a reminder from the May 9, 2002 meeting: Toilet room and bathroom exhausts are to terminate at roof or gable vents that have at least the same cross sectional area as the exhaust duct(s). Soffit vents, regardless of area, are no longer acceptable as exhaust vent termination points.

JULY 18, 2002

Administration

- 1) Please remember that any misuse of RBD documents by employees outside the scope of official business will not be tolerated and viewed the same as being used by someone outside the department.

Mechanical

- 1) An appliance replacement is defined as disconnecting the utilities (gas and electric), vent connector, etc. at the appliance; removing the existing appliance, inserting a new appliance and reconnecting the utilities with minor modifications. The installation of a new venting system, chimney liner, or an additional appliance should be considered as new work and a permit fee paid for in addition to the appliances replacement charge.
- 2) Furnace replacements require compliance with the GAMA Venting Tables. Any existing type B venting system which terminates at the roof sheathing and uses the roof jack as part of the venting system does not comply.

MAY 30, 2002

Administration

- 1) Please remember to continue to put "orange stickers" on the coils for A/C inspections.
- 2) The Nextel system will hopefully be in operation some time next week.
- 3) Baub has declared June "No Meeting Month", the exception may be directives from staff meetings.

Mechanical

- 1)* Proper fittings must be used when making an offset in the venting system. Forcing the vent out of alignment at the joints is not acceptable. See Section 803.1 of the 1997 UMC, and the Mechanical Guide in your Outlook file, Chapter 8.

Plumbing

- 1) Baub concluded the discussion on horizontal dry vents held over from a previous meeting. (See Jan. 24, 2002 notes.)
- 2) Supports for DWV plastic piping were discussed again. No policy change from the 5/2/02 notes was made.

MECHANICAL INSPECTION NOTES 2002

MAY 23, 2002

Administration

- 1) It is official-RBD will be returning to the Nextel system as soon as the phones can be activated.
- 2) Time cards are due Friday May 24, 2002.
- 3) Remember to use all the resources available when performing an inspection, including consulting fellow inspectors.
- 4) The policy for assessing triple fees for work performed without a permit is being reviewed. In question are exceptions to the rule, particularly for homeowners who purchased a dwelling without knowledge of the unpermitted work performed.
- 5) Support staff will continue to give information in the comment section of an inspection request. This information should be viewed as aiding the inspector and not interpreted as mandating the sequence of the inspector's schedule.
- 6) Please forward a copy of any formal complaint regarding a specific contractor to Baub for record keeping purposes.

Plumbing

- 1)* A vent, wet or dry, may connect to a water closet stub or bend. A water closet stub or bend is defined as the vertical portion of the fixture drain located between the closet flange and a fitting causing a change of direction, located below the closet flange. In both cases, the vent connection is to be through a wye branch fitting. Sanitary tees are prohibited. Refer to Sections 311.3 and 905.3 of the 1997 UPC.

MAY 16, 2002

Administration

- 1) The new phones provided by the vendor have not resolved the problems.
- 2) Please make sure to clear overtime with Baub prior to doing an inspection outside normal business hours.
- 3) As a follow up to last week's meeting, Baub passed out photos of mold damage caused by a leak in the plumbing system.
- 4) Put items to be scanned on the upper left hand side of the shelf to the left of the entry door inside the scanning room.

Mechanical

- 1)* At the May meeting, the Mechanical Committee determined that an existing venting system constructed of single wall pipe with asbestos insulation may be considered existing, nonconforming, for a replacement water heater with a draft diverter. The installation of a new fan assisted appliance requires changing the venting system for compliance with the Gama Tables. The committee also stated that an existing venting system with portions of the B-vent having less than one inch clearance to sheetrock may be viewed as existing, nonconforming if there are no visible signs of deterioration/damage.
- 2)* The PPRBC amendments to Section 1305.4, 1997 UMC, has 3 requirements that all must be met. The absence of any provision will require a pressure test for the newly installed gas pipe.

MAY 9, 2002

The main purpose of our weekly division meetings is to develop a consensus for uniform application of codes. After an agreement is reached on how to administer a particular provision of the code, everyone is expected to adhere to the policy. Willful deviation is not acceptable as it not only undermines our uniformity objective, but also jeopardizes the integrity of fellow inspectors.

Administration

- 1) Follow through on complaint inspections. After 2 unsuccessful attempts, refer to Baub. Also inform Bob when responding to a complaint, or performing any other inspection, and it appears that a department outside RBD may be affected.

Mechanical

- 1)* Sections 110.3 and 300.10 of the National Electrical Code prohibit unprotected field installed wiring in, or passing through, the burner compartment of a furnace. Although this code provision is not in the UMC, The Mechanical Division enforce this requirement on furnace replacements for the Electrical Division. If technical questions arise, check with the electrical inspector in that area or refer to Red.
- 2) At the May meeting, the Mechanical Committee reaffirmed that toilet and bathroom exhausts may terminate in the attic within one foot of a roof vent, in lieu of terminating at the exterior of a building. The Committee further clarified that the net free area of the roof vent must be at least equal to the cross sectional area of the exhaust duct. Terminating these types of exhaust ducts at soffit vents is no longer permissible. Please work with the contractors as this is a policy change.

MAY 2, 2002

Administration

- 1) Upgrading the new cell phones to a larger roaming area and switching to a different phone manufacturer has not corrected the problems being experienced. Rolf is pursuing a solution with the service provider.
- 2) If the support staff receives an inspection cancellation and the inspector does not go to the site, record this information and enter zero time on the inspection history. If the inspector goes to the site before the support staff processes a cancellation, please make the appropriate comments and include the time spent.
- 3) Blaine's cell phone number was incorrectly programmed into the phone book of the cell phones. Until Matt reprograms your phone, Blaine can be contacted as "Spare 1" in the phone book of your cell phone.
- 4) Baub has temporarily borrowed some of the inspectors' 1991 Uniform Mechanical Code books. They will be returned after the Mechanical Committee has completed the code reviews.
(Continued next page)

MECHANICAL INSPECTION NOTES 2002

MAY 2, 2002 (Continued from previous page)

Plumbing

- 1) Please be aware that in addition to the hanger and support requirements in Section 314 of the 1997 UPC, ABS and PVC piping has additional requirements that are listed in the 1997 UPC under Installation Standard 5, page 243, and Installation Standard 8, page 253. In addition, be mindful of the following provisions in UPC section 341.2 for Installation Standard 5 and 8: At end of branches; Changes of direction or elevation; and Support trap arm.

APRIL 25, 2002

The Mechanical Division will have its tri-annual breakfast on May 10, 6:30 AM at the Western Omelette.

Mechanical

- 1)* The angle at which a vent terminates through the roof is not a code issue unless it is due to improper support of the joint below the roof. Please refer to the last sentence of Section 804.2 of the 97 UMC.
- 2)* Baub passed out a drawing from the Electrical Division of the CSU. Please note there is a 4' x 3' sacrosanct area around an electric meter. Although this is not part of the UMC, it could be a factor regarding the placement and installation of mechanical equipment such as condensing units.
- 3)* Please be aware of both the input and the output BTU ratings when verifying the adequacy of the gas burning equipment in a residence. In order for the furnace/boiler to meet or exceed the heat loss calculation for the residence, the output must be equal to or greater than the total heat loss of the residence. Please pay particular attention to the efficiency rating of the appliance, as well as, if it is a multistage unit.

Plumbing

- 1)* The relief valve for a steam shower unit, installed in existing construction, shall terminate inside the shower enclosure, via an air gap, with the drain directed downward and to the corner of the shower base. This is an approved location per Section 608.5 of the 97 UPC.

APRIL 18, 2002

Administration

- 1) *Congratulations to Tim Bush, who is now certified in the Uniform Mechanical Code.*
- 2) A report on the new cell phone system was presented to Rolf at the last staff meeting. Steps are being taken to resolve all issues.
- 3) If an inspection agreement is made with a contractor for a specific project, such as testing or checking an installation during a follow-up inspection, please put the appropriate notes in the inspection history so that others will be aware when making a future inspection(s).
- 4) Only 3 entries are acceptable for permits with an "A" status. They are complete, locked, or trip fee. Please remember that any other entry will change the permit from an "A" to an "O" status.
- 5) Re-inspections should be limited to comments made from the previous inspection(s) as much as possible. Exceptions: Life/safety items and inspections noted as "not ready".
- 6) Complaint inspections, noted with a "report to Baub" in the comments, should be considered a top priority. For these inspections please feel free to attach Baub's business card to the door hanger when personal contact can not be made.

Mechanical

- 1)* When bath and toilet exhausts terminate within 1 foot of a roof vent, the roof vent should have at least the same net free cross sectional area as the bath/toilet exhaust duct. Baub will check the minutes from previous Mechanical Committee minutes for termination at soffit vents and report back.
- 2)* Direct vent gas fireplaces must have the glass front installed at the time of the final heating inspection.
- 3)* Please note that previous letters received from UL and vent manufacturers addressing the acceptance of double wall vent connectors as having the same insulation values as type B vent, are restricted to specific models. Please note: Metal Fab model MDWF is approved, but models MCLK and MSWF series are not approved.
- 4)* Please be aware of a gray colored insulation being used on duct systems. This material states "For HUD installation only" and only has an R value of 4.2. This material does not comply with code when insulating ducts located in the attic or on the outside walls/floors of a structure.

Plumbing

- 1)* Unless a shower valve or combination tub/shower valve is in the open position, the shower riser, drop eared ell and tub spout stub are not being tested when the water distribution system is under test. Please inform the contractors of this.

APRIL 11, 2002

Administration

- 1) Because the number of inspections declined in March, the total number of inspections for the first three months this year is approximately 400 fewer than the same period in 2001.
- 2) Please have Matt reprogram the new cell phones to have Kye's number listed. In addition two new "hot lines" have been added for the inspectors to call for immediate response from administrative staff. These will be listed in the "Phone book". Make sure your voice mail for the new cell phone is in operation prior to leaving the office today. (Continued next page)

MECHANICAL INSPECTION NOTES 2002

APRIL 11, 2002 (Continued from previous page)

Mechanical

- 1)* The gas purveyor's requirement for a 3-foot minimum clearance from the gas meter to openings into the building is applicable for both new and existing structures. Failure to comply could result in either failure to have the meter set or an interruption of service (gas turned off).

APRIL 4, 2002

Administration

- 1) The new cell phones for inspectors were discussed. In general the consensus of the new phones is that they do not function as well as the Nextel. Specifics: Difficult to hear, bad reception, calls cut off, and inability to contact RBD staff.
- 2) More than 400 permits were issued in March for new single family dwellings.
- 3) The check list for mechanical inspections for furnaces, water heaters, and air conditioners on residential applications can now be accessed via the PPRBD web site. Go to the home page and watch for the scroll line above the local weather.
- 4) Universal "101" permits allow different contractors to be attached to the same permit number, however, a deficiency in code for one contractor should not hold up the inspection or final for another contractor's work for which there is no code violation. Please be aware each permit should be treated as a separate entity. Please also remember that if a contractor has multiple permit attachments, completing a final inspection for any of the attachments will final out all the attachments for that same contractor.
- 5) The new handouts for manufactured buildings were distributed and discussed in detail. These documents may be accessed on the PPRBD web site.

MARCH 28, 2002

Administration

- 1) RBD will be getting new cell phones for the field inspectors. We will be switching from Nextel to Verizon. Please be prepared to hand over your Nextel phone, complete with charger, papers, etc. on very short notice.
- 2) Please make sure enough information is entered in the inspection comments regarding variances in order to make the determination if the item can go on the consent agenda.
- 3) When requesting letters from an appliance manufacturer to clarify/alter installation instructions for a specific application, inform the contractor that this is a request for a solution, but the manufacturer could elect not to provide such letter.

Mechanical

- 1)* Bob provided a field example of why it is important to comply with the GAMA Tables as well as Section 816 of the UMC.
- 2)* Gas appliances that are supplied with combustion air in accordance with Column 1, "Appliances in Confined Space", Item 1, of Table 7-A of the UMC, and that are accessed through a bedroom or bathroom, should be considered as complying with Exception #3 of Section 304.5 of the UMC. Therefore, the specifications of Exception #5 of Section 304.5 are not applicable or required. For the application of unconfined space as defined in Section 223 of the UMC, the net free area of the openings shall not be less than 200 square inches. Please refer to the February 2002 meeting notes.
- 3)* Sections 309.5 and 1105.10 of the UMC address the termination of condensate drains. For the purpose of these sections, RBD considers an "Approved disposal area" and "Approved location" to be the exterior of the building provided that the drains are not located over an exit discharge or public way as defined in the Uniform Building Code.

MARCH 21, 2002

Administration

- 1) Another operation is needed on Tim Bush's ankle. The surgery is tentatively scheduled for some time in April, with an expected 4 month therapy/recovery time.
- 2) The temporary inspector position is still open. If you know anyone who is interested, please have them see Bob.
- 3) A copy machine for inspectors is now located just outside the inspectors' meeting room.
- 4) If you receive a compliance inspection in your screen, please give the report to Bob the next day for editing.
- 5) Please continue to call the contractor's office from the customer's home on retrofit inspections that do not pass. The exception would be long distance calls.
- 6) When an inspection is requested, please complete all aspects of the inspection. List any deficiencies in detail. If the entire inspection could not be/or was not completed, please note accordingly. Normally this will result in a re-inspection fee. A single notation of "lost test" is not acceptable.
- 7)* The permit issued to construct a new R-3 occupancy, known as either a 101 or a universal permit, covers the required inspections for all trades (building, electrical, mechanical, plumbing). Due to the uniqueness of this permit, RBD will not issue any other permit during the construction of the R-3 occupancy as it may interfere with the issuance of the Certificate of Occupancy. The exception to this is a basement finish permit.
- 8) If during the construction of a new single family dwelling an additional inspection is required due to changes, additions, or alterations after that portion of the construction has been inspected, the proper method of obtaining such inspection is to request a "Plus" (+) inspection. The cost for any "Plus" (+) inspection is \$50.

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MECHANICAL INSPECTION NOTES 2002

MARCH 21, 2002 (Continued from previous page)

Mechanical

- 1)* Footnote 19 of the Gama Tables limits the area of the flue to not more than "seven (7) times the smallest listed appliance categorized vent area, flue collar area, or draft hood outlet area". This applies to appliance replacements/additions as well as new construction. The "7 times" rule is not found in the text of the 1997 Uniform Mechanical Code and therefore is only applicable when the GAMA Tables are mandated. The connection of a 3" diameter vent connector to an 8" vent meets the intent of this provision.

MARCH 14, 2002

Administration

- 1) There were 314 permits for single family units issued in February 2001, more than the previous month.
- 2) The Mechanical Division performed more than 500 inspections January through February, 2002, reflecting a 4 percent increase from the same period in 2001. There are no significant changes in numbers of inspections not completed the first time and the trip fees assessed from the previous year. Please continue to use "Partial" versus "Reject" as an inspection status when appropriate.
- 3) Please use discretion when levying an investigation fee (formerly known as a "Double permit fee") when a homeowner has done the work. They may be unaware of the permit requirements.

Mechanical

- 1)* Sections 1319.3 and 1311.1 of the 1997 Uniform Mechanical Code, which require vents for gas pressure regulators be of approved materials, only apply to those regulators located within the gas piping system. This requirement does not apply to regulators that are a part of the appliance controls.
- 2) Some appliances (for now unit heaters) come from the factory derated for this altitude. When encountering these please be aware that the BTU load will be approximately 28% less than those rated at sea level. If in doubt please verify before officially making the call that the unit is undersized or does not comply with the approved plans.

FEBRUARY 28, 2002

Administrative

- 1) If asked, meeting notes for contractors and the public may be accessed via our web site www.pprbd.org under "Contractors" then to "Contractor News & Code Information". For the call ahead policy go to "Permits" then "Advanced Inspection Notification".
- 2)* When performing a gas inspection for a meter set when utilities have been disconnected, RBD's responsibility is only for the gas test. The utility purveyor checks the appliances inside for possible "Red Tag" conditions prior to lighting the pilot.
- 3) Time cards are due Friday, due to the office being closed on Monday.
- 4) Schedules for the upcoming classes at the ICBO Institute have been distributed. Those not receiving a schedule are in the classes at RBD on Monday and Tuesday. If any questions please see Bob.

Mechanical

- 1)* Bob went over the new procedures for inspecting manufactured homes/buildings that became effective 2/19/02. A formal procedural document for permits and inspections will be available for the public in the near future. If any questions arise before then, please refer them to Bob.

FEBRUARY 21, 2002

Administration

- 1) Bob will be out of the office Friday 2/22.
- 2) Kevin Stilson has been hired as the new Floodplain Engineer.
- 3) Rolf has asked the field inspection supervisors, as part of the quality control program, to make follow up calls to homeowners. This should not be misconstrued as a trust issue with inspectors, but as a means of improving service.
- 4) Schedules for the RBD booth at the HBA Home and Garden Show will be available for sign up in the near future. One change this year is to have an inspector from each division at the booth during prime hours.

Mechanical

- 1)* Bob led a discussion about access to gas burning appliances in/thru bedrooms and bathrooms. The provisions of Section 304.5 of the 1997 UMC regarding the location of gas appliances is only applicable if:
 - A) The appliance is in the bedroom/bathroom, or
 - B) The *only* access is through the bedroom/bathroom.
 - C) In instances where there are multiple complying accesses (UMC Sections 307.1 and 307.2) to the gas appliances, permanently securing the access through the bedroom/bathroom with nails/screws will be viewed as complying with the intent of Section 304.5

MECHANICAL INSPECTION NOTES 2002

FEBRUARY 14, 2002

Mechanical Committee

- 1)* The Mechanical Committee has approved the Merrill NA-9000 Series Yard Hydrant as an alternate method/material of construction to Section 602.1 of the 1997 Uniform Plumbing Code (UPC). No additional cross control device is required when using this product.

Procedures

- 1) If a requested inspection for a job site is not ready, but another required inspection appears to be, please verify with the office staff that the original request was entered properly. Please do not leave the job site until this is verified.
- 2) When a call ahead phone number is given in the comments, please make the call even if it is the same as the occupant's home number. It is possible the call to that number may be forwarded to a different location.
- 3) Please be aware that inspection requests entered over the internet are automatically scheduled for the current inspection day. Some inspections contain a different date request in the comments. If you are aware of this, please honor the request date, if accidentally overlooked, and an unnecessary trip is made, a re-inspection fee is appropriate.
- 4) When multiple permit (attachments) are obtained by the same contractor for a particular address, a completed final of one attachment for that contractor will final all attachments to the permit for that same contractor.

Plumbing

- 1)* For water heater replacements only, the existing termination point of the T & P valve shall be considered as an approved location. The existing drain must comply with all other aspects of Section 608.5 of the UPC.
- 2)* The trap for a future basement shower must be installed at the time of the base inspection.
- 3)* In order to be considered an unvented floor drain branch, per Section 901 of the 1997 UBC as amended by the 1999 Pikes Peak Regional Building Code, the entire branch must be horizontal.

Professionalism

Please remember that not all employees of RBD may be familiar with language, statements, conversations and other antics used in jocularity in the Mechanical Division. Heard out of context or in the third person, they could be misconstrued as being personal or malicious in nature to fellow employees, which would not be appropriate.

FEBRUARY 7, 2002

Administrative

- 1) *Congratulations to Jack who successfully passed his ICBO certification exam for Plumbing Inspector.*
- 2) Anyone interested in working on the Mechanical Division display for the Home Builder Association Show, Please see Bob.
- 3) The move into our new space will take place Monday 2/11/02. Please make sure your desk and chair are marked. Also, all items on your desk should be boxed and properly labeled. In the event the desk phones are not operational Monday, it is permissible to use your Nextels to make/return calls. Please keep an eye on your e-mail for messages from the clerks if someone is trying to reach you.

Manufactured Housing

1. The RBD Commissioners have decided that RBD should again be involved in the issuance of permits and making inspections for manufactured housing. This will be limited to:
 - A) Units set on permanent foundations.
 - B) Replacement of furnaces/water heaters in units set both on permanent and temporary foundations (park sets).

JANUARY 24, 2002

Administration

- 1) Floodplain Administration will be moving Friday. Per Rolf, all moving will be done by maintenance and not the inspectors.
- 2) Due to the new billing system for the Nextel phones, many calls may show a charge of zero. Department personnel are only responsible for the reimbursement of personal calls that show a charge.

Mechanical

- 1)* BSH (Bosh and Siemens Home Appliance Group), the parent company of Thermador, has clarified the installation instructions stating that fans located on the roof of a residence do not require frequent cleaning. Therefore, Sections 307.1 and 307.5 of the 1997 UMC are not applicable because routine maintenance is not required.
- 2)* UL provided a follow up verification letter regarding the Metal Fab MDWF, gas vent connector.

Plumbing

- 1)* Section 905.3 of the 1997 UPC, as well as previous editions, require vents to rise a minimum of six inches above the flood level rim of the fixture before offsetting horizontally. The exception to this requirement is if structural conditions exist that prohibit such installation. Vents located below a concrete slab and below the floor in a joist cavity above a ceiling, may be considered for this exception. Areas such as crawl spaces, furred down ceilings/soffits, deep trenches and other such spaces which allow vents to be installed with the required vertical rise, should comply with Section 905.3.

MECHANICAL INSPECTION NOTES 2002

JANUARY 17, 2002

Administration

- 1) Remodel of the former zoning area will begin this week and is anticipated to be completed in 4 weeks. Moving and construction in different areas will be done in phases.
- 2) The dates for the Home and Garden Show are March 15-17. Anyone that would like to participate in the design of the RBD booth, please see Bob.
- 3) Rolf has expressed some concern over statements made to him regarding RBD inspectors' attitudes. It is alleged that contractors are unwilling to question certain calls inspectors may make for fear of retaliation. Rolf stated that this type of behavior is not acceptable. Please continue to take the job seriously, but not personally.
- 4) Do not pay this month's cellular phone bill until Bob has a chance to get answers on how the new billing system works.
- 5) When cancelling an inspection in the field, please remember to not enter any time so as not to affect the accuracy of the time data collected for inspection performance. Bob will get with the Wiz to see if a cancel option can be added to the BDA/Field Inspector's screen.

Mechanical

Letters for the following were distributed

- 1)* Hearth Industries-Fireplace units located on the exterior of a building and not listed for such installations are permitted as long as there is a minimum 5 foot roof/overhang, measured from the face in all directions, above the unit.
- 2)* Kozy Heat Fireplaces-New testing by UL will reduce the minimum ceiling dimension from 69.5 inches to 47 inches.
- 3)* Metal Bestos-Although increasers appear to be single wall, when installed properly in the male and female joints, they maintain double wall construction and are UL listed as such.
- 4)* Metal-Fab Inc.
 - A) Adjustable B-vent may be used in tandem and multiples.
 - B) A new type B-vent with a stainless steel liner is listed for pellet stove (solid fuel) use as well as for fuel gas burning appliances.
 - C) The MDWF gas vent connector is now listed to be used with table 3 when sizing venting systems according to the GAMA Tables.

Follow up

- 1)* The Board of Review has approved the Mechanical Committee's recommendation to:
 - A) Not require permits for humidifiers and ice makers.
 - B) Proceed with amending the 2000 UMC & 2000 UPC by IAPMO for adoption with the 2000 International Building Code.
- 2) LP drain requirements will now be noted on the approved plans. Please make sure and check for this requirement at the time of the plumbing base inspection.

JANUARY 10, 2002

Administration

- 1) Due to the development of the new RBD logo patch orders for replacement of uniforms should be distributed by the end of February. Cargo pants (specific code) will be allowed as replacement choice.
- 2) Remodel of the inspectors area should begin sometime next week with an anticipated length of about 4 weeks.
- 3)* Final inspection numbers for the year 2001 proved what we all knew to be true. The total inspections for all of RBD were 34,000 over the previous year, representing a 15% increase. Of that number the Mechanical Division performed more than 14,000 inspections, a 19.4% increase. Passing rate percentages decreased 2.5% from 70.8% to 68.3%; trip fees increased to 3.4% from 2.3% in 2000.

Mechanical Committee

- 1)* The Mechanical Committee approved field assembled showers without a liner by Kast Marble as an alternative material/method to section 412.8 of the Uniform Plumbing Code (UPC).
- 2) The Mechanical Committee has recommended to the Board Of Review that the 2000 Uniform Mechanical Code and the 2000 Uniform Plumbing code be adopted if/when the 2000 International Building Code is adopted.
- 3) The Mechanical Committee also recommended to the Board of Review that humidifiers and ice makers be added to the list of items in Section 16-3-10, Item A, of the Pikes Peak Regional Building Code.

Mechanical

- 1) Inside grills are not required to be in place for a heating final.
- 2) Any new holes drilled into a listed gas fireplace voids the appliance listing unless certified by the manufacture.
- 3) When completing an outside gas line (underground) inspection in the city of Colorado Springs please make sure to enter "CSPU" in the utility field so that the information can be forwarded to them for tracking purposes.

Plumbing

- 1) Verification of plumbing vent terminations and flashings are part of the final plumbing inspection.

MECHANICAL INSPECTION NOTES 2001 - 2002

JANUARY 3, 2002

Administration

- 1) *Congratulations to Jack on passing his ICBO Certification for Mechanical Inspector.*
- 2) Due to scheduling in the month of May, it is requested that no more than two inspectors take off on the same day.
- 3) Verification that water meters are in place is no longer a part of the final plumbing inspection. This item will now be handled by the Building Inspector at final inspection. To help the Building Inspectors during this transition time by noting at the side of the building final on the building inspection record card: Water meter installed with date, or Check water meter if not installed at final plumbing inspection. (Note: The town of Monument is now a part of this program.)
- 4) Please fill out registration forms for the ICBO Educational Institute and turn them in by Monday January 7, 2002.
- 5) New permit fees became effective for certain jurisdictions on January 1, 2002. The new cost for re-inspection fee is now \$50.00. The new cost for work without a permit is now triple the normal permit fee. Because not all of the jurisdictions have adopted the new fees as yet, you will have to call the information into the administrative assistants, who in turn will make sure the correct fee is assessed.
- 6) Please keep track of heat finals for air conditioning permits that are not completed due to the lack of an electrical permit. When the electrical permit is obtained, please final the heating permit.
- 7) If a furnace replacement contains a humidifier, a permit for the humidifier installation is not required. However, please make sure the humidifier is listed on the heating permit under "other" and inspected to the appropriate code provisions.

DECEMBER 20, 2001

December 28th will be the 3rd annual next to the last, last breakfast of the year

Administration

- 1) Please remember to wear "booties" when entering houses for inspections; This reminder is from Rolf.
- 2) Computers
- 3) If you elect to give a partial inspection and feel comfortable with a frame inspection being done, please do not tell the contractor to call in the inspection via the administrative assistants. Proper procedure is to discuss the situation with the building inspector in that area and let him make the decision/arrangement.
- 4) Remember to follow the procedures set forth in the notes from the August 30, 2001 Inspectors Meeting, item D when damage has occurred to a previously completed inspection.
- 5) Inspection results must be uploaded prior to an inspector being gone. See Feb. 15, 2001 notes, item 20.
- 6) Time cards are due Friday December 21, 2001.
- 7) Classes for the upcoming ICBO Institute were discussed. Regional Building Department will be closed Monday March 4 and Tuesday March 5. Classes approved for Monday are courses 186; 188; and 189. Course 189 is the preferred class! Classes approved for Tuesday are 281; 288; and 289 with course 281 being the preferred class.

DECEMBER 13, 2001

Administration

- 1) Tim Bush's surgery did not go as well as hoped.
- 2) There were an estimated 24,000 inspections in October, and about 17,000 in November. The Mechanical Division is approximately 13,500 inspections ahead of last year at this time. All inspections are 27,000 ahead of the year 2000.
- 3) Rolf has stated that head ware (hats) displaying patriotism for the nation are acceptable.
- 4) Number your inspections in their intended order prior to leaving in the morning. The policy stated in item 1 A. of the 9/20/01 Mechanical Inspector Notes is in effect per Rolf.
- 5) Due to the budget please be careful about overtime.
- 6) The budget appears to be about 95% approved. The 2002 budget will include an across the board cost of living increase. Rolf asked supervisors to inform their personnel that for the year 2003 increases would not be equal for all employees. Salary adjustments will be a combination of a flat rate cost of living increase and merit awards.

Plumbing

- 1) Section 412.11 of the 1997 Uniform Plumbing Code requires the control valve and shower head to be located so the bather can adjust the valve prior to stepping into the shower spray, and prevent the shower head from discharging directly at the compartment entrance. A hand held shower mounted on a vertical rod, complies with this provision.
- 2) Section 906 of the 1997 Uniform Plumbing Code, as amended by the 1999 Pikes Peak Regional Building Code, allows the installation of a listed valve on island fixtures. Please be aware that in certain instances "peninsula" fixtures due to structural conditions, may be viewed as island fixtures and therefore may also use this exception.
- 3) Freeze proof yard hydrants having an automatic drain valve located below ground, are not in compliance with Section 602.1 of the 1997 Uniform Plumbing Code. Therefore the inlet side of these devices must be provided with an appropriate back flow prevention device. The hose outlet in turn must be labeled "non-potable" in accordance with section 601.2.2 In addition, there is a new generation of these units (see handout drawing) which do not violate Section 602.1 unfortunately none are listed since there is no national standard. Until that time, manufacturers wishing to use these prototypes, must apply for approval as an "alternate method and material" with the Mechanical Committee.

MECHANICAL INSPECTION NOTES 2001

DECEMBER 6, 2001

Administration

- 1) All inspectors should be capable of assisting the support staff by entering inspection requests and trip fees. If training is needed in these areas, please see Bob or Kye.
- 2) The budget for 2002 is in the process of public hearings for the governments served by RBD. Upon approval, permit and re-inspection fees will increase along with penalties for doing work without a permit.
- 3) RBD remodel should begin in January 2002 after zoning has completed their move downstairs.
- 4) Training for the new 800 MHZ radios will be 12/6/01 at 8:30 a.m. All personnel copied in the e-mail must attend.
- 5) Please refer to Mechanical Inspectors Meeting Notes dated 11/22/00 item 6 and "Inspectors Etiquette" in the Mechanical Guide. This policy for follow up inspections is essential to the operation, credibility, and morale of the Mechanical Division and its inspectors. It is important that it continue!
- 6) According to the Wiz (Steve Hills), the latest BDA update should have corrected the multiple entry problem with trip fees. If you are still experiencing problems, please see Bob.

Mechanical

- 1)* Sections 302.1 and 303.1 of the 1997 Uniform Mechanical Code require appliances/equipment to be listed and installed according to their listing and the manufacturer's installation instructions. Please be aware that the UL (Underwriters Laboratories) Directory for Heating, Cooling, Ventilation, and Cooking Equipment (2001 edition) 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 appliances have been investigated only for use indoors, unless the product by its inherent nature, is obviously intended for use outdoors." This includes those items listed in Section 901 of the 1997 UMC.

NOVEMBER 29, 2001

Administration

- 1) *Congratulations to Daryl on successfully passing the ICBO Certified Mechanical Inspector Examination.*
- 2) Tim Bush will be operated on 12/10. He is not expected to return until February 2002.
- 3) With winter approaching, please be prepared for any incident which may require an extended period of time being spent in a vehicle. Carrying items such as food, water, blankets, sleeping bags, etc. may be a good idea.
- 4) If inspectors who wish to use correction notices or order sheets to list code deficiencies during an inspection, please attach them to an orange supplemental inspection log card and leave it with the building permit card. This should alleviate concerns expressed by contractors that the loose sheets may easily be removed/lost at the job site.
- 5) Please be aware that permits issued to clear up filed letters of alleged noncompliance will not contain any notes from the original permit/inspection. It is a good practice to click on the find button to verify if there is a previous permit/inspection history for the same installation while still in BDA prior to leaving in the morning.
- 6) 310 permits were issued for new detached single family dwellings in October.
- 7) When removing items during an inspection in order to access/verify code compliance, make sure to return to the original condition unless needed to identify the item/area of noncompliance.

Mechanical

- 1) If vibration isolators connecting duct work to the furnace are missing during the residential rough inspection, please note the card/inspection as such and verify their installation on the final inspection.
- 2) Addendum letters from Simpson Duravent and Underwriters Laboratories were distributed. The Durfa/Connect II vent connector may now be considered as a type B double wall connector when applying the Gas Appliance Manufacturing Association (GAMA) Venting Tables (table 3).
- 3) As a review, flexible air connectors, whether listed or non-listed; as a class 0 or class I are not permitted by Sections 601.5 and 704.1 of the 1997 UMC.

NOVEMBER 1, 2001

Administration

The Mechanical Division has made great strides in consistency over the past 3 years due to the efforts the inspectors adhering to the code as written. Although difficult at times, it is prudent for us to continue with the same direction and philosophy.

- 1) Accurate times for each inspection must be entered. As explained in the previous meeting, this information is critical for budgeting purposes. If the time clock in "field inspector" does not work, immediately notify Matt.
- 2) Benefit packages were to be completed and turned in by 5:00 p.m. today.
- 3) Tim Bush will not be back until after the first of the year.
- 4) Please continue to enter trip fees as previously discussed. Inform Bob of specific problems with the printouts/logs so they can be passed along to the Wiz. If Bob is not available, do not hesitate to contact Matt or Steve the same day.

Mechanical

- 1) Bob distributed letters from Martins stating that the installation of required combustion air ducts to meet the furnace installation instructions should be used and NOT the air kit instructions as they conflict.
- 2)* Flexible air connector is not to be used for combustion air duct. Section 601.5 of the 1997 UMC, only accepts Class 0 or Class 1 flexible duct.

MECHANICAL INSPECTION NOTES 2001

OCTOBER 18, 2001

Administration

- 1) When you call in a trip fee, remember to also code the inspection as a trip fee in your field inspector program. The Wiz says the program is now fixed and working.
- 2) Please remember to e-mail your overtime to Bob the next morning.
- 3) Record accurate time entries in the field inspectors' program. The information is required for financial data and accounting. (One minute for any first time inspection is not acceptable or accurate.)
- 4) When inspecting installations permitted prior to Oct. 1, 1999, remember to use the 1991 UMC, the 1994 PPRBC, and policies in effect during that time. Two Important points to remember:
 - a) The 1991 UMC wording that limited access to a gas appliance through a bed or bathroom if it was the *only* access.
 - b) Dryers were permitted to be located in the same enclosed space as a replaced gas appliance.
- 5) If a gas meter is not to be released until the residential rough inspection (HRR) and inside gas inspection (HI) are complete, please enter the construction meter inspection (HC) as a reject and specify why the meter may not be released. When releasing a meter on a partial heating final, please note "OK to set/release meter" or the gas department will not set the meter. Please remember to enter the utility company.

Plumbing

- 1) Tub spouts mounted on decks surrounding sunken tubs that do not provide a 1" air gap are not code compliant. Please be aware of this noncompliance installation practice
- 2) Section 804.1 of the 1997 Uniform Plumbing Code specifies dimensions for the installation of an indirect waste receptor for a clothes washer. The stand pipe is not to be less than 18" nor more than 30" in length; the trap is to be located not less than 6" no greater than 18" above the floor. In both cases these dimensions are to be taken to/from the trap weir.
- 3) Section 1005 of the 97 UPC requires traps to be protected from freezing. When traps are located in the floor joists between the house and an unheated garage below, make sure the bottom of the trap is located a minimum of 4" above the bottom of the floor joists for insulation purposes. This same section requires traps to be "set true with respect to their water seals". A trap installation that either deepens or shallows its designed water seal depth, does not comply with code.

OCTOBER 11, 2001

Mechanical

- 1) Crimp Joints-Section 601.6.1 of the 97 Uniform Mechanical Code requires crimp joints for residential round ducts to have a minimum contact lap of 1-1/2 inches and be mechanically fastened with at least 3 screws evenly spaced. The use of a 1-1/2 inch band around joints that do not comply with section 601.6.1 is not an acceptable repair as it neither conforms to the UMC nor the SMACNA (Sheet Metal and Air Conditioning Contractors National Association) Standards.

Plumbing

- 1) The PPRBC amendment to Section 902 of the 97 Uniform Plumbing Code allows for one unvented floor drain on each building drain. One of the conditions is for the unvented floor drain branch and trap to be 3 inches in diameter with a 2 inch inlet. A Floor drain branch is being interpreted by the mechanical division 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 and not the straight through portion.

OCTOBER 4, 2001

Administration

- 1) If work has been completed on a basement finish prior to inspection, note as the first item under "comments" Example: "Basement finished prior to permit/inspection. This inspection is limited to those items which can be readily observed."

Mechanical

- 1) Section 306.2 of the 1997 UMC requires a means of disconnect to each piece of equipment per the electrical code. Red Hunt, supervisor of RBD Electrical Inspections Division, said a breaker at the panel meets the requirement for electric water heaters. **Note:** Electric wiring entering the water heater jacket must be protected with appropriate sleeves/collars.
- 2) Metal Fab B-vent has been evaluated and listed by UL to mate with 6 specifically identified and UL listed round gas vents in 3- to 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 the special adapter.
- 3) Please remember to follow the handout titled *To Line Or Not To Line* when appliance vents are being vented through a masonry chimney.
- 4) The sizing of transfer grills for make up air to dryer compartments/rooms is the same for combustion air. Reduce outside dimensions of grill by 25% to obtain net free area. Unlike combustion air, gaps around and under doors may also be counted.
- 5) Environmental air exhausts serving dryers, bathrooms, and toilet compartments 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.

MECHANICAL INSPECTION NOTES 2001

SEPTEMBER 27, 2001

Administration

- 1) If you are interested in doing after hour inspections on reroof permits, please see Blake.
- 2) Rolf confirmed that RBD inspectors are not permitted to perform after hour inspections of manufactured units for the state of Colorado. It is permissible to perform work on the original set up or maintenance of these units on your personal time.
- 3) The target date to move into the new RBD (one stop shop) building is August 2003; remodeling of our current facility should be completed by the end of this year.
- 4) Please be aware of the new procedure to report overtime to Bob the next day via e-mail.
- 5) The new "Time" numbers that show up on the BDA screen reflect the best known, average duration of a particular inspection. The average times are used as a tool for setting/distributing work loads for the day. More complex inspections may require more time and less complex require less. These numbers will be modified in the future to reflect the complexity of the inspection plus average travel time between inspections. Please make sure to use the time clock appropriately in the field to validate the duration of each inspection.

SEPTEMBER 20, 2001

Administration

- 1) Please number your inspection load for the day in its intended order. This is important information for the administrative staff. Although inspections are numbered, it is understood that circumstances may require changing the order of inspections conducted.
- 2) If an "advance notification" call is requested and complies with RBD policy, please call before going to that inspection site.
- 3) Use the time clock on all inspections; this information is important for budgeting, forecasting and overtime purposes.
- 4) If an installation does not conform to the approved plans, the change(s) must be resubmitted for plan check.
- 5) There will be a new category under contractors on the RBD web site, titled "Administrative Rulings" for policies approved by the Building Official, and generic to RBD such as "advance inspection notice" and "hazardous construction sites."
- 6) RBD will not issue permits for replacement water heaters and furnaces in manufactured housing with the exception of an appliance physically located outside of the unit or in the basement. The RBD Commission decided that the Department will not issue permits for manufactured units. Outside gas lines (HO) will still be permitted and inspected by RBD.
- 7) Those performing inspections of the Habitat For Humanity project on Sept. 29 are reminded that they are not to physically work on the construction of this project. Newspaper, radio, and/or television interviews and participation in festivities are not deemed as proper conduct for inspectors during work hours.
- 8) There will be no RBD sponsored/funded Christmas party this year.

Mechanical

- 1) Inspectors cannot make changes that involve design to approved plans in the field. Design factors include furnace number and sizes as well as the number and location of bath and dryer exhausts.
- 2) Building inspectors will check for clearances at the vent to foundation insulation at the time of the building final. If the insulation is present at the time of the mechanical final and not to code, please make the call at that time. Otherwise, note in the comments that the insulation was not installed at time of the mechanical inspection.
- 3) The Mechanical Division is a step closer to not checking for water meters on the final plumbing inspection. The Mechanical Committee's recommendation to have this verified during the building final was approved by the Board of Review on Sept. 9. The logistics of the inspection still need to be developed.
- 4) Gas meter sets: Put in the utility company; state "OK to set meter" when a mechanical final or partial inspection is done.

SEPTEMBER 13, 2001

Administration

- 1) There were 8,333 mechanical inspections in August 2001, compared to 7,130 in August 2000. The total of 58,849 inspections were performed from January through August 2001, a significant increase from 49,595 for the same period in 2000. A total of 153,566 inspections have been performed by RBD from January through August 2001, up from 134,907 for this same period in 2000.
- 2) The official policy for hazardous sites and condition reporting was distributed and discussed. Please follow the procedures, especially reporting to the supervisor. Unless an injury occurred, conditions may be reported the following day. When it's a borderline decision, consider the safety of other inspectors making follow up inspections; the first inspector has the advantage in determining the safety of the site and access. Please use good judgment and consider all inspectors when making this call. **Note:** This policy is on our web site on the scroll bar and the menu under Contractors.
- 3) Please note the difference between "consent" and "variance" items on the Mechanical Committee meeting agenda. Applicants do not have to be present for "consent" items, but they must be present for other items, such as "variance" requests. All other requirements are the same.
- 4) Please make sure your scheduled time off is correct and current on the public calendar. If you have not requested plans to take time off, please see Bob.

Plumbing

- 1) A trip fee will not be assessed if the water meter is not installed when the final plumbing inspection is conducted.
- 2) Permits are required for the installation of an electric water heater.

MECHANICAL INSPECTION NOTES 2001

SEPTEMBER 6, 2001

Administration

- 1) Rampart Plumbing Supply will conduct a class on Renai water heaters on September 10 at 5:15 PM.
- 2) The PPMCA will hold classes on the 1997 UMC, starting Sept. 6 at 6:30 PM. Topic is Chapter 3.
- 3) Inspectors are still needed for the Habitat for Humanity project on September 29. Please see Bob.
- 4) 492 new single family (detached) permits were issued in August.
- 5) Make an accurate account of your overtime. If you have questions about the overtime policy, see Bob.

Mechanical

- 1) Although exhaust terminals are verified during the residential rough duct inspection, please verify/account for them at the time of the final heat inspection. There have been instances where the terminals have either been switched or the openings covered.
- 2) Please note on the residential rough inspection if the dryer vent was approved without a 90 degree turn out of the wall. Without this notation, it is difficult to tell if an extra 90 degree turn has been added at the final inspection.
- 3) With colder weather approaching please be aware of the necessity of a gas meter release. Presently a construction meter inspection can be entered without a utility contractor being designated. Kye will work with Steve to see if a block can be installed when this happens.
- 4) When a vent outlet from a category I 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 attached directly to it, if properly fastened and sealed.

AUGUST 30, 2001

Administration

- 1) Continue the procedure discussed last week for inspecting homes occupied prior to having a CO or TCO. This procedure is being reviewed by Rolf, and is not official at this time.
- 2) Habitat for Humanity requested special inspections performed by RBD on Sept. 29. If interested, please see Bob. Overtime rate will be paid.
- 3) When a permit for gas line only is inspected, please be aware that an additional permit for the appliance being served is required; except portable, i.e. barbecue). Do not hold up the gas permit. Make sure to follow up on the appliance permit.
- 4) If you are performing an inspection and observe any alterations, removal, modifications, etc. to a system after it was inspected and approved, please enter a complaint for that discipline. In addition, change the status of the previously completed inspection to a reject. Please note in the complaint why the action was taken plus the need for a re-inspection under a "+ inspection" category. **Note:** If the building frame inspection has been completed, issue a stop work order.

AUGUST 23, 2001

Administration

- 1) Pending the approval of Colorado Springs City Council, Pikes Peak Building Department will cease issuing permits and performing inspections of all manufactured housing on Sept. 1, 2001. This includes HUD/ UBC and pre-1976 mobile units, residential and commercial, temporary or permanent sets. These functions will be performed by the state of Colorado and the state's certified inspectors. RBD will continue to do inspections through finals on permits issued prior to September 1, 2001.
- 2) Tim Bush may be out an additional 3 weeks due to his injury.
- 3) The new door code is 9802E.

Plumbing

- 1) An automatic washer rough is adequately supported if at least one side of the washer box is secured to the structure.

Mechanical

- 1) Sections 307.1 and 307.2 of the 97 UMC require and specify access to equipment for replacement. These requirements extend to the service side of the appliance. Installations requiring equipment to be "lifted" over drain and/or water lines, meters, etc. do not comply with these provisions.
- 2) Wood (untreated) shims are not acceptable material to level water heaters per Section 314.7 of the 97 UMC.
- 3) Hangers specified in Section 314.7 of the 97 UPC and Section 1312.9 of the 97 UPC are acceptable for gas piping, including CSST.

AUGUST 16, 2001

Administration

- 1) At the time of a final heating inspection for a new single family dwelling, if the house has been prepped for future A/C with the refrigerant piping and coil in place, please note accordingly, including joints if present.
- 2) The Wiz has made provisions to update BDA/Field Inspector so that the laptops are able to synchronize and contain the same information as the main computer when out in the field. This should be up and running by 8/24.
- 3) Inspections for hydronic piping (HWP) are not required for exterior snow melt systems. This inspection only covers piping within the structure, not the exterior such as drive and walk ways. *(Continued next page)*

MECHANICAL INSPECTION NOTES 2001

AUGUST 16, 2001 *(Continued from previous page)*

Mechanical Committee

- 1) The Committee decided that all underground joints in a refrigeration system must be brazed. Stay-Brite cannot be used.

Mechanical

- 1) Two new letters from manufacturers, amending their installation instructions, were distributed. Martin addresses combustible trim at the fireplace opening; Heat and Glow addresses decorative shrouds at direct vents.
- 2) Heat and Glow will be changing their vent installation instructions for termination under decks. The deck will no longer be required to be open on both sides. Copies of the changes are forthcoming.
- 3) Clearances from combustibles for vents should be maintained throughout the structure including the vibration isolators at the supply and return air ducts. Remember unless listed 0/0 for flame/smoke, isolators are combustible materials.
- 4) Combustion air louvers/grills will be reduced by 25% of the total overall dimensions to calculate the free opening area. Louvers/grills not within this standard must either be replaced or sized per the manufacturer's specifications of net free area.
- 6) Section 703.1 #2 of the 1997 UMC requires the upper combustion air duct to "extend horizontally or upwards to the outside of the building."

Plumbing

- 1) Rector Seal has provided documentation that their air admittance valve, Magic Vent, currently meets the ASSE standard and is listed. This product is now acceptable for installations in this jurisdiction per Section 301.2 of the 1997 UPC and Section 906.1 of the 1997 UPC, as amended by the PPRBC.

AUGUST 2, 2001

Administration

- 1) When requiring residential plans approved after Jan. 17, 2001 to be on the job site to verify appliance BTU inputs and bathroom exhaust requirements, it is not essential for the heat loss calculations to be attached. The heat loss calculations and heating appliance certification have already been reviewed at the time of plan check. However, it is imperative that the appliances installed are equal to or greater than the BTU input load shown on the approved plans.
- 2) When heat finals (H=) are requested by a contractor - other than the one shown for the residential rough (HRR) inspection in the permit history - it is necessary to enter an additional residential rough inspection and complete it for the new contractor in order to enter a final heat inspection. After the final heat inspection has been entered, delete the additional residential rough inspection that was entered to allow the heat final request.
- 3) Continue to call the contractor when inspections do not pass on retrofits. Remember, it is the permit holder who is responsible for the completion of the inspection, not the homeowner. By talking to the contractor in front of the homeowner, both will hear the same conversation. Hopefully this will eliminate any confusion.
- 4) Classes for the newly enacted state of Colorado regulations for manufactured housing will be given over the next 4 Mondays to ensure certification of inspectors by Sept. 1. Classes include both instruction and the test.

Plumbing

- 1) The plumbing base inspection includes verifying that the building drain extends outside the foundation and all portions are tested except the one (1) joint on the outlet side of the test tee. Some projects may require a partial base inspection due to grade, depth, and location of the basement. Work with contractors to accomplish this inspection. (Oct. 26 notes)
- 2) Section 313.5 of the 97 UPC requires piping to be protected from mechanical damage. This includes a soldering torch during the original installation. Any plastic drain pipe burned to the point where it does not meet the physical requirements of schedule 40 DWV, should be replaced.

JULY 26, 2001

Administration

- 1) Consultation inspections "16" and extra inspection "+" are prepaid and should be noted as such on the inspection printout. If not noted, please call one of the administrative assistants and verify.
- 2) Clear all phones of messages prior to leaving in the morning. Should you forget, you may retrieve them from the field by dialing 327-2999 and following normal procedure as if you were at your desk.
- 3) See Matt if you are unable to upload from home.

Plumbing

- 1) The PPRBC amendment to the 1997 UPC Section 908 allows for both vertical and horizontal wet venting. A wet vented system starts at the fixture(s) with the continuous vent and terminates at the last wet vented fixture (a maximum of 4). If the wet vented system contains any horizontal piping, size per section 908.4 of the PPRBC. If the wet vented system contains only vertical piping (stacked tees), size per section 908.2 of the 1997 UPC. Exception: Kitchen sinks and dishwashers in single family dwellings.

JULY 19, 2001

Administration

- 1) Maps of the proposed new areas for inspectors were distributed for comment. Having received none, new areas will go into effect Monday July 23. Finalized maps will be distributed. *(Continued next page)*

MECHANICAL INSPECTION NOTES 2001

JULY 19, 2001 (Continued from previous page)

Administration

- 2) New construction requires a separate permit when a rough inspection (inside gas, plumbing or residential rough) has been performed before the basement is framed. When making first of these inspections, note in the comments if the basement is framed or not.
- 3) If you wish to enter a note regarding the vent during a residential rough inspection for a new single family dwelling, do so under that inspection. Do not create a vent inspection (HV) for this purpose. Any installation where a separate heating permit is pulled, a vent inspection is appropriate when performed.
- 4) When performing an inspection for an administratively closed permit, only 3 entries can be made without changing the permit status. Use "Complete" when the job is finished, use "Trip Fee" when appropriate, use "Locked" for other than stated. When entering "Locked", please note that it is "Due to computer programming" and then list the deficiencies.
- 5) The After Hours Inspection Program will be more crucial when contractor licensing renewal is tied to A status permits. Let Bob know if you are interested in doing after hour inspections. A revised map will be provided when completed.

Mechanical

- 1) Installation instructions and a letter from Metal Fab were discussed. Flexible flue liners (models MLK, MLKE, and MLCK) may now be joined to create longer lengths per the Metal Fab letter. The connection is required to be "a minimum of (4), #8- 32 x 1/2" sheet metal screws evenly spaced around the circumference of the connector".

JULY 12, 2001

Administration

- 1) Fill out the State Plumbing License renewals and return with a check to the state. Copies to Bev for reimbursement.
- 2) Inspector's areas will be modified and rotated to incorporate Jack and Tim. New maps will be distributed when completed.
- 3) When in BDA, e-mail prompts should either show on the screen or on the task bar. Inform Bob if this is not functioning.

Plumbing

- 1) Building drains and their horizontal branches require cleanouts at their upper terminals. Exceptions include:
 - a) A horizontal branch that is less than 5' in length and does not serve a sink or urinal;
 - b) A horizontal branch that rises more than 18 degrees from the horizontal; and
 - c) Any horizontal branch 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. Test tees used only for testing purposes, and not for required cleanouts, are exempted.

- 2) When roughing in for future plumbing fixtures, the drain and vent must be complete at the time of the top out inspection. Exception: Traps and trap arms.

JUNE 28, 2001

Administration

- 1) See Matt to program your Nextel phones with new names and numbers for Mick, Tim, and Jack
- 2) RBD policy: Inspectors do not enter any home without an adult, 18 years or older, being present.
- 3) Microsoft Outlook must be up and running in the mornings for e-mail messages. Bob is working with Matt/Steve to make sure the prompt works in all BDA screens.

Mechanical

- 1) Combustion air discussion. No policy change. Refer to the June 21 notes regarding basement finishes when it is structurally impossible to install the upper combustion air grill within 12" of the ceiling, The grill is to be installed as high as physically possible. If the top of the grill is below the top of the door frame, a fully louvered door is required.
- 2) Section 815.2.1 of the 1997 UMC requires single wall vent connectors to be a minimum of 28 gauge metal. Some installers have attempted to use a lesser gauge that does not meet minimum code standards.
- 3) RBD policy and manufacturers' installation instructions allow joints in type B vents to be fastened with screws if the inner liner is **not** penetrated. If the inner liner appears to be penetrated, you can remove screw(s) to verify or disprove the condition. This and similar procedures, such as removing tape to verify crimp joint connections, are addressed in Section 10-14-102 of the PPRBC. If a contractor objects, discontinue the inspection until the contractor removes the material.
- 4) Ceilings may be used to support factory made air ducts and complete plenums per Sections 603.4 and 601.1.2 of the 1997 UMC. Please be aware of this during inspections when the basement is being finished.
- 5) Section 1110.3 of the 1997 UMC requires refrigeration lines of soft annealed copper to be protected from mechanical injury (damage) from an external source. Exception #2 is not applicable for refrigeration lines installed in a garage that is a group U occupancy.
- 6) Section 304.5 of the 1997 UMC does not allow LP burning appliances in an area where unsafe fuel vapors might collect, including walkout basements. The PPRBC amendment to this section only allows for an LP detector when an LP drain cannot be installed. LP drain is a required inspection per Section 16-4-102.D #5 of the PPRBC. The LP drain must be installed inside the structure and inspected during the plumbing base inspection. The drain's termination point is checked at final heating inspection.
- 7) The side walls of a cantilevered joist bay need not be insulated for the residential rough inspection when a heat run is installed in a cantilever unless it forms part of the building envelope

MECHANICAL INSPECTION NOTES 2001

JUNE 21, 2001

Administration

- 1) Comments to owners and contractors are limited to code; never opinions of price, variances, contractor performance, etc.
- 2) When a building code violation occurs because of a mechanical/plumbing installation, please notify the building inspector for that inspection area. If the installation complies with the UMC and/or UPC, complete the inspection with the appropriate notes to include notification to the building inspector.
- 3) If your computer is not functioning properly, contact Matt via e-mail with a cc to Baub. If the problem is not corrected in a reasonable amount of time, please let Baub know.

Mechanical Committee

- 1) The Committee has altered and expanded items that can be placed on the Consent Calendar. The following consent items are only applicable to a basement finish or addition:
 - a) Water closet clearances: 14" at the sides, 22" at the front;
 - b) Showers: 32 x 32 rough in dimensions;
 - c) Bath exhaust that terminates within 24" of an opening into the building.

Mechanical

- 1) When a basement is finished, including those during initial construction, and it is structurally impossible to install the upper combustion air grill within 12" of the ceiling, make sure the grill is as high as physically possible. If the top of the grill is below the top of the door frame, a fully louvered door is required.

MAY 24, 2001

Administration

- 1) The "Advance Notification" policy was distributed and discussed; the policy was clarified for the entire department.
- 2) The meter release procedure for structures requiring an outside gas line inspection was discussed. When the inside gas, residential rough, and outside gas lines are complete, a meter release will be issued if 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. That connection, along with checking for a pressure regulator when needed, will be checked for leakage at the final heating inspection. If the gas shut-off valve is not present and capped or plugged, the meter will not be released. An additional trip to the job site to obtain a meter release will entail a charge.
- 3) For manufactured homes (temporary sets) that require an outside gas line inspection, a separate permit is required for this inspection. In order to final out the permit for the manufactured home, the gas shut-off valve and the pressure reducing valve (if applicable) must be present.
- 4) Gas meters are not required in order to final out a permit.
- 5) When entering inspections, remember that a compliance (P/H-16) is used for notation purposes. A complaint (P/H-11) is only used for work done without a permit.

Plumbing

- 1) Automatic air admittance valves are not to be used in calculating the required vent area thru the roof.

MAY 17, 2001

Administration

- 1) A blue permit inspection record card signifies the structure is located within the floodplain and requires a final inspection completed by the Floodplain Management division prior to issuing a CO. This applies to all new construction including modular units, temporary or permanent sets.
- 2) RBD will scan basement finish sketches submitted at the front counter. This will help to locate plans for discussion/code review. Inform Bob or Kye if there is a code discrepancy between the approved plans and code compliance.
- 3) Because of potential liability, inspectors cannot accept rides in a contractor's or other person's vehicle. If the inspector is unable to safely reach the inspection site in their company vehicle or on foot, the inspection will be cancelled and administrative staff notified of the reason for cancellation.
- 4) Inspection numbers have surpassed last year's record season, an increase of more than 16 percent for the month and 13 percent for the year to date.. More than 500 permits for new single family dwellings were issued for the combined months of March and April. The number of re-inspection fees has climbed from 1.5 percent to 3 percent of the total inspection load in the first four months compared to the same period last year.
- 5) An inspection result may be viewed as a critique of the installer's work. An inspection result of "Partial" should signify near completion with a few items needing attention; "Reject" carries a more severe message. Please be sensitive to the fact that we are dealing with individuals.
- 6) Vehicles containing tools left for PM will now be picked up at the garage instead of the "ready" line.
- 7) The RBD Personnel Policy Manual specifically states that sick time is a separate benefit from vacation time.

Mechanical Committee

- 1) Sta Brite solder may be used to join copper refrigeration lines as an alternate method to Section 1110.7 of the 1997 UMC. However, if a particular manufacturer's installation instructions state brazing only for connections to their units, approval from the manufacturer is required before the use of Sta Brite. Approval must be a letter from the manufacturer or their agent, not from a dealer/supply company.

(Continued to next page)

MECHANICAL INSPECTION NOTES 2001

MAY 17, 2001 (Continued from previous page)

Mechanical

- 1) Section 701.3 of the 1997 UMC, allows for all or part of the required combustion air to be obtained from the inside of a building of ordinary tight construction. An old interpretation from the ICBO, which is still applicable, was discussed.
- 2) See column 1, condition #2, of Table 7-A, 1997 UMC, "Appliance in confined space." If this method is used when the house is built with an unfinished basement, modification of the combustion air system may be required when a basement finish permit is issued.
- 3) When applying combustion air via a vertical duct, the installation of two elbows that are joined directly together for offset purposes is still considered a vertical duct and combustion air can be calculated at 1 square inch/ 4,000 BTUs. If any length of pipe is inserted between the elbows used as an offset, the combustion air duct is considered horizontal and is sized at 1 square inch/ 2,000 BTUs.

APRIL 26, 2001

Administration

- 1) Baub discussed the newly acquired land by RBD for the future home of the "One Stop Shop."
- 2) Vent connector installation discussion continued. Sections 804.2; 805.1 and 815.1.9 of the 97 UMC all express concern regarding physical protection and prevention of joint separation. In addition, Section 816.8 states that connectors should be installed as high as the available headroom. This should apply in all instances regardless if the gas appliances are in a mechanical room or an unfinished basement, (Section 816.8 says greatest rise)
- 3) See Matt to program the Nextel phones with updated numbers.
- 4) Leave RBD material on a homeowner's front door, not the mail box as it is a violation of Federal law.
- 5) Call in trip fees when assessed. The administrative staff said contractors are calling to pay re-inspection fees before they are entered into the computer. If Nellie or Heather are not available, call Shelly or Holly.
- 6) The fireplace letter from Heatilator. In Heatilator's installation guide, walls in the illustrations are indicated by a single line.
- 7) Installation instructions and product listings for Simpson Duravent adapters were discussed. Note in all instances the inner wall of the adapters go on the outside of the inner liner of the existing vent regardless of flue gas direction.
- 8) Support for refrigeration lines on existing basement finishes: It is acceptable to use the sheet rock on the ceiling as support without installing any additional hangers. Care should be taken that the insulation on the lines is not torn, leaving the lines exposed. This could damage the ceiling. Use of plastic pipe as a conduit is one method of protection.

APRIL 19, 2001

Administration

- 1) *Congratulations to Lynn! He passed the ICBO certification exam for Mechanical Inspector, and is the first to take the test under the new ICC format.*
- 2) *Mick Travers is our new Mechanical Inspector. Mick has been working in the area for several years holding the licenses for Johnson/Pugh Mechanical. Welcome Mick.*

Manufactured Housing

- 1) The RBD Manufactured Home Policy and Manufactured Home Temporary Set Check List were distributed. Discussion from the previous meeting was continued. Note: The contractor/owner orifice verification is no longer required, address requirements were added for temporary sets, and requirements to retain the unit's axles and wheels were eliminated. Copies of both documents are now available for distribution. Please make several copies and distribute at job sites.
- 2) Outside water line inspections: If a permit for the unit has been obtained, either universal or HT, and the outside water line is installed to the unit, an outside water line inspection is required. If the line was installed prior to the permit issuance and terminates in an open lot, this will be considered as an existing installation (utility) and no inspection will be required. This should be noted as such in the inspection notes.
- 3) Terms used in issuing permits for manufactured homes and are as follows:
 - a) Manufactured homes, HUD or UBC, on a temporary set are called "Mobile Homes".
 - b) HUD manufactured homes on a permanent foundation are called "Residential Manufactured Housing".
 - c) UBC manufactured homes on a permanent foundation are called "Modular Homes".
- 3) A "Mobile Home" (HT) permit is a heating permit issued only to a Heating Contractor C licensee or the homeowner. "Residential Manufactured Housing" and "Modular Homes" permits are universal building permits issued only to a licensed building contractor or homeowner.
- 4) Requirement for water meters to be installed prior to final approval is the same for manufactured homes as site built.

Mechanical

- 1) Combustion air (applicable only to a replacement furnace): If a mechanical room contains only a furnace and combustion air from the outside is connected to the return air duct on the furnace, then a permanent opening in the supply duct is an acceptable method of supplying combustion air to the unit. See Oct. 26, 2000 inspector notes.
- 2) Vent connector protection was discussed in regards to location in mechanical rooms versus open, unfinished basement areas. There were many points of view without consensus. Bob will research. Refer to April 28, 2000 inspector notes.

Plumbing

- 1) Running traps are not prohibited by code. Common usages may be for freeze protection, ADA accessibility at lavatories, and relocating fixture roughs under concrete floors. Tailpiece lengths are limited to 24" maximum while the horizontal length is limited to 30". Refer to Sections 1001.2 and 1001.4 of the 97 UPC. Also see Jan. 28, 2000 inspector notes.

MECHANICAL INSPECTION NOTES 2001

APRIL 5, 2001

Administration

- 1) Inspections for Calhan do not include modular homes, temporary sets (HT).
- 2) Plans must be available at the residential rough (HRR) inspection to verify furnace/boiler sizing as well as bath and toilet exhausts. This applies to all new master, site specific and revised master plans issued a permit after Jan. 1, 2001.
- 3) RBD vehicles may be washed at car washes other than Water Works. Provide a handwritten receipt for reimbursement.
- 4) New single family dwelling permits hit an all time high for the month of March at 540+.

Manufactured Homes

- 1) Inspection check list for manufactured homes, temporary sets: Concerns regarding outside water lines, house numbers and orifice verification were discussed. The check list will be revised and distributed at the next meeting.
- 2) The "Manufactured Housing Policy" was also discussed. Revisions are necessary.

MARCH 29, 2001

Administration

- 1) When assessing a fee for consultation, do the inspection and enter a trip fee. This will require payment to be made prior to the next inspection. This will work if there is an existing permit. If there is no permit, request a compliance inspection, which is a written report stating what is needed to bring an installation in compliance with current code.
- 2) When you see outdated permit cards without "Residential Rough" at job sites, please cross out "Duct" and write in "Residential Rough" for single family permits. This problem is being corrected.
- 3) Ray McCrillis from the Colorado Division of Housing communicated that manufacturers of modular units, UBC approved by the state, have the option of using the IMC/IPC instead of the UMC/UPC. This should be clearly marked on the inspection plate under the kitchen sink. If the International Codes are used, it is treated as a HUD home and no report to the state is required. If the Uniform Codes are used and you spot a code violation, the procedure remains the same.
- 4) Inspectors receiving permit printouts, please make sure the valuation is reasonable, particularly those issued through the internet. If the value seems low, for example \$1500 for a 15 unit apartment, please notify Bob.

Plumbing

- 1) Section 905.2 of the 97 UPC, as amended by the PPRBC, requires all vents connecting to a horizontal drain line, *except wet vented water closets*, to have their invert above the flow line (rolled up). It appears the notes contained in the Plumbing Guide for chapter 9 are a bit ambiguous. Please start working with contractors to "roll up" dry vents on water closets. When applying sections 905.2 and 905.3 of the UPC please consider:
 - a) Structural conditions, floor joist depth etc.;
 - b) Location of trap weir to vent pipe opening, IE above or below; and
 - c) Position of fittings IE horizontal versus vertical.
- 2) Make sure clean outs are accessible at times of top out and final inspections. This includes basement finishes. Please note exceptions to section 707.4 especially numbers 2 & 3.
- 3) On finals, if there are multiple knock outs on the automatic clothes washer box, please verify the correct one is removed prior to completing the inspection.
- 4) Vents need to be tested to the attic on a top out inspection as well as to the last group of fittings if joined together or offset in the attic. Refer to Sept. 29, 2000 notes.
- 5) Toilet seats are not required at the time of final inspection except for commercial projects where open front seats are required.
- 6) In townhomes where the piping exits the fire resistive wall on the property line through a perpendicular wall, no protection or change of material is required. The inspector's five foot "no penetration area" from the property line may still apply in the attic depending on where the vent exits the perpendicular wall.

MARCH 22, 2001

Administration

- 1) The new upcoming policies for OSHA safety requirements at job sites and manufactured home installations were discussed in general. When officially published, we will discuss in detail.
- 2) The car wash at the Police Department is no longer available to RBD for use. All washes are to be at any Water Works outlet. Policy is "If dirty, wash it!"
- 3) Rolf has asked that our division be reminded RBD vehicles cannot be used after hours for personal use.
- 4) When viewing in the inspection screen please use exit - not save - when closing the file. Using the exit function will keep the inspection in tact.
- 5) When contacting a resident please note in the computer: A. Permit required. B. Double fee. If "yes" to permit required. If no one is home to provide inspection access, please leave copy of correction notice on the door, stating:
 - a) Why you were there.
 - b) The necessity to gain entry.
 - c) The inspector's name and phone number.
 - d) Time frame to respond.

Keep track of time frame for response. (Personal calendar is a good tool.) If no response is received within the given period, give a copy of the correction notice to Bob to start certificate of noncompliance process. Then, make entries into the computer to close out with appropriate notes.

MECHANICAL INSPECTION NOTES 2001

MARCH 22, 2001

Mechanical

- 1) Basement finishes:
 - A) The correct number of heat runs can be obtain by calling administrative staff, (if different than shown on permit).
 - B) Inform Bob of any problems with approved plans not meeting mechanical or plumbing codes.
- 2) Ventilation for home theaters will now be completely handled by the Mechanical Division. This includes outside air as well as exhaust. Remember, if the heating system has the combustion air attached to the return air plenum and a heat run is installed in the theater room, an on fan switch either at the thermostat or furnace should suffice.
- 3) Wood burning fireplaces with gas outlets stubbed into the firebox will be inspected by the Building Division. If the gas log(s) is installed will we be involved. It is best to mark on the mechanical final if gas log(s) is installed at that time.
- 4) Sign ups for the Home and Garden Show are on the back of Bob's door. Overtime will be paid. Uniforms must be worn.

MARCH 3, 2001

Administration

- 1) There will soon be an official policy statement from Regional Building Department regarding job site safety with respect to OSHA requirements. It is anticipated this will resolve our issues concerning the inspector's welfare.
- 2) February inspection summary shows the Mechanical Division at a 6.7% (788 total) increase over the 2000 record year. New starts for single family dwellings are also up from last year. Present projection is 4500 + units for the year. A new mechanical inspector has been budgeted for 2001 but lack of physical space is delaying the hiring.

Mechanical Committee.

- 1) The Committee's direction is to continue accepting Sta Brite as an alternative to brazing even if it conflicts with manufacturer's installation instructions. The Committee is still considering testimony.

Mechanical

- 1) There is a difference between combustible/noncombustible versus rated/nonrated construction. The reduced clearance to combustible letter from Heat-N-Glow regarding all their fireplace installations is just that. As stated, if Duro Rock/cement board/tile is installed over combustibles at the face of the fireplace, clearances may be reduced. This does not apply to the recessed/main body portion clearances behind the face of the unit.
- 2) Red has asked that if we observe line voltage electrical wires entering a fireplace without a Romex clamp, please inform the electrical inspector for that job.
- 3) Using insulation as a fire stop around a B-vent chase in an R-3 occupancy was discussed. This application is acceptable if the insulation does not exceed the depth of the floor joists.
- 4) Meter releases faxed to the utilities are now tracked by inspection status. Only when an HC inspection is entered and completed, will a meter release be faxed.

Plumbing

1. The necessity for "rolling up" vents at water closets was discussed. Bob is to research and get back.
2. Access to clean outs was also discussed. Bob is to research and get back.
3. PEX installation instructions require a 6" minimum clearance to a single wall vent, including water heater vent connector.

MARCH 1, 2001

Administration

- 1) Please make comments on the permit cards legible. It is understood that not all permit cards are placed in a location that is conducive for legible writing, but please do your best.
- 2) If the HRR, PTO, P=, or H= is not complete for some reason and is OK for the building inspection, the building inspector must be notified by the mechanical inspector as to the particulars. It is then the building inspector's decision as to whether the building inspection will be performed or not. Remember, this is not the Mechanical Division's call nor can we guarantee any building inspection.
- 3) Time cards are due this Friday due to Monday's classes.
- 4) The bus for the ICBO institute leaves at 6:00 AM from the Hobby Lobby parking lot on 8th Street.
- 5) A mark of "CSA" with the SA inside a large C is the same as "AGA" for gas product approval purposes. The American Gas Association has been replaced by the Canadian Standards Association; United States. This took effect on Jan. 1, 2000.
- 6) Upload your computer this PM. If it does not work, please let Bob and/or Matt know. Please bring your computer in Monday and leave with Bob for Matt on Feb. 22, 2001
- 7) Clean vehicles once a month, inside and out. This can be done at any of the Water Works locations.

Mechanical

- 1) Fireplaces:
 - a) If a letter from the manufacturer addresses a specific location or installation, please have it scanned by Dave London in reference to the permit. Any letter that is a specific change to the installation instructions as printed, give it to Baub.
 - b) Due to changes made between the HRR and the H= inspections it is prudent to make notes as to any mantles or protrusions at all fireplaces at the time of the HRR inspection. This will be an aid to anyone doing the final inspection.
 - c) Be aware of side vent terminations in reference to combustible materials being installed around them as decorations such as "picture frames". Most instructions indicate that the termination base must be flush with the finished wall.

(Continued next page)

MECHANICAL INSPECTION NOTES 2001

MARCH 1, 2001 (Continued from previous page)

Mechanical

- 2) Residential roughs:
 - a) Check all joints in the duct system, S and drive joints as well as crimped. There have been instances where "S" and/or drive joints have been missing at the top and sides of rectangular ducts. Check flange joints at the take offs.
 - b) There is no standard for leakage at back draft dampers; make sure the flapper is functioning at the inspection.
 - c) Division policy is to have the roof jack, collar and cap on at the time of the HRR inspection. If the jack is not permanently in place, then spacer/stays are required on the vent to prevent movement by the roofers. At least one contractor wants to install a roof jack from the inside as well as provide one for above the roof. This is acceptable as it meets/exceeds code. In this case the inside jack takes the place of spacer/stays. Don't reject this type of installation.

Plumbing

- 1) The Quest Pex installation booklet was discussed. Please note:
 - a) The maximum horizontal support spacing is 32";
 - b) The bending radius is a minimum of 8 times the diameter;
 - c) The 6" clearance to an appliance vent is for single wall vent pipe.

FEBRUARY 15, 2001

Administration

- 1) On Feb. 14, 2001, RBD initiated a program to perform after hour and Saturday inspections in order to "final out" permits that have been administratively closed in the last three years.
- 2) It is advised to have an extra key made for the RBD vehicle which can be carried separately to be used in "locked-out" situations.
- 3) Remove shoes or use "booties" when entering homes with carpet already installed. Even if the carpet is dirty, follow this policy, and note it in the inspection comments.
- 4) On retrofit inspections, continue to call the contractor and inform them as to why the inspection did not pass prior to leaving.
- 5) It is important to upload the previous day's inspection results the very first thing in the morning. This will aid inspectors, administrative staff and contractors in scheduling the work load for the day. **It is critical that your results get uploaded on scheduled days off or if ill. If you are unable to upload over the phone line, please make arrangements for someone to pick up your computer and bring it to the office.**
- 6) When a gas meter is released or denied, please note the HC inspection under "other" on the yellow permit card and label it as "meter".
- 6) Items that qualify for the "Consent Calendar" on the Mechanical Committee agenda need to be formally requested and are never granted by inspectors. The only difference between consent items and regular variance requests is that the consent item applicant usually does not have to appear before the Mechanical Committee.
- 7) If an inspection is deemed "not ready", please make this the first statement in the inspection record. Any following items should be noted as examples of why the inspection is not ready or as a partial list. "Not ready" carries a re-inspection fee.
- 8) When doing a re-inspection, follow the previous list. If it is necessary to note new items such as, but not limited to life safety items, a re-inspection fee should not be charged.

Mechanical Committee

- 1) At the Committee's request, two separate copper projects containing joints made with 50/50 solder, 95/5 solder, and Sta Brite were presented. Upon visual examination, it was determined the joints made with Sta Brite were not distinguishable from the others. The Committee has asked the proponents for using Sta Brite joints on refrigeration lines to attend the March 14 meeting for discussion. Please continue performing inspections without change until further notice.

FEBRUARY 1, 2001

Administration

- 1) You may wear a hat (cap) as part of your uniform if it is one of two types provided by RBD with the official logo.
- 2) The procedure to follow up on work done without a permit on property posted with a "no trespassing" sign is:
 - a) Contact your supervisor with all the pertinent information IE address, work being done, etc.
 - b) A stop work order will be mailed to the address with a 10 day notice to respond.
 - c) If a permit is not secured, the stop work order will be given to the RBD Attorney who will petition the County Commissioners to direct the County Attorney to become involved.
- 3) The administrative staff has received calls from homeowners prior to 8:30 a.m. requesting information about inspections scheduled that day. Some contractors need to clarify that these calls should not be made before 8:20 a.m.
- 4) The inspectors' areas have been adjusted, please see the new map.

Plumbing

- 1) Support of plastic DWV systems includes vent pipes in the attic.
- 2) Sanitary tees in venting systems above the fixture flood level rim, have no restrictions on the position they are installed.
- 3) Please continue to check shower size and that p-traps are in place during the PTO inspection. (Continued next page)

MECHANICAL INSPECTION NOTES 2001

FEBRUARY 1, 2001 (Continued from previous page)

Mechanical

- 1) Section 604, 1997 UMC, requires supply and return air ducts be insulated. Combustion air ducts do not require insulation.
- 2) There has been a problem of HRR and HI inspections being completed without meter releases (HC). Please be aware.
- 3) The only information received on flex supports for flex ducts is from Duro Dyne. Their product meets the flame and corrosion rating of UL 181 so it should be allowed. How the product is identified is still unknown. Stay tuned for more.
- 4) On appliance replacements or fireplace inserts, if a new vent or liner is required, make sure it is part of the permit and an HV inspection is recorded.

JANUARY 25, 2001

Administration

- 1) New code books were distributed Wednesday that included the 2000 International Mechanical, International Plumbing and International Residential codes. The Residential code contains its own provisions for mechanical and plumbing that may differ from Mechanical and Plumbing codes. The Mechanical Committee welcomes any input, positive or negative, with regards to the new codes. Due to the cost of the new code books, only one set will be issued.

Mechanical

- 1) At the last meeting it was noted that sections 1311.1 and 1311.4, item #8 of the 1997 UMC require gas shut off valves to be approved for fuel gas. Valves containing an embossed stamp from UL or AGA are approved for fuel gas. Those valves marked only with "WOG" are approved for medical gas, not fuel gas. Please work with the contractors on implementation.
- 2) Some residential duct systems are being supported by 1-1/2" wide plastic(?) unlabeled material. Section 603.4, 1997 UMC, requires support material to be either galvanized steel or meet the flame and corrosion requirements of UL 181.
- 3) The sealing of joints on combustion air ducts is not required as long as it is part of a gravity (non-mechanical) system. The requirement to insulate combustion air ducts connected to return air plenums will be researched by Bob.

JANUARY 18, 2001

Administration

- 1) Installation instructions, highlighted by the manufacturer, for PEX piping systems by REHAU, Quest, and Vanguard were distributed. Please look them over carefully. We will be discussing them in future meetings.
- 2) Those who wish to participate in the "after hours" inspection program, please let Bob know.
- 3) Final inspection report for the year shows a total of 200,000 plus inspections done by RBD. The Mechanical Division accounted for more than 75,000 of that number.

Mechanical Committee

- 1) The Committee approved the use of styrofoam for supporting residential furnaces with the following restrictions: Minimum of 300 sq. in. bearing surface; maximum height of 6", and the styrofoam is not to extend outside the furnace cabinet.
- 2) Ventilation provided for under floor areas will no longer be considered as environmental air. Therefore, exhaust terminals will not require a back draft damper nor required to be a specific dimension away from an opening into the building.
- 3) The requirements for shut offs and vents for gas pressure regulating valves were discussed. Section 1319.3 of the 97 UMC requires the vent for gas pressure regulating valves to be of approved gas piping material. Note: aluminum and soft copper will no longer be considered as acceptable material for this use. Section 1319.3 also requires a shut off valve to be installed immediately preceding each regulator. These regulations also apply to gas pressure regulating valves at the house for step down systems, including LP. Please work with the contractors on implementing these requirements.

JANUARY 4, 2001

Administration

- 1) *Congratulations to Alton and Doug for successfully passing the Mechanical Certification exam.*
- 2) Bob will be in the field weekly for observations as part of the new quality control program requested by Rolf.

Mechanical

- 1) Clearances: The difference between Sections 304.6 and 304.7 of the 1997 UMC were discussed. Section 304.6 pertains to clearances to combustibles. These dimensions can be found on the data plate and may vary with each manufacture. Section 304.7 pertains to clearances for maintenance and replacements, which may differ from and override the clearances to combustibles. Please note the dimensions in 304.7 only apply to rooms/spaces not **large in comparison with the size of the equipment** as defined in section 220. For replacements, overall width of the compartment should not be an issue, but side, back, and top clearances should comply as much as possible.
- 2) Labeling gas systems: Section 1319.7 as amended in the PPRBC requires all medium and high pressure gas lines be labeled as such every 6 feet on center. This includes both of the risers for underground installations, including propane systems. Please work with the contractors letting them know of the requirement.
- 3) Electric wiring: When inspecting new fireplace installations in existing structures please be aware of new electrical wiring being installed to the fireplace for operation. Do not final the inspection until an electrical permit is obtained. This is consistent with RBD policy for new A/C installations.

MECHANICAL INSPECTION NOTES 2000

DECEMBER 28, 2000

Administration

- 1) Please be aware that the Regional Building Department does not issue a certificate of occupancy for manufactured homes.
- 2) The Board of Review has agreed to allow contractors/home owners to pay trip fees over the phone by account or credit card for a 6 month trial period. This is not intended to make it easier for contractors to use RBD inspectors as field superintendents. Please keep track of any individuals who may be abusing this new service.
- 3) Remember to sign all permit cards. If the card is not available, please note as such in the comments. If card unavailability is a continuing problem, the PPRBC allows for a trip fee to be assessed.
- 4) Give registrations for classes at the upcoming ICBO educational institute to Bob as soon as possible.
- 5) Duplex inspections: Note that two gas meters will be necessary on an HC inspection, either by address or unit number.
- 6) If you notice a duplex is being built when the permit does not indicate so, please notify RBD plan check and zoning.
- 7) Please remember on HT permits to check for enumeration as part of the inspection.

- 8) Section 16-1-511 of the PPRBC requires address numbers to be: Minimum of 5" high x ½" wide, clearly visible and legible from the street and at a distance of 100 feet from the structure, permanent (no stick-ons), and of a contrasting color. (If the structure is obscured or located more than 100' from the street, the address must also be posted at the street.

- 9) The revised inspection areas appear OK at this time. Adjustments may be made, if necessary, after a 2-week test period.

Plumbing

- 1) Remember, the Mechanical Committee decided this past June to eliminate the requirement for a floor drain on the first floor if an area drain is provided and indirectly wasted to a floor drain in the crawl space below. A catch pan under the water heater with its drain run to the floor drain is an acceptable alternative.

- 2) Per the Cherokee Water District, a water meter is not required at the time of the plumbing final. If any questions as to whether or not the structure is within this district, please call 597-5080

Mechanical

- 1) New letters from Heat-N-Glow clarifying installations for models SL-550, 750, 950, for both TR & TRS units were distributed. Per conversation with Marc Fuller of Heat-N-Glow, clearances only apply to combustible materials. Noncombustible materials are not an issue as long as they do not cover the glass or the vent.

- 2) Colorado Springs Utility records show 26 instances in the past two months where meter releases have not been sent in a timely manner. Please make sure to release gas meters with a completed HC when the HI and HRR inspections are both completed. Some installations will also require an HO inspection completion.

December 21, 2000

Guest speaker: Rolf

Administration

- 1) Asked if inspectors should enter comments in the computer about inspection judgement calls, Rolf said no. As a public record and available on the Internet, such comments could be misinterpreted. However, entering comments is acceptable when making a one time exception to something for the benefit of the inspector who does a follow up inspection.

- 2) When a homeowner's work does not meet code, reject the inspection for correction and re-inspection for code compliance.

- 3) It is acceptable to allow a contractor to correct a minor code violation without a return inspection if the contractor has a solid track record, and in the context of an inspection that requires a homeowner to leave work to provide access for the inspection.

- 4) The Board of Review now allows trip fees to be paid over the phone with a credit card or by account, or mailed checks.

- 5) Guidelines for assessing trip fees:
 - a) Be cautious, and use the code guidelines;
 - b) Be diplomatic and professional in finding a resolution;
 - c) If the inspection fails because of an honest mistake, do not trip fee;
 - d) When re-inspection has been requested and corrections have not been made, assess a fee; and
 - e) When access for the inspection is not provided, assess a fee.

- 6) After February 1, 2000, RBD will begin doing inspections within the city of Calhan.

MECHANICAL INSPECTION NOTES 2000

DECEMBER 14, 2000

Administration

- 1) Blocked calls: When performing a CBG (call before going) and the number will not accept blocked calls, enter *82 and then redial. If your call is still blocked, call and ask an administrative assistants to place the call. As a reminder, if contact is an answering machine, leave your phone number and a message to return the call within a specified time or the inspection will have to be rescheduled for another day.
- 2) RBD will be closed on Monday and Tuesday March 5 and 6 for mandatory attendance of the CBO Educational Institute Classes. More information will be provided in the upcoming meetings. Please consider the following classes:

March 5

Class 188 - 2000 IPC
Class 189 - 2000 IMC

March 6

Class 281- Establishing good working relationships
Class 283 - Fire resistive construction.
Class 288 - Advanced DWV
Class 289 - Commercial hoods

- 3) As a follow up from the last meeting, Bob Noose of the Electrical Division of CSU, clarified that the 2' dimension shown at each side of electric meter does not extend down to the ground. Therefore, consideration for clearances at the electrical meter, in reference to mechanical equipment installed on the ground, should only apply directly in front of the meter socket. Mr. Noose stated that accessibility is met if there is a clear path directly in front of the socket and a person can service the meter by standing on the ground.

Mechanical

- 1) Heat loss calculations: All newly submitted plans with R occupancies will be required to provide the heat loss calculations and statement of the BTU input of all heating appliances required to adequately heat the residence. Approved plans must be on the site for the first HRR inspection which will include validating that the heating appliances meet or exceed that shown on the plans.
- 2) When computing combustion air, Chapter 7 of the 97 UMC refers to a single duct or opening serving the area in which the appliances are located. Refer to Section 702.1 of the 97 UMC. Example: If 200 square inches are required to serve an area, providing 2 separate 10x10 openings within 12" of the ceiling is not allowed. The same applies to the low as well as a single opening (pipe) system. (Note: Existing installations may require an exception to this and will be administered by the inspector depending upon the circumstances surrounding the installation.)
- 3) Unvented floor drains: Branch outlets from the main drain to unvented floor drains may be sloped a minimum of 1/4" per foot, or be "rolled up" to an angle not to exceed 45 degrees from the horizontal. Any amount of roll up beyond 45 degrees is considered vertical and does not meet the intent of section 901.0 of the 97 UMC as amended by the PPRBC.

The annual last breakfast of the year will be held at Western Omelet at 6:30 AM Friday December 29th.

DECEMBER 7, 2000

Administration

- 1) Please answer your phones in the morning while at your desk unless involved in some other job related duty. If you don't answer, callers have the option to roll back to the administrative assistants rather than leave a message, which increases their work load.
- 2) There were an estimated 1,300 more inspections in October and November this year compared to the same period in 1999. For year-to-date, the department has shown a 10,000 inspection increase, up 16.5%. The total inspections for the entire department for 2000 at the end of November are 186,808. The noncompletion rate is still within 1.5% of 1999.
- 3) Readjusting of inspectors areas was discussed and modified . New areas take effect 12/11/00.
- 4) Bob passed out a sheet from the CSU Electrical Division showing a 4' x 3' clearance required in front of an electrical meter. Mechanical equipment, such as condensers, should not be located in this area. Please be as aware of this requirement as well as the 3' radius for the gas meter regulator.
- 5) When encountering new electrical wires being installed, such as with a fan assisted fireplace, inform the Electrical Inspection division and do not complete the inspection until an electrical permit is obtained. This follows the same policy we have for A/C installations. A building permit is not required for framing that is not structural around a fireplace.

Mechanical

- 1) For all HI+ inspections, new installations, an air test is required. The amendment to Section 1305.4 of the 97 UMC only applies to structures that have a C.O.
- 2) Please review carefully Section 304.5 of the 97 UMC for location of gas appliances in or accessed through bathrooms, bedrooms, or closets..

(Continued next page)

MECHANICAL INSPECTION NOTES 2000

DECEMBER 7, 2000 (Continued from previous page)

Mechanical

- 1) For all HI+ inspections, new installations, an air test is required. The amendment to Section 1305.4 of the 97 UMC only applies to structures that have a C.O.
- 2) Please review carefully Section 304.5 of the 97 UMC for location of gas appliances in or accessed through bathrooms, bedrooms, or closets.
- 3) Crawl space ventilation provided by a mechanical system should follow these guidelines:
 - a) Two ducts are required, one located at each end of the longest diagonal.
 - b) The fan is sized for 2 air changes per hour. (Cubic feet of crawl space x 2) divided by 60 = CFM
 - c) 1/4" screen on the inlet with a back-draft damper on the outlet.
 - d) The crawl space is to be exhausted, not pressurized.
 - e) Back draft damper location must comply with Section 504.6 of the 97 UMC, environmental duct terminations.
 - f) The fan must be controlled by a de-humidistat set at 35%.
- 4) When gas appliances are located in a crawl space, it is OK to use the foundation vent for combustion air if at least one of the vents is made permanently open.
- 5) When a supply outlet is run to the garage (U-1) from the house (R-1) a fire damper (not fire/smoke) is required. Installation does not need to comply with the manufacturer's installation instruction but must comply with the following as a minimum:
 - a) Frame around the sleeve leaving a minimum 1/8" gap per lineal foot.
 - b) The sleeve must be a minimum of 26 gauge.
 - c) The sleeve must be flanged on all four sides to the garage side of the wall.
 - d) Affix the damper to the sleeve with at least 1 screw in each of the four sides.

NOVEMBER 30 , 2000

Administration

- 1) It is not too late to sign up for the holiday party.
- 2) Prior to leaving in the mornings, please make sure you have returned all your phone calls as well as E-mails.
- 3) A realignment of inspector's areas will take place on 12/11/00.
- 4) Administrative assistants will take calls before going (CBG) requests, but will no longer allow AM or PM requests. (Note: Refer to the Advance Notification Policy that defines use of this service.)
- 5) Per Steve (the Wiz), do not open any files unless they end with " Doc" or "Text"; never open a VBS file.
- 6) Bob will make arrangements with Colorado Springs Utilities Gas Division for "identifying proper fusion welds" training.

Mechanical

- 1) If "all air from inside the building" is used for combustion air, a minimum of 100 square inches per opening is required by Table 7-A of the 97 UMC. When determining the combustion air openings, use 75 percent of the grill's outside dimensions (area).
- 2) When performing gas line inspections , use the BTU input value for all appliances to be installed. If an appliance is not installed , use values stated in Table 13-C of the 97 UMC. For future gas logs, use 50,000 BTUs.
- C) Bonding between the electrical and the gas piping system cannot occur below the building shut-off valve.
- 3) Louisville Tin and Stove Company installation instructions require a metal plate (stove board) under the appliance when installed on combustible flooring. The metal plate can be identified by a label on the underside. Please have the installers reattach the label in an observable location for verification.

Plumbing

- 1) As a follow up, all plumbing base inspections require the building drain to be extended outside the structure. In addition, all water service entries entering through the foundation wall are to be sleeved and water proofed per section 313.10 of the 97 UPC. Note: 1-1/4" ID sleeve is acceptable for 3/4" service line. (Refer to the Oct. 26, 2000 notes.)
- 2) All crawl spaces are to be accessed at the time of final inspection.
- 3) Adapters/couplings used to join plastic pipe to other materials or ABS to PVC, must comply with Section 316.2.3 of the 1997 UPC. Note: Unshielded couplings are typically not listed for above ground use; and most hub couplings (CISPI) are not listed for plastic.

MECHANICAL INSPECTION NOTES 2000

NOVEMBER 2, 2000

Administration

- 1) Effective Nov. 6, Eldon will be in Lee's old area, Daryl will take Eldon's old area, and Lee will instead assist in commercial inspections and be a swing inspector (along with Jim) when others are off or need help.
- 2) When doing a re-inspection of a job previously done by a different inspector, the correction list at the job site should be followed almost exclusively. An exception is any life/safety issue item observed that was not previously noted. In this case, call the inspector who did the first inspection for any additional information. Minor items may be noted/told to the installer to fix them. Please do not create a new list or add to the existing list if corrections are made to all items previously noted. If you wish clarification of an inspector's call, please approach in a professional, non-accusatory manner. Likewise for those being asked; this is not a personal attack, but a quest for information and consistency.

Mechanical Committee

- 1) Regarding Section 302.4 of the 1997 UMC, as amended by the PPRBC, the Committee determined that access is permitted to a crawl space through a garage if the opening is 18" above the floor, or has an 18" barrier constructed of block or concrete separating it from the garage. (See June 14, 2000 Mechanical Committee minutes.)

Mechanical

- 1) All ducts outside the building perimeter insulation of an R-3 residence are to be insulated with a minimum R-6 insulation. This includes return air ducts and especially those being formed by the building construction such as joists and stud bays in a non-insulated garage.
- 2) Remember when applying the Gama tables to a water heater installation the BTU input is very critical. If the water heater input is 40 MBH, the likelihood that a 3" single or double wall vent connector will work is minimal. If the input rating is 32 to 39 MBH, a 3" vent connector will more than likely comply. There is no edict from Gama or RBD that all vent connectors to water heaters must be 4", just like there is no edict that all furnaces require double wall connectors. The Gama tables dictate size and type of connector-ALWAYS.

Plumbing

- 1) Section 709.7 of the UBC requires piping that penetrates rated walls to be noncombustible and to remain noncombustible. In the cases where plastic piping inside the wall converts to noncombustible piping to exit the wall at the upper end of the stack, the noncombustible piping must continue to the vent above the roof.

OCTOBER 26, 2000

Administration

- 1) Before performing inspections, especially on remodels and replacements, verify the permit reflects the work being done. If the scope of work exceeds what is listed on the permit, please note in the comment field and take appropriate action.
- 2) When speaking with a fellow inspector, please make sure it is known that others may be listening to the conversation. Asking for a private conversation, when appropriate, is always in order.

Plumbing

- 1) Primer is required on all PVC pipe joints, but it is not required to be colored if applied in a way that makes it identifiable. This also applies to any PVC piping used in heating situations IE combustion air or venting. Watch for non-listed glues.
- 2) Sleeves (wrapping) vertical risers on floor drains are not required.
- 3) The building drain should be stubbed out under the footing/foundation wall whether under slab or in a crawl space. All piping inside the building footprint should be under test, except the downstream joint at the test tee. This may be a change or clarification of a previous inspection policy, effective within 30 days.
- 4) Water lines entering the building through the foundation wall should be sleeved and made water tight as required by Section 313.10 of the 97 UPC. An 1-1/4 inch ID sleeve will be acceptable for a 3/4" water entry. Please inform installers of this clarification, effective within 30 days.
- 4) All concealed traps, except bathtubs, should be under test at time of inspection. This includes running traps, the inlet to the running trap should be extended past where the waste and overflow will connect. The trap arm for a bathtub should be extended past where the trap will be installed. (See Sept. 3, 1999 mechanical notes.)

Mechanical

- 1) Marco Fireplace confirmed that recessed installation of Model #CCT36 is acceptable within the specified dimensions.
- 2) Furnaces are not required to be wired to complete the HRR inspection or qualify for a meter release.
- 3) A heat register located within a mechanical room does not eliminate the requirement for transfer air grills to an area of at least 250 SF. to supply combustion air for the water heater. (See Aug. 6, 1999 mechanical notes, item #7.)
- 4) Measure the area of the louvers in transfer grills for sizing the combustion air inlets.

MECHANICAL INSPECTION NOTES 2000

OCTOBER 19, 2000

Administration

- 1) Most inspections in your area should be routed by 8:20 a.m. so that the route is complete by 8:30 a.m. At this time you can ask for help if needed or offer your help to others if possible. By 8:40 a.m. all routes should be completed and inspectors ready to leave office. If you are not doing work related activities, do not stay in the office.
- 2) Bob will have Steve check the "Will you take" feature that has been directing the help request to the wrong inspector.
- 3) Set ups for mobile homes that do not have the manufacturer's installation guide are inspected to the requirements set forth in the PPRBC. Both vertical and diagonal tie downs are required. Please let the contractors know we will start enforcing this requirement as of Nov. 1, 2000.
- 4) Fireplace installations must coincide with the installation instructions supplied with the units. Situations exceeding the installation guidelines will be accepted with a letter from the manufacturer showing the field installation and stating their approval.
- 5) Heat-N-Glo. Western Fireplace will provide a letter from Heat-N-Glo addressing some installations that are now in question because of clearances to side walls that extend beyond the front of the fireplaces. HRR inspections of the installations in question will be passed but noted: "Per Bob Croft, OK pending letter from manufacturer. Contractors to proceed at their own risk."
- 6) When the access to the gas shut-off valve in a fireplace requires entering the combustion chamber, a shut-off valve, such as a Jones valve, must be installed outside the fireplace.
- 7) The A/C coil installation guidelines from Sept. 15, 2000 are amended as follows: Coils that have an area not less than 90 percent of the furnace collar are acceptable. If less than 90 percent, apply one of the following four items:
 - a) Verify it complies with the furnace listing/installation instructions.
 - b) Letter provided from the furnace manufacturer states approval of using a coil by company X with the furnace model #.
 - c) A duct transition from the outlet of the furnace to the coil with not be more than a 45 degree angle from the vertical.
 - d) Seek a variance from the Mechanical Committee.

Mechanical Committee

- 1) When the Mechanical Committee recommends approval or denial of a variance or materials, it does not become effective without approval the Board of Review. The Board of Review approved the use of the Vanguard Manabloc system but disallowed the use of 3/8" size water piping to fixtures. Work under permits issued on or after Oct. 20, that uses the 3/8" size tubing will be rejected. Pressure or temperature balancing tub/shower valves must be used with the Vanguard system as the control block does not perform a pressure balancing function.

OCTOBER 12, 2000

Administration

- 1) When a garages of a model home is used as a sales office, a 434 remodel permit is required. Garage conversion for a sales offices is not covered under the 101 universal permit. If you notice the discrepancy while doing an inspection for the 101 permit, enter a complaint stating the need for a permit for the garage/sales office.
- 2) Watch for multiple final inspections being requested for multifamily dwellings. If the contractor calls in more than 2 final inspections for a single building under one permit, enter either a P-16 or H-16 consultation and a trip fee. This fee may be charged to the contractors account unlike a trip (rejection) fee.
- 3) Some mechanical inspectors have been passing the final heating inspection without all items being complete and asking the building inspectors to check for them while doing their final inspection. Please discontinue this practice.
- 4) Any IAPMO listed air admittance valve is approved by the PPRBC, including those that may have a conditional listing.
- 5) Check the plumbing guide in Microsoft Outlook for location and accessibility of clean outs
- 6) Existing duct work in basements that are being finished are not required to be sealed.
- 7) Styrofoam does not comply with section 308.1, of the 1997 UMC as support for equipment. Until we receive notification of a structural, noncombustible type of styrofoam, do not allow its use as a furnace support in attics or any other situations.
- 8) Decorative gas burning fire pits. Check the listings for clearances to combustibles. If not listed refer to table 3-B in the UMC for clearances of non-listed appliances to combustibles.

Mechanical Committee

- 1) When replacing furnaces it is only necessary to replace the wye/tee to allow for a 4" water heater vent if both appliances are on the same level. When the water heater is replaced the vent must be upgraded at that time. An example would be a furnace in the crawl space and a water heater in a closet on the floor above. *(Continued next page)*

MECHANICAL INSPECTION NOTES 2000

OCTOBER 12, 2000

Mechanical Committee *(Continued from previous page)*

- 2) A contractor replaced two water heaters next to a draft hood furnace. Attempting to comply with the Gama tables, the water heater vent connectors, plus the common vent, were increased to 4", which included replacing the existing wye. By increasing the vent connector size from 3" to 4" for the water heaters, the area required for the common vent according to Section 8010 item #2 of the UMC was violated. The Committee ruled that sizing the water heater vent connectors to the Gama table & leaving the rest of the existing venting system the same, was acceptable; however, any portion of the venting system which is changed must meet current code. In this case, the replaced wye would need to be double wall.
- 3) While Sta-brite and Sta-brite 8 was approved as alternates to brazing for refrigeration lines, they are not approved substitutes for the brazing of under-slab/ground water lines.
- 4) The Committee will hold a special meeting on Tuesday, Oct. 17, to discuss the Vanguard Manabloc system.

OCTOBER 6, 2000

Administration

- 1) Our weekly meetings will be on Thursdays prior to Rolf's 9:30 a.m. staff meetings.
- 2) Mechanical inspections for September 2000 are slightly up from September 1999, and inspections in the first three quarters increased 16.6 percent from 1999. The total number of inspections for RBD for Jan. - Sept. 2000 is about 150,000, up 11.3 percent from last year. Noncomplying inspections remains at 25 percent. Partially now exceed rejects by 16 percent. Inspection rejection trip fees increased from 1.27 to 2.52 percent.
- 3) If you get a wrong number or a disconnected number message when providing advance notification of an inspection, check the number, and then call an administrative assistant for verification. If needed, the administrative assistant can contact the contractor to obtain a correct number. Make every effort to contact the homeowner, especially when they take time off from work for the inspection. If the inspection is in close proximity to your route, please stop by.
- 4) When completing the last inspection (either HI or HRR) and conditions are not ready for a meter set, go ahead and trigger the HC inspection but reject it with comments noting what needs to be done. If the permit history shows both the HI and HRR are completed, the assumption will be that the inspector forgot to generate the HC and order the construction meter.
- 5) Joseph will be returning Monday Oct. 9 for half days.

SEPTEMBER 29, 2000

Daryl has successfully passed his Plumbing Inspector Certification exam.

Administration

- 1) Tuesday, Oct. 3, is picture day for new ID cards. See Matt in the plan check waiting area to get yours.
- 2) Mechanical inspections for August increased 1500 from the same month in 1999.
- 3) Rolf has budgeted for one more mechanical inspector to be added for 2001.
- 4) Please remember to get yourself a phone buddy and give your phone password to Kye.
- 5) If you have completed either the HRR or HI inspection, tab through to the comment box to trigger the HC prompt. When the computer asks you for a meter set and something is not ready, please indicate in the inspection comments the reason for not ordering the meter. This will greatly assist the administrative assistants when contractors call wanting meter sets. If you receive an H= (Partial, Meter Set), change the inspection to an HC at completion. Remember to tab past the gas purveyors box in order to trigger the meter set fax.
- 6) 101 permitted modular UBC homes must comply with the Uniform Codes. If you encounter something that is not up to code please note the violation(s). Get the model number of the home and contact the State Division of Housing to inform them of the deficiencies. They will contact the manufacturer for corrections, or have RBD verify the corrections are made.

Plumbing

- 1) Caulking around the tub spout should be checked on finals. It is not necessary for the escutcheon around the shower valve to be caulked due to the supplied gasket.
- 2) One 1-1/2" p-trap and trap arm may be used to drain a kitchen sink and dishwasher when the dishwasher drain is routed through an air gap fitting into either the garbage disposal or tailpiece.
- 3) Any piping installed in the field for either 101 modular homes or "Res. Mft. Housing" is required to be installed and tested to UPC standards. If minimal pipe and fittings are added to the drainage system, a flow test may be allowed.
- 4) Drainage elbows: 1/4 bends are allowed above the floor. Horizontal to horizontal under slab and vertical above floor to under slab horizontal require long turn fittings. The exception would be closet bends and horizontal to vertical under slab.
- 5) Plumbing DWV testing out the roof for top inspections continues to be required, however, the test should also be carried up to the highest group of fittings and or the attic. Some of the contractors have been only testing to head height in the walls. Effective Nov. 1, 2000, tests up to the attic will be required. Continue to allow a 5' head of water or a 5# air test for plumbing base inspections.

MECHANICAL INSPECTION NOTES 2000

SEPTEMBER 15, 2000

Mechanical Committee

- 1) Sta Brite & Sta Brite 8 have been approved as an alternative method and material to brazing refrigeration lines.
- 2) The use of 3/8" tubing with Vanguard Manabloc System will be recommended to the Board of Review; however, new information was provided which clearly defined IAPMO's listing on this product.

Mechanical

- 1) When AC coils are being installed on existing furnaces, the new coil should be the same size as furnace outlet. If not one of the following will be required:
 - a) Verification that it complies with the furnace listing/installation instructions.
 - b) Letter from the furnace manufacturer stating model number and use of coil by company X is acceptable.
 - c) A duct transition from the outlet of the furnace to the coil with not more than a 45 degree angle from the vertical.
 - d) Variance requested and approved by the Mechanical Committee and Board of Review.
- 2) The Wirsbo installation guide shows a 6" minimum clearance from the vent at the water heater; this applies only to single wall vent pipe.
- 3) Footnote #30 of the Gama Tables requires the smallest input appliance to be closest to the common vent. This does not mean the main vertical vent. Therefore, manifold systems and offsets are permitted with the reduction guidelines of the Gama Tables. The smallest input appliance should have the shortest vent connector (good rule of thumb).

AUGUST 30, 2000

Administration

- 1) A ferrule type compression joint is not considered by definition to be a slip joint. They are defined as a rigid joint. A shut off valve at the fixture is not required when this type of fitting is used.
- 2) When new products are encountered in the field ask the contractor to supply information about them prior to acceptance. Also check with the other inspectors as well as Bob or Kye for input.
- 3) Follow the electrical inspector's lead for size (16"x16" rough opening, 14.5" x 14.5" finish) and accessibility for tub pumps as much as possible. Check for potential problems at rough-in. (Check with the electrical inspector when results vary.)
- 4) Back flow prevention is not required for hand held personal showers mounted on roman tubs or kitchen faucets with spray, including the new pull out spray spouts, in group R, division 3 occupancies.
- 5) Modular home owners are not allowed to do their own gas pipe installation under a "101 universal permit". Owners are allowed to install their own gas pipe for a mobile home, "HT Permit".
- 6) Gas pipe labeling. Two-pound systems in residences are required to be permanently labeled "medium pressure" every six feet. PPRBC also requires the system to pass a 60# air test on both sides of the regulator. Additional labeling requirements for pressure regulators are listed in Section 1319.3, Exception 4 of the 97 UMC.
- 7) Size the gravity drain line receiving the discharge from a sewer ejector pump by counting each gpm. of the pump as 2 fixture units. The minimum pump size required to serve a single water closet is 20 gpm. The pump discharge line becomes a gravity drain at the point it intersects with a drain line downstream from any gravity draining fixtures.

Mechanical

- 1) Combustion air. Prior to adopting the 97 UMC, a gas burning appliance could be accessed through a bedroom or bathroom provided that the room had a sealed, self closing, solid door, and all combustion air was obtained directly from the outside through one combustion air duct terminating within 12 inches of the ceiling, and sized at 1 square inch for each 3,000 BTUs of the appliance input rating.

Section 304.5, (prohibited locations), Exception 5, of the 97 UMC allows the same installations with the exception of allowing the outside air to be supplied in conformance with Chapter 7. Table 7-A provides 3 separate methods of providing the combustion air:

- a) Two ducts, one high duct and one low duct running directly to the outside.
- b) One low duct from a ventilated crawl space with one high duct open to a ventilated attic (or both from attic).
- c) One high duct running directly to the outdoors.

AUGUST 25, 2000

Administration

- 1) Inspection results. If it becomes necessary to change the results of an inspection, notify the contractor of the change and reasons for it, and note the results change with detailed reasons in the computer.
- 2) Please remember to:
 - a. Enter time for all inspections.
 - b. Sign the inspection record (permit) card.
 - c. Note how many heat runs are present in an unfinished basement either on the HRR or the H= inspection.
 - d. Note "Nice job" if so. "Complete" on a first time inspection may be an appropriate time.
- 3) Manufactured homes "HT" versus. "101 residential" permits. The 101 universal permit does not allow a homeowner to call for gas inspections. Until Bob can meet with Rolf, the homeowner may call for the plumbing inspections. The homeowner may call for plumbing and heating inspections for HT permits.

(Continued next page)

MECHANICAL INSPECTION NOTES 2000

AUGUST 25, 2000

Administration

- 4) When entering a trip fee on first time inspections for administratively closed permits, please enter "Trip fee waived-Admin. Closed". For all subsequent inspections, the trip fee is applicable.
- 5) Heat loss calculations. All new single family dwelling plans submitted after October 1, 2000 are to be provided with heat loss calculations showing the minimum size of heating equipment needed to provide a system capable of maintaining 70 degrees Fahrenheit at a point 3 feet above the floor in all habitable rooms. When performing an HRR inspection, including additions, this should be one of the first things to check. Make sure the heating equipment meets or exceeds the value shown in the heat loss calculations.
- 6) There will be a breakfast meeting September 21, 6:30 a.m. at the Western Omelet. Let Bob know if you plan to attend.

Mechanical Committee

- 1) Vanguard. Rick Johnson has appealed the Mechanical Committee's decision regarding the Vanguard Manibloc System to the Board of Review. Until the Board of Review meeting on Sept. 20, please treat Manabloc Systems as previously.

Mechanical

- 1) Boiler drains, used for servicing zones in hydronic heating systems, do not require back flow prevention because it is already provided on the water feed to the boiler
- 2) Heat runs. All habitable rooms are to have heat runs, baseboard or in-floor heating. If none is provided, treat as a code violation for the HRR or HWP inspection.
- 3) Vent size. Remember to check the BTU input of water heaters on both new construction and replacements. If BTU input is less than 40 MBH, a 3" single wall vent may comply with the GAMA tables.

AUGUST 15, 2000

Administration

- 1) Inspection reminders:
 - a) Verify work being done corresponds to the permit.
 - b) If work is being done without a permit, enter either a P11 or H11 with notations in the computer.
 - c) Do not complete a heat final on a permit issued for new air conditioning without an electrical permit attached; put in partial and comment "pending issuance of an electrical permit".
 - d) If a hazardous condition is encountered, call the contractor *after leaving the premises* to see if it has been reported.
 - e) When encountering a locked residence leave a yellow door tag, not an orange sticker.
 - f) Use the timers on your computers for all inspections, and avoid using abbreviations in inspection comments.
 - g) If you come across something unusual in the field, call a fellow inspector to inquire if they've encountered a similar situation. Bob and Kye are also available.
- 2) Discussion will continue regarding whether or not code requires a heat register for each room.
- 3) Discussion will continue of the required accessibility of the gas shut-off valve for gas burning fireplaces.

Plumbing

- 1) Vertical wet venting and laundry sinks. The vertical drain line size for 2 fixture units may be 1-1/2" according to Table 7-5; Table 7-3 applies Footnote 2 to most of the sinks listed requiring a minimum 2" branch drain beyond the trap arm. Footnote 2 does not appear after laundry sinks, therefore a laundry sink draining into a waste stack acting as a vertical wet vent is required to be only 2" in diameter.
- 2) Automatic air admittance valves may be used for an entire basement bathroom provided it is an engineered system.
- 3) A 3-inch island fixture vent extending from the lavatory drain, rising as high as possible, and connecting above the flow line of the drain downstream of the water closet and branch to the lavatory is also acceptable.

Mechanical

- 1) It is not a code violation to have a tee cut into a heat run for a first floor register in order to heat a lower level room; it will result in inadequate heating of both rooms. This information may be conveyed to a homeowner who is considering this type of installation.
- 2) Check the area around rim joists for proper insulation if ducts are present. Work with the contractors as this is new.
- 3) Blown in insulation is acceptable to cover attic duct boots in flat ceilings unless the boot is installed so close to the roof line that blown insulation may not completely cover it. In vaulted ceilings that will have batted insulation, boots must be individually insulated. Please use the same criteria for boots in attics as in the rest of the structure. No "comment" is required when normal insulation practices will obviously leave the boot/duct inside the building insulation perimeter. If not, ask for insulation at the HRR inspection.
- 4) If a gas pipe system falls slightly short of the required size in the Chapter 13 tables, a 10% increase is allowable due to derating for altitude.
- 5) When encountering CSST and black pipe mixed gas systems, size main and each branch according to type of piping measured from the meter.
- 6) To satisfy the intent of new code, a minimum 500 square feet is required for a room or area to communicate with the room a domestic clothes dryer is in through the 100 square inch make up air grill. The room height is assumed to be 8 feet. Note: This is twice the size used for combustion air transfer grills for water heaters.
- 7) Lined interior chimneys, with at least one draft hood appliance venting through them, are the only chimneys not required to have a metal liner installed with a new category 1 furnace installation.

MECHANICAL INSPECTION NOTES 2000

JULY 28, 2000

Administration

- 1) Clarification of Rolf's memo regarding "partial inspection requests": RBD neither provides partial-work inspections nor offers design solutions to a permit holder, usually requested by homeowners. (This policy does effect noting "partial" as an inspection result.)
- 2) If you have rejected an inspection and the words "not ready" appear in the comments, a trip fee should likely be assessed. Per Section 16-3-210:D, PPRBC, "A re-inspection fee of \$30.00 may be assessed for each inspection or re-inspection when the portion of work for which the inspection is requested is not complete or when corrections required by a previous inspection have not been made".
- 3) Do not complete a heat final on a multiunit job with more than 100 units until a utilities inspector notes on the permit card that the gas pipe stub outs are properly tagged for each unit. This applies only to permits issued after Aug. 1, 2000.
- 4) An inspection checklist has been given to the Pikes Peak Mechanical Contractors Association. Please answer questions in the field from contractors about the check list.
- 5) When doing a complaint inspection and no one is home, leave a tag, and note this and the time of day in comments.
- 6) Hazardous conditions. If you encounter a hazardous condition, wait until you are in your vehicle, call the contractor and ask if they filled out a hazardous condition report. If they did not, let them know of their responsibility to do so. Always note any hazardous conditions in the comments for the inspection.
- 7) Compliance inspections: Enter details without abbreviations as much as possible in the comments; provide a print it out to Bob or Kye the next day.

Mechanical

- 1) PPRBC requires all medium pressure gas piping be labeled as such every 6 feet, applicable to residential and commercial jobs, CSST and black pipe. Note: The factory applied label on CSST does not meet this requirement.
- 2) Heat finals. Equipment operation is not required by code, only proper installation. Do not reject a heat final if the furnace is not operational. If you notice any equipment not operating correctly, inform the contractor.
- 3) B/BW Oval 2x4 labeled oval vent pipe is listed to be used in a 2x4 wall space. Listed spacers must be used at the floor and top plate of the wall cavity. Look for the "2x4" indication on the label as some 5" ovals are listed for 2x4 installations and others are not.

Plumbing

- 1) Nail plates must be in place for the PTO inspection.
- 2) Commercial plumbing inspection clarifications:
 - a) A **water cooled** ice machine is required to have back flow protection (BFP) for the equipment cooling coil only. Some water cooled machines do not have built-in BFP. This protection is not required for an **air cooled** machine.
 - b) Carbonators must have stainless steel BFP, and can be built in. Watts model 9-D BFP is not acceptable for a carbonator.
 - c) An air gap is required for an indirect waste from a soda machine to a sanitary sewer receptacle.
 - d) Check valves on compressors must be ported to comply with the code.
 - e) Maximum length allowable for the direct connection from a commercial dishwasher to the floor drain tailpiece is 5 feet.
 - f) Commercial 3 compartment sinks must be directly connected to the sanitary sewer. The continuous waste must be run with directional fittings.
 - g) Be sure the "critical level" of the flush valve is a minimum 6" above the top of the urinal. Urinals may be used to wet vent water closets using 2½ " or larger pipe for the vent sections receiving discharge from the urinal.
 - h) The discharge line from a grease trap must be vented like any other trap, even if the trap has an integral vent opening. Floor drains and floor sinks in the same area as any frying equipment must drain through a grease trap or interceptor.
- 3) Plumbing plans. Isometric drawings on plans are guidelines and may not necessarily reflect the actual field installation. If deviations appear to great, revisions may be required. Fixture numbers, especially ADA fixtures, must remain accurate and plumbed to code.
- 4) Watch for condensate drains run to floor drains in closets. The floor drain used in this situation becomes an "indirect waste receptor" and cannot be installed in any "portion of the building not in general use by the occupants". (Section 804.1, 1997 UPC)

JULY 21, 2000

Administration

- 1) If subject to verbal abuse, stay calm, immediately leave the site, and report the incident in detail in inspection "comment."
- 2) Jeff Hannasch has been hired as a new mechanical inspector and will start Aug. 7, 2000.
- 3) Bert and Tim will be doing "after hours" inspections. Sol is doing the Intel plan reviews and will also do some inspections.
- 4) Inspectors are not spend time in the morning chatting with administrative assistants in licensing.
- 5) The job of an inspector is to inspect work for compliance with minimum standards as stated in the codes - not opinions.
- 6) Rolf is considering giving sporadic tests for the inspectors to help keep us on our toes.
- 7) Mechanical inspections increased 14% from June 1999, the rejection percent is unchanged, number of partials increased.

Mechanical Committee

- 1) The Committee approved use of the Vanguard Manibloc System except using pipe smaller than ½" to supply each fixture.

Plumbing

- 1) HWP Inspections. For permits issued after 7/19/00 for water heating systems with using baseboard, a pressure test is not required with the HRR inspection. Do a visual inspection on the piping before it is covered. After the baseboard has been set, an HWP inspection with an air pressure test on the system will be performed.

MECHANICAL INSPECTION NOTES 2000

JULY 7, 2000

Administration

- 1) Dale will begin reporting to the eastern county branch, but will come to the main office on Fridays. He will be connected to the inner office network in the mornings, so you can contact him by e-mail. His new cell phone number is 337-9968, he will not be available by the Nextel radios.
- 2) Land zoned A-35 (35 acres or more) and owned prior to 7/1/2000, is exempt from the building codes. This does not include public buildings.
- 3) Staff changes: Dave Jones will be leaving in 2 weeks; Lee Guthrie and Chris Morin are new building inspectors; Jeff will be going up to inspect the northern part of the county; and Sol Chavez will be doing plans checking for Intel, and doing some small inspections there.
- 4) Mobile Homes (HT Inspections). Follow the manufacturers installation guide for mobile home sets. If not available, refer to the PPRBC with the exception of requiring vertical tie downs. Drainage piping under the home does not need to be tested. The water is not required to be on. Because an HT inspection is a one-trip inspection, don't forget to order the gas meter.
- 5) Fire stops. The size of gaps allowed around the fire stops for vents is a Building Dept. call.

Mechanical

- 1) U to R occupancy penetrations. An appliance vent may pass through a garage ceiling into and through the R occupancy enclosed only in a chase. A rated shaft is not required. Ducts of 26 gage metal with no openings that have the flexible expansion joint at the furnace may pass from the garage into the R occupancy without fire/smoke dampers. Combustion air ducts with openings in the garage passing through the R occupancy must be chased in the same manner as the vents. Ducts contained in the garage are not required to be insulated if the garage is insulated. Ducts in an enclosure around the furnace do not need to be insulated.

JUNE 16, 2000

Administration

- 1) Dale and Blaine will do inspections in the newly zoned areas in the eastern part of the county on June 19.
- 2) Les and Tom will be moving to the two new desks to make room for new guys.
- 3) Townhomes in regards to enforcing the "no penetrations" of the rated roof/ceiling within 5 feet of the dividing wall/property line. If penetrations have been allowed, the building may continue as is. However, inform the contractor that inspections on the next building/buildings will include enforcing the penetration rules.

Mechanical Committee

- 1) The Vanguard Maniblock water pipe system has been tabled until next month, continue to allow installation.
- 2) Crawl space access to fuel burning appliances may now be through the garage provided there is a poured concrete or laid block wall or curb separating the access from the garage with the access door on top.
- 3) Floor drains in crawl space. A non-condensing furnace installation (with no air conditioning) in a crawl space is no longer required to have a floor drain in the crawl space. If AC is added later, the contractor must install a condensate pump.

Mechanical

- 1) Fire stops. The metal stand off portion of fire stops for vents must be in place for the HRR inspections. The framing inspector will check for the total fire stop.
- 3) BW-oval vent may only be used to vent a wall furnace. B/BW-oval may be used for any gas burning appliance. B/BW-2x4 is listed to be installed in a 2x4 wall regardless of size provided the listed spacers are installed at the top and bottom of the wall cavity. The reduced clearance of this installation is only applicable within the wall cavity. Clearances to combustibles both before and after the wall cavity installation must be 1 inch.

Plumbing

- 1) Water lines installed in garage ceilings or cantilevers are allowed provided the pipes are run tight to the bottom of the floor above with insulation below and against any outside walls in the joist space.
- 2) Refrigeration pipe joints. Line set joints must be brazed, not soldered, and tested unless the joints remain clearly visible.

JUNE 9, 2000

Administration

- 1) Bob thanked anyone that contributed to Angela's vacation time.
- 2) Inspections were up by 24% over May of last year and up 22% for the year. The rejection percentage is unchanged.
- 3) Today is Joel's last day.
- 4) Inspectors are accepting side-inlet sanitary tees.
- 5) When doing any commercial inspections remember to look at the approved plans. If the plan shows an "existing" handicap restroom, check to be sure the water closets are the correct height.
- 6) Manufactured homes on a permanent foundation that do not have the perimeter of the crawl space insulated will require heat tape and insulation similar to the method used for mobile homes to protect the water line from freezing.
- 7) If a homeowner asks about water heater unions at water connections, you may explain that it is not a code requirement.
- 8) Unvented floor drains in crawl spaces. It is acceptable to run a 3" horizontal waste to and reduce right at a 2" KC floor drain. Consider this set up as an unvented floor drain.
- 9) Horizontal vent length. The foot note at the bottom of Table 7-5 limits horizontal vents to being 1/3 of the total "permitted length" of the distances shown in Table 7-5. This does not mean 1/3 of the length actually installed.
- 10) A vertical wet vented section must be increased by 1 pipe size larger than the size required for the upper drain line.

MECHANICAL INSPECTION NOTES 2000

JUNE 9, 2000 (Continued from previous page)

Mechanical

- 1) If a duct is misshaped with no blockage, do not fail the inspection. However, if a duct is crushed or pinched in such a manner that would restrict the amount of air to pass through it, fail the inspection.
- 2) Use column 1 "Buildings of Ordinary Tightness" in Table 7-A for the purpose of figuring the methods of providing combustion air. PPRBC amendments do not require all combustion air be derived from outside, therefore, in large space it is possible that a fuel burning appliance may not derive all combustion air from the outside.
- 3) CSST pipe.
 - a) It is acceptable to bury CSST pipe under the ground if in compliance with the manufacturers installation guides.
 - b) When sizing gas pipe with a combination of black pipe and CSST piping, size each one for the total distance using the appropriate chart.
- 4) A single fan assisted gas appliance vented into a chimney must have a metal chimney liner, even if the chimney is tile lined. A tile only lined chimney is only allowed to accept a fan assisted appliance if there is a standing pilot appliance common vented to the same chimney.

JUNE 2, 2000

Administration

- 1) Per Rolf - Neither use abbreviations in the inspection comments nor derogatory terms; this is a public record. Do not create a punch list for the contractor. If you are filling the comment screen, the inspection was probably not ready.
- 2) Tesha is now a permanent employee in flood plain.
- 3) Remember to get a phone buddy, and change your voice mail message when you will be gone and date of return to avoid having people leave messages and expect a return call. Please give Kye your buddy's name and password numbers.
- 4) July 1 will be the starting date for inspections in the eastern part of the county. If you encounter a "No Trespassing" sign, do not go on the property. Make a note of the sign in your comments.
- 5) Manufactured homes:
 - a) Manufactured homes set on a permanent foundation have a 101 universal permit. The defining criteria is a permanent poured foundation with a permanent type of skirting and graded appropriately. You might see the metal stand supports with tie down straps. The inspection requests will be H= and P= not an HT.
 - b) If a mobile or manufactured home is pre-piped to the wrong location for gas pipe - and additional piping is installed - the new piping must be sized correctly to the connection of the existing pipe. Note in your comments if new pipe is installed.
- 6) Bob passed out inspection check lists for the various types of inspections and asked the inspectors to review them for errors and suggestions.

Mechanical

- 1) Fireplace inserts require a vent inspection. If a heat final is all that is called in, add a vent inspection.
- 2) When doing an inspection with a homeowner be thorough and don't rush.
- 3) HRR inspections require the work to be performed by a correctly licensed contractor.
- 4) HVAC equipment is not required to have power turned on, but they must be wired for a completed H=.

MAY 26, 2000

Administration

- 1) Dryer and bath vent terminations are not allowed within 3' of property lines for townhomes. Watch for the vents exiting the side of the homes that have staggered fronts as they would be exiting right on the property line.
- 2) Vents, exiting lower roofs and located within 8' of a vertical wall, terminate above the upper roof (plane) per table 8-A.
- 3) Starting Tuesday May 30th you will only be able to take inspections from another inspector's screen and not give them.
- 4) Joel will be leaving us to pursue other endeavors; June 9th will be his final day.

MAY 19, 2000

Administration

- 1) Review the new Personnel Manuals for future discussion.
- 2) Provide a photocopy of your drivers license to Bob. The renewal dates will be entered into the computer and you will receive early notification when your license is about to expire. Give a copy of your renewed license to Bev. If you should lose your license for any reason please let Baub know immediately .
- 3) Dave London has a new computer program that uploads all the current cell phone numbers into your phone.
- 4) If you have not had your picture taken for the new photo ID cards, see Dave London.
- 5) If you receive an E-Mail with an "exec." attachment don't open it, delete it, and then delete it from your deleted files.
- 6) Jim's computer now receives all the commercial plumbing inspections; when his work load is excessive, Jim will ask inspectors for help within their areas.
- 7) POLICY CHANGE: FHA straps. Mechanical inspectors will only inspect for pipe protection as needed on the plumbing top out inspections. Building inspectors will check to see if FHA straps are needed due to excessive drilling or notching.
- 8) Jim Vernon advised everyone to be on the lookout for a new type of mobile home that has different installation requirements.
- 9) RBD met with Les Fields about the State regulations for manufactured home installations. Use PPRBC during this interim.

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MECHANICAL INSPECTION NOTES 2000

MAY 19, 2000 (Continued from previous page)

Mechanical

- 1) Gas fireplaces. Watch the clearances over the tops of the fireplaces. Some of the contractors have been encroaching in the area over the top of the units with combustible framing. Be sure to read the literature supplied with the fireplace as some of the example illustrations are incorrect, especially in regard to the amount of rise required on the vent before the first elbow. Also be aware of clearances to combustibles at the opening of the unit.

MAY 5, 2000

Administration

- 1) Baub passed out some FHA straps for comparison to show which ones are to code. Discussion will continue.
- 2) When additional inspections are needed after the initial ones have been completed, the administrative assistants will change the C (complete) to a P (partial), and reinsert an inspection request. The administrative assistants will also enter an explanation of the status change. The permit holder will be charged a \$30.00 compliance fee.
- 3) Remember to note the number of heat runs in an unfinished basement at the H= inspection.
- 4) Request for RBD policy for inspections of occupied residences when no one is home.
- 5) If the HRR inspection is "partial" for new construction, the gas meter is not released.

Mechanical Committee

- 1) In April, the Committee approved the use of CSST sizing charts with more than a .5 inch water column drop. If this design is used, the contractor is to leave the chart at the job site to verify the chart matches the brand of pipe installed.
- 2) Rehau PEX pipe has been approved for domestic water piping as well as hot water heating systems. Installation must be per the manufacturer's instruction. The sizing for domestic water must comply with the UPC.

Plumbing Committee

- 1) Townhome utilities. Section 308.1 of the 1997 UPC states that ..."no plumbing system shall be located in any other lot other than the lot which is the site of the building it serves." If the utility purveyor supplies RBD with a letter stating it will only provide a single tap for a building of multiple residents, we will accept the letter as part of the permit issuance and have it scanned. Otherwise, each dwelling unit must have its own stub out from the building.
- 2) Double elbows or twin ells are not acceptable as drainage fittings. They may be used as vent fittings.
- 3) Existing, possibly nonconforming, plumbing fixtures may remain in commercial jobs as long as the use or occupancy type does not change. Watch for notations on the architectural pages requiring the 5 foot circle for ADA requirements.

APRIL 28, 2000

- 1) Alan update.
- 2) Joseph Moore and Jon Brazier are our two newest inspectors. They will be starting soon.
- 3) Be prepared to trade inspection areas as needed. A decision will not be made until 8:30, so lay out your route as usual.
- 4) Vent rise. Measure water heater vent rise from the diverter to the bottom of the tee or wye.
- 5) Townhome property lines & requirements:
 - a) The property line is the dividing wall between the townhome units. Appliance vents may not terminate within 4 feet of a property line and environmental exhaust ducts within 3 feet.
 - b) If the upper floor is more than 1,000 SF without a parapet wall on the roof, then the roof ceiling area 5 feet horizontally from the property line is to be of 1 hour construction. This area may only be penetrated with approved fire/smoke dampers or rated shaft protection.
 - c) Plumbing lines in the rated wall between the units which penetrate the membrane must be a listed assembly or noncombustible pipe and cannot be connected to combustibles on both sides of the penetration. Therefore when stubbing a metal trap arm from a plastic drain line through this rated wall, a plastic P-trap is not allowed.

Plumbing

- 1) Rough-in drains for unfinished basements do not require a sanitary tee for the lavatory.
- 2) Floor drains are not required in residential laundry rooms, but if provided they must meet code.
- 3) Do not pass a P= if there is not a water meter set.

Mechanical

- 1) Double check duct work and rough plumbing in the basement when there for later inspections, ie. P= or H=. Note if basement is finished or unfinished. If unfinished, note the number of heat runs.
- 2) When using two combustion air ducts (one high, one low) remember the sizing criteria is different for horizontal than it is for vertical. If combustion air is being supplied by two vertical ducts and one or more are offset more than 45 degrees from the vertical around an obstacle in the mechanical room, they have a horizontal section and must be sized as horizontal for their entire length.
- 3) Furnace vent connectors. Section 805.1 of the 97 UMC requires vent offsets to be installed in a manor to prevent "physical damage". Make sure offsets are as high as possible to allow for adequate head room.
- 4) Furnace filters. Check for filter installation and accessibility on new heat finals and replacement inspections. Watch for the water meters being set in front of the filter rack. If installed in the duct system, the access door must be sealed using the same means as any duct work. Watch for excess openings within 10 feet of the combustion chamber of appliances.

All mechanical inspectors are invited to breakfast 6:30 a.m. Thursday May 18th at Western Omelette.

MECHANICAL INSPECTION NOTES 2000

APRIL 7 , 2000

Administration

- 1) Daryl will be out 6 to 8 weeks.
- 2) Remember to get a phone buddy or two. Please E-mail me your phone codes and phone buddy's name so I can make a list for emergencies.
- 3) Inspection numbers are up 11.5% from last year, overall numbers are up 22.5%.
- 4) Baub has recommended final two applicants for mechanical inspectors to Rolf.
- 5) The starting date for inspections in the eastern part of the county has been delayed 90 days.
- 6) There have been 48 new commercial plans submitted in the last 2 weeks. The front counter issued more than 400 new housing permits in March.
- 7) Andy has resigned for personal reasons. Angela has taken his place.
- 8) Remember to note in the comments for H= inspections the number of heat runs in an unfinished basement
- 9) On basement finish permit cards the administrative assistants will circle the HRR inspection if the permit holder has been made aware they need an HRR inspection. If during a plumbing inspection, you observe that a HRR inspection will be required but has not circled on the card, inform the homeowner or contractor without delay. Also check for a heating permit. If none issued, enter an H-11.
- 10) Water Resources wants to do a better job of tracking and testing back flow preventers. They have requested that RBD inspectors list the number of BFPs encountered on commercial jobs in the comments of the final plumbing inspection. They plan to contact the plumbing contractor and request additional information regarding the BFPs. (Do not list the main BFP at the meter or any hose bibbs, atmospheric vacuum breakers, etc. - just ones that can and need to be tested.)
- 11) Some general contractors said a request for a framing inspection isn't accepted if a plumbing base inspection had not been performed. This is great except for houses with crawl spaces or suspended floors in the basement. Try to note in comments when PB inspection not needed.

MARCH 17 , 2000

Administration

- 1) Inspection numbers are up 29% from last year.
- 2) New inspector Alton Oaks will start April 3; two additional inspectors will be hired.
- 3) A mechanical permit is not required on basement finishes unless there are new heat runs, a new bathroom exhaust, or a new dryer vent being installed.
- 4) If you are doing a rough plumbing inspection and see that an HRR inspection will *not* be necessary, note A not required@ on the residential rough line on the permit card and in the computer.
- 5) If you are doing a plumbing rough inspection and see that an HRR inspection will be needed, enter an H11 and reject it. Mark "permit required" on the "residential rough" line of the permit card.
- 6) It was suggested that the front counter personnel circle the required inspections on the permit card for basement finishes.
- 7) Mobile home inspections should appear as an HT inspection in the computer, not as an H=. A modular home on a permanent foundation should be an H=.
- 8) Do not enter an HRR as complete and then put "not ready for meter" in the comments. Either partial the HRR or enter an HC, reject, and note deficiencies.
- 9) The test pressure for an HWP (hot water heat piping) inspection in a residence is 65# .
- 10) Chimney rain caps are not required to be on for the HRR inspection. The vent does need to be braced appropriately.
- 11) If you are doing an HRR on a basement finish with a fireplace be sure that the fireplace is included in the permit before you give the inspection a completed status.
- 12) Final out all heating permits separately on basements finishes.

MARCH 3 , 2000

Administration

- 1) No compliance inspections are to be done after the building final is complete (B=C). Compliance inspections are only intended to evaluate existing structures built under a prior code with respect to the code currently in use.
- 2) Wirsbo-Aquapex manufacturer installation books were passed out. Please use them when inspecting these installations.
- 3) A list of prioritized inspections for Wednesday and Friday was passed out.
- 4) Other than illness or emergency, no time off should be taken for the week following the ICBO seminars.
- 5) Retro Fit Inspections. Only inspect for code violations for what the permit was issued. If you suspect a hazardous condition, call the contractor (not in front of the homeowner) to see if a hazardous condition report has been filed. If not, let them know of their obligation. Do not reject the inspection or make notes in the comments about the suspected condition. If your Tiff picks up a gas leak, double check with soap prior to noting as a code violation.
- 7) Enter a consultation as a P16 or H16. If you are going to charge a contractor for the trip let them know ahead of time. Enter the results as a trip fee. The contractors can pay this fee with their account rather than in person.
- 8) HI+ Inspections. The HI+ feature is now working to extend 101 permits after they are finalized. There is a \$30.00 fee payable to the administrative staff which will already be collected prior to the inspection appearing on your screen.
- 10) Hi inspections. Be sure to make an accurate list of outlets. It appears we have been missing some BBQs.

Mechanical

- 1) The deadline for products having a conditional listing has been extended to the May Mechanical Committee meeting.
- 2) Studor vents are allowed without any additional approval.
- 3) Hydronic heating inspection - HWP is required for the piping with concealed joints or tubing imbedded in concrete.
- 4) Basement finish HRR inspections. If a fireplace is installed on a basement finish, make sure it is part of the permit prior to the HRR being completed. Remember to final all heating contractors permits.

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MECHANICAL INSPECTION NOTES 2000

MARCH 3, 2000 (Continued from previous page)

Plumbing

- 1) Are we testing the overflow function on fixtures at the plumbing final? No.
- 2) Is a permit required for replacing a tub/shower valve? No.
- 3) Tubs are only required to have a minimum 1-1/2 P-trap, whirlpool types included.
- 4) Back to back or side by side lavs. with 1-1/4 tailpieces are okay to drain into a 2 x1-1/2 sanitary cross.
- 5) Back to back or side by side water closets may drain into a 4x3 sanitary cross. A double combination wye/eighth bend is also acceptable by code for water closets only.
- 6) All other back to back or side by side fixtures must drain into a sanitary cross that has a barrel size at least 2 pipe sizes larger than the inlet size. A fixture fitting with the same barrel size as the inlet may also be used.

FEBRUARY 25, 2000

Administration

- 1) Inspection requests are up 25% from last year.
- 2) New plans reviewer Russel Kauk will start on Feb. 28.
- 3) Dale Johnson and Blaine Shelly will do combination inspections of building, heating, plumbing, etc. in eastern county.
- 4) The ability to add an additional gas inspection, AHJ+, after the finals are complete, is working properly but the prompt for you to add an HC is not. Baub will get with Steve about correcting the problem.
- 5) Inform Bob in advance when you need time off; do not just put it on the public calendar. Please contact Baub in the AM on his cell phone if you will be absent or late.
- 6) The PPMCA invites all inspectors to attend a breakfast meeting.
- 7) Inspectors are reminded to maintain a professional manner toward coworkers as well as contractors. Rather than comparing inspection loads, evaluate yours to see if you can be of assistance to someone. Look at the types of inspections instead of just the numbers.
- 8) ICBO classes in Denver. Do not schedule time off the following week as we will be busy.
- 9) HBA Home & Garden Show is March 10, 11, and 12.

Mechanical

- 1) Check the dates that permits are issued to know whether the job requires an HRR or HV inspection. If called in as HV, but requires HRR, do an HRR, give a partial and note that it should have been called in as HRR.
- 2) When doing an HRR on a new house with an unfinished basement, note how many heat runs in the basement.
- 3) Residential hydronic heating systems require an HWP inspection for the heating lines and an HRR inspection for the boiler and water heater vents, combustion air, and bath and dryer exhausts. In a many cases the plumber does the heat piping but the heating contractor will call for the HWP inspection.
- 4) Basement finishes. The mechanical permit and HRR inspection are required if the basement finish has a restroom with an exhaust fan. A mechanical permit is not required if the basement finish does not include restroom, or has an operable window for restroom ventilation, and has previously installed heat runs. An additional return air grill is not required in the basement if the return on the upper level is sized large enough for the BTU load of the furnace.

FEBRUARY 4, 2000

Administration

Mechanical Committee

- 1) Red or yellow brass piping passing through foundation walls without sleeves may be okay if a variance is requested. This item will be placed on the consent calendar. The status of the inspection should be a partial until the committee's action.
- 2) Vanguard is on the committee meeting agenda for March, so do not reject those installations. The deadline for approval has been extended to March 15. The same deadline applies to automatic air vents as well.

Administration

- 1) Some of the gas fireplace appliances have a short piece of corrugated pipe attached to the control valve. This pipe is considered as part of the appliance and not as a fuel gas connector. It is acceptable to use a flexible gas connector between the shut off valve and this pipe.
- 2) Tub/showers, kitchen sinks, and clothes washers counted as 2 fixture units each for the purpose of wet venting, will continue to be counted as such for the purpose of sizing the drain lines.
- 3) Wirsbo, Aqua Pex, and I-Pex are currently the only PEX pipe manufacturers that have pipe and fittings approval. Size the piping using the UPC chart. Test the piping to the manufacturer's requirements if it is more stringent than the UPC.
- 4) Hydronic piping runs that do not contain joints are not required to have an air test. Exception: Piping being encased in concrete must be on test and hold the test during the pour.
- 5) Steve will cause a prompt to appear to ask if you want to add an HC inspection and order the meter when you complete an HI, HO, or HRR inspection.
- 6) Inspection comments address only code items. If you do make notes to the installer about future installations or items to be checked on finals, record them both in the computer and on the permit card.
- 7) Guidelines showing where FHA straps are required due to boring or notching were reviewed. See Section 313.11 of the UPC. If the plumber has exceeded the maximum amount allowed to be bored or notched, the FHA straps are required to be on for the PTO inspection. Proper installation of the straps requires a nail in every hole of the strap.
- 8) Dryer vent dampers. Dryer exhausts with center pivot butterfly type dampers are not allowed.
- 9) Gas piping can run under a concrete slab if there is no structure or roof over the slab. When encountering such an installation, note in the comments that the patio is not to have a roof or be enclosed in the future.

MECHANICAL INSPECTION NOTES 2000

JANUARY 28, 2000

Congratulation to Lee for becoming our newest Certified Plumbing Inspector!

Administration

- 1) The 1999 PPRBC allows the Building Official to issue a Certificate of Noncompliance. This will show up as an administratively closed permit with the results of the inspection being either a trip fee, locked, or complete. A first time visit on an admin. closed permit that requires corrections, needs to show as a trip fee with listed deficiencies in the comments; however, waive the fee.
- 2) RBD will hire outside consultants to do the admin. closed permit inspections.
- 3) Consultations put in the computer as an H or P-16 should show the status of the inspection as a trip fee. This is how the person requesting the consultation will pay for the inspection, usually homeowners. If the inspection is for a contractor, they may pay the fee with their account rather than in person. When a person requests a consultation, inform them that a fee is charged.
- 4) When assisting a fellow inspector in their area, try to take all the inspections in a particular area, ie. grid zone or street. Don't take 1 or 2 out of five on the same street.
- 5) If you have a re-inspection or have made an arrangement with a homeowner or contractor, please try to keep those inspections for yourself.
- 6) Retro fit inspections. Continue to call the contractors from the job if the inspection does not pass.
- 7) Running traps are not defined (ergo not prohibited) in the code. They may be wet vented by or be used to wet vent other fixtures. This is a change from the previous code.
- 8) On inspections that fail try to list as many of the code violations as possible in the comments. This will help you remember the inspection if the contractor calls, and make it easier for another inspector who might do the follow up inspection. Many of the contractors are checking their inspection results on our web site so detailed comments may eliminate a phone calls.
- 9) Be aware of the difference between work not being ready and a code violation. A code violation on the first inspection should not be assessed a trip fee.
- 10) Remember to add an HC inspection to order the meter when the HI and HRR inspections are complete. Jim V suggested that we have the ability to order the meter from any heat inspection and that we could have a prompt to remind us to order the meter. Stay tuned.
- 11) Wet venting notes. Stacked tees at the kitchen for the sink and dishwasher drains may be used as a wet vent with either the sink or the dishwasher discharging into the upper most tee. Clothes washer stand pipes may also be used to wet vent; however, when used for a vertical wet vent, the drain line must be sized 1 pipe size larger.
- 12) Partial PTOs. Plumbing drains under the wooden structural floors of some basements should show as a partial PTO, not as a PB inspection.
- 13) Nail plates versus. FHA straps. Nail plates are required to be on at the time of the PTO inspection. FHA straps installed to comply with Section 2320.11.7 of the 1997 UBC are acceptable substitutes. Bob will discuss with Blake requirements regarding FHA straps.
- 14) Test gages. By common consensus 30# gages are acceptable for the 5# air test on DWV piping.

JANUARY 21, 2000

Administration

- 1) It is a conflict of interest for an inspector to become involved directly or indirectly in any work or activities with anyone in the construction trades.
- 2) Sign the permit cards. If they are not there, note it in computer. The building inspectors may not perform an inspection if the card is not signed, even if shown completed in the computer. If the cards are not on the job site and it is a recurring problem, a trip fee is appropriate.
- 3) Taking inspections from home is allowed as long as there is a good reason for doing so. Bob would like to know as far ahead of time as possible.
- 4) Admin closed permits. Status should be locked or trip fee if not complete. If corrections needed on a first time visit, enter as a trip fee and cite the needed corrections, and then waive the trip fee.
- 5) A hand count was taken as to who needs ladders, locks, or chains.
- 6) The use of zip ties to hold the spun aluminum bath exhaust duct to the roof trusses is acceptable.

JANUARY 7, 2000

Administration

- 1) If you are sick or going to be late call Baub on his cell phone rather than his office number.
- 2) RBD will be closed Thursday March 9 for the ICBO classes in Denver. Some inspectors will also be gone the day before or after so the inspection load may be too large to get them all done. Be sure to get the most important ones first, ie. inspections that involve a homeowner, a PTO or HI inspection that will have a test on them. On Monday, the top priorities would be those inspections held over from Friday. Be prepared to go into all areas, not just your own.
- 3) Do not charge a trip fee on the first inspection for code violations unless it is a recurring problem with the same contractor. The two most common reasons for trip fees are job not ready or corrections not made from last inspection.
- 4) If you have a job with 2 to 3 rejects and the contractor wants a consultation, charge for that time. Enter a P-16 but under results enter a trip fee with a note that it can be paid by charging to account rather than in person.
- 5) Hours worked on Christmas Eve are to be put down as overtime.
- 6) 64,408 Mechanical inspections in 1999, up 5.9 percent from 55,338 in 1998.

(Continued next page)

MECHANICAL INSPECTION NOTES 2000 - 1999

JANUARY 7, 2000 (Continued from previous page)

Administration

- 7) Stand pipes. Clothes washer stand pipes dimensions are set by the code. Dishwasher stand pipes are not, but they must be extended up high enough so the overflow notch is at least higher than the bottom of the sink bowl so that restrictions in the drainage pipe will show up in the sink before overflowing into the cabinet. Begin informing then enforcing.
- 8) Offset closet flanges. The flanges that have a true offset are permitted. Not permitted are those that have a shelf but the throat does not have a full three inch passage way. Look for a listing.
- 9) Pex water piping. The industry has responded to RBD's request for their products to be reapproved. They did not apply in time for the January Mechanical Committee Meeting, but will be on the February agenda. Do not reject yet. If the products are not approved, jobs using these products permitted after Feb. 15 will be rejected.
- 10) Island fixture vents (Loop Vent). Only the horizontal drain and vent pipes need to be increased in size if the foot vent is not used. PPRBC says horizontal and vertical piping which is in error. No air admittance valve has been reapproved. Their deadline is also Feb. 15 before we start rejecting their use. Please inform contractors using these valves of this.
- 11) HRR inspections. Baub is available to assist with HRR inspections to try to keep consistency in our inspections.
 - a) There has been a change in the roofing requirement for the HRR inspection. The entire roof is not required to be in place. The only requirement is the house must be dried in, ie. tar paper in place with flashing secured. If the flashing is not secured, the vent must have a brace to hold it in position away from combustibles. If the inspection passes it is not necessary to list the size of vent and offsets.
 - b) List the number of heat runs in the basement, or if the basement is unfinished with no heat runs.
 - c) Watch for the return air using the stud bay space not being sealed off from the vent chase when next to each other.
 - d) To measure the distance from the blower to the C/A tie in, measure from the top of the blower compartment.
 - e) Code requires the ducts to be sealed, substantially air tight, but they do not need to hold water.
 - f) S & drive, butterfly joints, and end caps do not need to be sealed, unless there are excessive gaps.
 - g) Crimp joints must be sealed.
 - h) The edges of the joist spaces that are panned off must be sealed at the side gaps left when they drop down between joists.
 - i) Make sure the panned joists are blocked off at both ends of the joist space and extend all the way to the return air opening. If the return air duct is dropped below the bottom of the panned joist, it must be sealed from the opening in the duct to the panning.
- 12) Exhaust outlets are not allowed to be within 3 feet of any opening into the building which would allow air entry into any normally occupied portions of the residence. Garage doors, dryer and bath exhausts, combustion air openings for direct vent appliances, or attic soffit vents are not considered as such openings.
- 13) For Jenn air type installations, ask for the manufacturer's cut sheets showing allowable lengths, number of elbows, and termination requirements.

DECEMBER 17, 1999

Administration

- 1) HRR inspections. If you get an HV inspection on a permit that should be an HRR and the duct work is not ready, change it to an HRR, partial it with a note in comments stating it should have been an HRR inspection. HRR inspection criteria:
 - a) Roof in place. (The entire roof does not need to be completed, just the part around the vents, subject to change)
 - b) Jack, rain cap, storm collar in place on all gas burning appliances.
 - c) All vents and vent connectors in place.
 - d) Check the vent BTU capacity.
 - e) The supply and return ducts are no less than 2 square inches per 1,000 BTU of the output rating, or equal to the bonnet size and remains undiminished. Make sure the sill plates are cut out large enough for the return air. The combustion air duct tied into the return may be counted toward the required return air size open to the house. There is no maximum length for the outside air duct, but it must be tied into the return air duct within 12 feet of the blower (not the furnace).
 - f) Screws are in place equally around the duct. Be reasonable where structure prohibits.
 - g) Ducts are properly sealed with approved tapes or mastic, including the panned joists used for returns. Exception: Round take offs from rectangular ducts. Rectangular corners.
 - h) Insulation for ducts in non-conditioned areas such as attics, exterior walls, and cantilevers. Ducts in exterior walls may have building insulation between duct and exterior wall if there is enough room to provide the proper insulation. This insulation must be in place at the time of inspection.
 - i) All the combustion air may come from the inside under the current codes.
 - j) Check the dryer exhaust for allowable length, no screws, and termination at least 3 feet from any opening into the building with the exception of a garage door. The 3' termination also applies to the bath and kitchen exhaust. There are no requirements in the code regarding kitchen hoods for R-3s. A recirculating charcoal filter type may be used.
- 2) HC inspection. After the HRR, HI, and HO (where applicable), are completed, add an HC inspection to order the meter. Before the meter can be ordered, the HRR is completed, all the vent connectors must be on and the gas either connected to the appliances or capped. They DO NOT need 110 volt wired to it, the gas pipe to be bonded, or a thermostat for the meter to be ordered, check these items at the final.
- 3) H= inspections. Gas appliances are not required to be operational for the final heat inspection.
- 4) Inspection call ahead policy. If you get an answering machine, leave a message stating you will be at the job site in 30 minutes but they must call to confirm within 20 minutes, if not, the inspection will be cancelled and must be rescheduled.
- 5) Check for the crawl space floor drain with back water valve at the time of the PTO inspection. Slab on grade homes do not need a back water valve on floor drains.
- 6) It is okay to use a panned off joist space for the combustion air duct to the outside. A common application is on a retrofit doing the 1 high combustion air sized at 1 square inch to 3,000 BTUs w/ a self closing sealed door off a bedroom or bath.
- 7) Gas pipe support. Holy iron with sheet metal screws to the wood structure may be used to support gas pipe. It is acceptable to support gas pipe off the duct work *only* when it is running perpendicular to the duct at the appliance.

MECHANICAL INSPECTION NOTES 1999

DECEMBER 10, 1999

Administration

- 1) When inspections require contact with someone, pursue all avenues. Knock several times on more than one door if necessary. Check the back yard, especially in warm weather.
- 2) HRR inspections. It appears the new residential rough inspection requests are still not showing up properly in the field inspection screen, if you get an inspection with the inspection type blank, that is what it is.
- 3) When you complete the HRR inspection and the HI inspection has already been completed (or vice versa), remember to add an HC and order the meter.
- 4) New criteria for ordering construction meters:
 - a) HI and HRR inspections complete.
 - b) All vent connectors are in place. (*This is a change from the 5/21/99 minutes.*)
 - c) Rain cap is on.
 - d) It is *not* a requirement for the thermostat, 110 volt power, or the gas connectors to be in place to order the construction meter.

Mechanical Committee

- 1) For wet venting, a kitchen sink, bath tub/shower, and now a clothes washer count as 2 fixture units rather than 3, per the new UPC table. Remember this is only for wet vented sections, these fixtures still count as 3 each for regular DWV sizing.

Mechanical

- 1) Dryer make up air. The new requirement, from the 97 UMC, of 100 square inches of make up air for residential laundry rooms may be obtained through gaps at the top and bottom of the doors to the room.
- 2) Combustion air. The new provision for the combustion air duct requires it to be tied into the return air within 12 feet of the blower, not the furnace. The new PPRBC does not require part of the combustion air to be brought in from the outside. It is acceptable to have all combustion air taken from inside the building, relying on infiltration, using the 50 cubic feet of building volume per 1,000 BTUs input rule as found in Section 703.4.1 of the 97 UMC. This applies to retrofit installations as well as new construction permitted and installed after October 1, 1999.

DECEMBER 2, 1999

Administration

- 1) If an inspection called in is not ready, do not partial. Reject or trip fee.
- 2) The busier we are the more detailed your notes on inspections need to be to. The better your notes are the more it will help your memory and also it will help the next inspector on the job. Example: HV inspection list size, length, number of offsets and where, possibly maximum BTU's allowed. For follow up inspections after rejects, note what corrections were made and where. On Gas inspections be accurate on listing outlets on line at time of inspection.
- 3) Make sure someone near you has your phone password to retrieve phone messages when you are gone. Also, don't forget to activate a different phone message when you are going to be away to avoid having people expect return calls.
- 4) Listing policy. When you come across products on the jobs that have a conditional listing from IAPMO and have not been reapproved by the Mechanical Committee for use, leave the letters asking them to apply for approval.
- 5) When doing inspections on apartments or hotels/motels with pools, primarily the club house or office buildings, be sure they have an additional permit for the pool equipment. If not, do not do any inspections until the permit is pulled.
- 6) RBD may close 2 days during the week of March 6 for the code seminars in Denver; class attendance will be mandatory.

Mechanical

- 1) Gas inspections. The shut-off valves to the appliances are not required for the air test.
- 2) Outside gas inspection. Bends within reason are allowed. Pipe should be snaked in ditches dug with a backhoe. Trenched ditches are probably going to be roller coaster enough not to worry about snaking. We are requiring 18 gage tracer wire and not the tracer tape. They can of course use both.
- 3) Adding air conditioning to an existing furnace, or as furnace is being replaced is considered a new installation.

Plumbing

- 1) Plumbing inspections. Below grade plumbing that requires an ejector must have the pit installed for the base inspection.

NOVEMBER 19, 1999

Administration

- 1) Rolf discussed the budget for next year that includes adding 3 inspectors to Mechanical and a 4 percent salary increase. Budget increase of just under 16 percent will necessitate increasing residential and commercial fees.
- 2) The average number of inspections per house has climbed from 18 to 22 due to more rejections and return trips. Each inspection trip costs RBD at least \$30. The re-inspection fee will increase to \$30.00. Do not assess a trip fee if inspection has failed on the first inspection due to lost tests or code violations. Fees are charged under the following circumstances:
 - a) Inspection fails the second time, especially if corrections from the first inspection are not corrected.
 - b) Not ready.
 - c) Locked.
 - d) No visible address
 - e) No permit on site.
 - f) No approved plans.
 - g) There are a lot of items to correct; don't do a punch list for the contractor.

Be more tolerant with home owners, they aren't contractors and usually need help.

MECHANICAL INSPECTION NOTES 1999

NOVEMBER 19, 1999

Administration

- 3) Use discretion in the wording of your inspection comments in the computer. Comments are public record, and read by contractors on the web site.
- 4) Call ahead requests. If you call during lunch and the person is out to lunch and you will not be able to stay in the area due to work load and/or scheduling conflicts ask them to reschedule. Make notes in the comments as to effort made to contact.
- 5) Be courteous. Treat your customer like you would want to be treated. They probably feel inconvenienced in the first place. "God complex?" - Don't develop one.
- 6) RBD will be buying back our building from the City.
- 7) Coffee and lunch breaks. You are expected to take them. Be discreet. You are easily recognizable in your uniform. There are people who are on the lookout for you to do something wrong.
- 8) During business hours, do not do anything related to outside work including phone calls, visits, and picking up anything in an RBD vehicle.

NOVEMBER 5, 1999

Administration

- 1) Give your enrollment forms to Bev by the Nov. 10.
- 2) RBD will add 7 inspectors, including 3 for the mechanical dept.
- 3) Utilities has discovered they have a number of meters on multi meter banks that are not labeled as to the correct apartment or condo. As a result we will require the meter stubs to have the apartment or condo number tags on them at the HI inspection. They also must be labeled exactly like the approved plans show and of course we will need to trace them all down to be sure they are labeled correctly. Some of the systems are medium pressure and must be labeled as such every 6 feet for the HI inspection.
- 4) Buried PE gas pipe requires a yellow 18 gage tracer wire to be buried in the ditch. Some contractors have tried to use a type of tracer tape as a substitute for the wire. This is not acceptable by code.
- 5) The 1999 PPRBC deleted an amendment that disallowed differing utilities to be located in the same ditch as gas piping. Consequently, you may see phone and electric in with gas pipe.
- 6) Private gas systems, usually propane, of 10 meters or more fall under the Public Utilities Commission rules. If you encounter any of these let Bob know so he can alert the Commission. Treat these as you would any other metered system with inspections from the meter in. Any other systems with multiple lines coming off the tank, inspect all the way to the tank.
- 7) New HRR inspection requests will begin soon, and first, probably on basement finishes. Basement finishes are not required to have additional return air but can be added. On older inspection cards that do not have the new HRR line sign off the HD and HV lines both.
- 8) Remember there will no longer be HC inspections called in on residents. When you complete both the HI and HRR inspections add in an HC inspection and release the meter.
- 9) Replacement water heaters are to be vented to the current code. This requires a 40,000 BTU heater to be vented with a 4 inch vent connector in most cases. Exception: The furnace is a draft hood type and the existing vent is in good shape. Why do the GAMA Tables require a 4 inch connector now when the Uniform Mechanical Code has always allowed a 3 inch? The 1987 Natural Gas Appliance Efficiency Act required appliances to be more efficient IE have fewer BTUs going out the vent at the roof. This was accomplished by slowing down the rate the flue gasses pass through the baffles in the heater core causing more BTUs to be expelled into the tank. Your first thought might be this would cause the flue gasses to be cooler and you would want to vent it with 3 inch so it would draw better. Not so, the 3 inch restricts the slower moving gasses even more, the 4 inch allows less restriction thus allowing a freer flow, ergo bigger is better.
- 10) Laundry rooms. The 97 UMC requires a minimum opening of 100 square inches for make up air be provided into any room containing a clothes dryer. There is no exception for size of room. If the laundry room is located above the mechanical room the opening may be in the floor but the mechanical room must have a fully louvered door just as if the dryer were in the same room. If the laundry has bi-fold doors and there is a large enough gap at the top, bottom or sides or a combination to satisfy the 100 square inches that would be acceptable.
- 11) Unit heaters. Watch for a new line of small unit heaters for residential garages. They have an option to be side vented but at that point they become a category III appliance and must be vented with B-1 venting material and slope to wards the outside.

OCTOBER 8, 1999

Administration

- 1) The floor drain for appliances only needs to be within 10 feet of the appliance in the same room. The 1999 PPRBC requires a water heater drain pan to be drained with a 1-1/4 inch pipe if the T&P drain from the water heater drains into the pan. If the contractor chooses to run the T&P drain separately down to an approved drain the pan drain may then be 3/4 inch.
- 2) Replacement inspections are not subject to current codes if not a life safety issue, ie. light, 110 volt outlet, distance from access, duct inspection. Remodels with replacements are subject to current codes.
- 3) The Mechanical Committee has approved counting kitchen sinks, tubs and /or showers as just 2 fixture units for the purpose of wet venting only but, still count as the 3 fixture units shown in the new UPC for drain sizing.

MECHANICAL INSPECTION NOTES 1999

OCTOBER 1, 1999

Administration

- 1) The 1997 codes go into effect on permits issued today, Oct. 1, 1999. Work for permits dated before Oct. 1, 1999, is subject to the 1991 codes. Watch for the residential rough inspections. After you complete the residential rough or the gas inspection (whichever one is last) order the gas meter by adding an HC inspection; there will no longer be a construction meter inspection called in for residences.
- 2) There are more than 4600 outstanding open permits most of which are retro fits. As they are called in, check the dates to verify the code enforced at the time the work was done, ie. double wall vent connectors, flexible vent connectors, etc.
- 3) We are now in charge of checking the clearance in front of the water closet, as well as the side, instead of the building inspectors. The minimum is 24 inches from the front of the water closet drawn in an arc around to the sides where it intersects with the side clearance. The 15" side clearance is to be measured at the seat level. Do not reject for obstacles that protrude into the space such as towel racks, toilet paper holders, etc.
- 4) Code awareness. There are some changes in the fixture units tables for pipes and plumbing fixtures. Most notable is the changing of tubs and/or tub/shower combos. They are now 3 fixture units which affects the wet venting criteria of the draining of a fixture with no more than 2 fixture units into a wet vented section.
- 5) RBD's policy is to do the inspection on the same day it is requested, even if that requires overtime. The 1982 employee hand book says nonmanagement personnel may be required to work to work overtime.
- 6) We are hiring 1 new inspector now. He will be an additional commercial mechanical inspector.
- 7) Les will not be doing any elevator inspections if the daily totals reach 22 or more inspections per day per inspector. If the numbers are close he will do some mechanical to help out and elevators.
- 8) If an appliance is off a bedroom or bath and the contractor opts to use the new combustion requirement of 1-square inch per 3,000 BTU out put of the appliance with a sealed, self closing door and there are existing combustion air grills to another part of the house, they do not need to be covered up unless they encroach in the 10 foot separation from the return air. If the room has existing high and low combustion air ducts to the outside that exceed the 1 to 3,000 minimum just shorten up the low duct.
- 9) A replacement furnace, water heater, and condensing unit or any combination of, are subject to a set permit fee. A furnace replacement and adding new A/C is considered a new installation and subject to a permit fee based on the cost of the job. The new condensing unit inspection includes the line sets, pad, and an electrical outlet within 25 feet. A replacement condensing unit is not required to have the electrical outlet.

SEPTEMBER 10, 1999

Administration

- 1) Bob thanked all the inspectors that attended the seminars and told them to enter the appropriate time on their time cards.
- 2) Rolf asked to be announced that: All inspectors with outside jobs should keep it that way. There should be no use of company time or equipment (phones, vehicles, etc.) for these outside jobs. Those with outside jobs that may be a conflict of interest are to talk to Rolf.
- 3) Water heaters larger than 200 MBH require gauges per the ASME Boiler Code. Do not enforce this as it is not part of our code but is the responsibility of the state boiler inspector.
- 4) Wafer caps are acceptable to cap of future plumbing roughs (basements) to complete plumbing finals.
- 5) Coil and condenser sizes should be matched. Coils with dimensions smaller than the furnace bonnet outlet are not permitted. Coils may be larger than the furnace outlet but must be properly transitioned and sealed to existing duct work.
- 6) Any room with a fully louvered door is not considered to be an "enclosed room."
- 7) Gama tables. Each tee on a "headered" vent system (double, triple, or more) shall count as a 10% reduction of the common vent BTU capacity as shown in the Gama tables. Example: Venting on horizontal left to right water heater-water heater-furnace would be a 20% reduction.
- 8) Bob passed out the letters that will used to control retrofit inspections.
- 9) Retro fit gas pipe to BBQ (Previously discussed). When inspecting added gas piping on existing homes that sometimes goes to a stub for a BBQ and it is oversized take into consideration that the BBQ and furnace will probably not be running at the same time. This is for retro fits only and does not apply to new construction.

SEPTEMBER 3, 1999

Administration

- 1) All traps must be under test for base and/or top out inspections. Exceptions: Bath tubs. Nonconcealed traps installed at finish.
- 2) Support of DWV piping on plumbing base.
 - a) No large single dirt clods or rocks.
 - b) Solid and continues support (break large clods up).
 - c) Rebar stakes with holey iron straps on 4 foot centers is allowed.
 - d) Mounded continuous runs of dirt are allowed if piping is strapped to prevent lateral movement.
- 3) The Mechanical Committee has approved Red Brass pipe and fittings for underground gas piping installations on retrofit gas log or fireplace installations entering the structure underground.
- 4) Inspections: Ready or not.
 - a) **Partial or possibly Reject.** Example: Plugged but no water or air (lost test) is "Ready with code infraction." Assign more partials than rejects. Partial = Few items but mostly Okay. Reject = Many or major items or not ready.
 - b) **Not ready = Trip Fee.** Example: No plugs and no test is "Not ready." Other examples: Multiple items, repeat items, recalled without fixing items is "Not ready."
- 5) Inspection comments written on the permit card and in the computer are clear and the same.
- 6) Provide a list to Bob each week of permits with rejects and/or partials so that continuous violations can be tracked and emphasized for upcoming meetings.

MECHANICAL INSPECTION NOTES 1999

AUGUST 20, 1999

Administration

- 1) Plans examiners. Ed left, and Mark's last day will be Friday, Aug. 27.
- 2) There won't be anyone in the office to answer the phones at lunch time until Jamie is more knowledgeable.
- 3) Green Mountain Galls and Manitou Springs have approved the adoption of the new codes.
- 4) Code Seminars are planned as follows: Mechanical: Sept. 7, 8 & 9, and Plumbing: Sept. 27, 28 & 29
- 5) Bob says "good job" on keeping notes on which appliances are installed on gas line inspections. Watch for range and dryer stubs. Be accurate. If there are discrepancies check with the inspector who did the HI inspection.
- 6) Test water lines with a 50# air test or working pressure. This applies to under slab piping as well. We are doing the outside water service line inspections in areas where the water purveyor does not do them, and of course well services. The general contractor may be the one calling for these inspections rather than the plumbing contractor.
- 7) Janitor or mop sinks are not allowed in restrooms. This includes ones with legs as well as floor mount. Only water closets, lavatories, and urinals are allowed. Access to the sink may be through the restroom.
- 8) Gas and fireplaces. The factory made fireplaces that are designed for wood but have a knock out for running gas pipe into them cannot be re-drilled. When gas piping is inserted into listed units it must be run through the predrilled knockout. Drilling an additional hole will void the listing. When a gas log insert with chimney liner is installed in an existing masonry fireplace the gas pipe may be run down the inside of the masonry chimney. If the installation is for gas logs only the pipe must enter at the lowest point possible. Drilling higher in the firebox does not appear to be specifically addressed by the code; however, it is our policy not to do accept such an installation.
- 9) Gas pipe inspections. It is not a code violation to have gas piping or fittings in a return air in an R-3 occupancy. The 1994 Pikes Peak Code does allow pipe in the return air plenum ceilings; however, it must be welded. The 1999 PPC will not carry that amendment so screwed pipe will be allowed in R/A plenum ceilings as written in the 1997 Uniform Mechanical Code. The new regulation for retrofit installations that requires an air test on any gas piping over 10 feet, more than 8 joints, or any part concealed is not in effect yet; however, stress to your contractors to start planning for it.
- 10) You should start seeing some commercial construction that has been approved to the 1997 codes. If the submittal date is after July 1, it should state that it has been checked to the new code. Some of the smaller jobs could possibly have been done as a "walk through" plan check and could still be under the 1991 codes. If unsure look it up on the computer.
- 11) Retro backflow preventers. The local 7-11 stores are installing new RPBFPs. These are being installed in areas where there are no floor drains. The funnels are going to be piped to the outside. Be sure they are not dumped on a sidewalk.
- 12) If you do any red tag follow up inspections do not pick up the tag. It is the contractor's responsibility to send it in. The gas shop accepts a sign off of a Mech.-4 or if a permit is pulled and completed.
- 13) T&P relief drains. The code states the terminal end of the drain line shall not be threaded. It is okay for it to be threaded at any other point.
- 14) The vinyl backing on insulation is combustible and requires the proper clearance from vents. This also applies to the foam insulation around refrigeration lines.
- 15) Steve is working on making the BDA program available in the field instead of the inspector program now being used. The F-8 button in the field inspector program does give you information on the contractors attached to the permit.

AUGUST 13, 1999

Administration

- 1) No one qualified to become a combination inspector has applied. Discussion ensued about the problem of being hired through a temp agency and the lack of benefits offered.
- 2) The problem of not being able to contact anyone in the office from 12:00 to 1:00 was brought up again.

AUGUST 6, 1999

Administration

- 1) The vinyl backing on insulation commonly used in basements by definition does not meet the requirement of item No. 1 for noncombustible material and must be removed to conform to the clearance requirements of appliance vents.
- 2) 1997 codes are expected to become effective Sept. 1, 1999.
- 3) For basement finishes that do not require a heating permit, check the vent clearances and combustion air and don't sign off the plumbing final if there is a problem.
- 4) Watch for the 10 foot separation between return air and appliance fire boxes and draft hoods when return air is in next room and there is a fully louvered door. Section 706(f) item 5 of 1991 UMC and Section 404.1, item 6 of the 1997 UMC.
- 5) Base inspections. If plumbing is buried in ground under crawl space, treat it as a base inspection including the requirement of testing the water line if it has a brazed joint. If not buried, treat as a top out inspection
- 6) When encountering dryers in mechanical rooms on replacement inspections, recommend installing a fully louvered door, thus solving the problem of combustion air and adhering to the code requirement of not having the dryer and appliances in the same enclosed space. If the owner opts to remove the door entirely, note as such in the inspection comments.
- 7) A bedroom is not defined by furniture; it is a room with a door, a closet and an egress window in newer homes. If there is no door to the room and it cannot be shut-off from the rest of the house, it is considered a family room.
- 8) If combustion air from inside, the water heater must have proper communication with a room large enough to satisfy the 50 cubic feet per 1,000 BTU combustion air requirement (250 sq. ft. For a 40,00 BTU). In order for the same area to be considered adequate for the furnace also, the room must have a supply register plus combustion air from the outside connected to the return air system.
- 9) A 40,000 BTU water heater replacement that is required to be vented with a 4 inch vent per the Gama tables may be vented with the existing 3 inch vent if the existing furnace is still a natural draft type *and* the existing vent and wye are in good shape. However, if the furnace is draft induced or the venting is deteriorated, the wye and vent connector must be brought up to meet the Gama table requirements. If the furnace is being replaced, the wye fitting must be changed to one with a 4 inch outlet for the future water heater replacement

MECHANICAL INSPECTION NOTES 1999

JULY 30, 1999

Administration

- 1) We will start reviewing the 1997 UMC at our meeting next week; bring your book and the PPRBC handouts.
- 2) We now have the option to use the L for locked on administratively closed permits. This will not reopen the permit. Use the locked feature on first time inspections with either open or administratively closed permits when no one is home. Do not use reject as that suggests an inspection was done and there were deficiencies. If not home on second trip, Trip Fee.
- 3) Six foot step ladders with chains and locks will be provided for residential rough inspections. Contractors are to provide access (ladders if needed) for final heat inspections.
- 4) LP drains are required on all basements with propane gas appliances whether they are a walk out type or not.
- 5) Do not accept 3 inch insert closet flanges. All fittings should be listed. The UPC listing is recognized but there are others such as NSF. Check the Installation Standards 5 and 9, Section 201.2 of the 97 UPC for marking requirements.

JULY 23, 1999

Administration

- 1) Inspectors reported mostly favorable results in calling retrofit contractors to report there were code violations.
- 2) Continue to call in your trip fees as soon as possible.
- 3) Get with 1 or 2 other people in the office and give them your code number to check your phone messages when you are gone. Your phone answering message has the ability to store three different messages. Make one of the messages saying you are on vacation or ill and will not be returning calls and that anyone calling you should call someone else. If this message is stored and you have not planned on being gone and did not activate this message then your phone buddy can do it for you. To record a second or third answering message go the same route as you do to retrieve messages but instead of pushing #2 push #3 and follow the directions to record a second message. This is the same path you follow to activate different messages.
- 4) Tub access. The electrical inspection department requires the access for them be 16" x 16" and allows the access panel to be tile on a board that is then caulked around to match the tile grout. Our department will check for same size and location so pump is accessible.
- 5) Shut-off valves for Fireplace insert gas supply. The Uniform Mechanical Code Interpretation Manual says "...the operating (shut-off) valve for a gas outlet in a masonry fireplace should be entirely outside the fireplace." Ergo a Jones type valve is required on insert fireplace units. However, it is also acceptable to have the shut-off behind the flip down door located underneath a lot of the units. We will begin enforcing this with the adoption of the new codes.
- 6) Code prohibits any gas piping from being installed on or under the ground under any building or structure. The interpretation manual describes a structure as having a roof. Gas piping may be installed under a patio as long as it does not have a roof over it and the area where the pipe exits the slab is left open for venting purposes. If installed under patio make note in comments that roof over patio is prohibited in future.
- 7) In areas where the meter is at the street and there is a long buried line to the structure, list the length, size and BTU load for which the pipe was sized in "comments."
- 8) Expansion tanks for water heaters are required if 1. Service pressure is higher than the pressure relief valve; 2. There is a valve in the service line prohibiting expansion back to the street. The expansion tank requirement can be waived by using a pressure relieving ballcock device.
- 9) Electrical disconnect at appliances. A replaceable fuse is not required by the NEC at the disconnect if the motor is thermally protected. Size of fuse is not an issue for our department.
- 10) Vent clearances: Even though dry wall can be used for fire stopping by definition it is considered a combustible material and must maintain required clearances to vents. Bob will research a question regarding the vinyl backed insulation used in unfinished basements.
- 11) Any gas burning appliances placed in a separate room off the garage with access *only* through the garage must have the pilots, burners, heating elements, or switches that can ignite flammable vapors placed 18 inches off the floor. If the room has access from the house as well, the appliances may sit on the floor. This does not apply to rooms with access to the outside and the garage.
- 12) A room with a louvered door opening into the rest of the house is not considered an enclosed room.
- 13) Bob is talking with T.R. in waste water about sprinkler BFP's installed without permits.

JULY 16, 1999

Administration

- 1) If you are injured on the job and do not receive hospital care, return to the office and fill out an injury report for workmen's comp. If a minor injury use your judgement whether to come in or report it the next day. Inform Bob in written detail.
- 2) Unvented room heaters are not allowed by code in any building. If they are encountered in a type R or I occupancy they cannot be considered existing nonconforming and must be removed.
- 3) Fireplace insert gas shut-off valves. Accessibility of these valves is up for discussion and will be continued at a later date.
- 4) We do not check for proper operation of gas appliances. The code only addresses proper installation.
- 5) 90% direct vent furnaces. Direct vent furnaces that pipe combustion air directly into the combustion chamber are not required to have a combustion air (outside) duct tied into the return air. This also applies to category 1 furnaces in a vented attic. In a large house with a split system any furnaces not in a vented attic or are not a direct vent type must have the outside air ducted to them. Don't forget to address the combustion air for the water heater.
- 6) If a manifold system utilizes both single wall and double wall connectors, use Table 4 for single wall connectors to size the common vent, it is the most restrictive. When sizing the connectors, use the table that corresponds to the material used.
- 7) It is not necessary for the tub or shower areas to have the tile installed around them for a plumbing final.
- 8) Crawl space furnace and/or water heater access. Check the maximum distance from access door of 20' minimum access opening of 30" x 30", light with switch at the entrance, 110 volt receptacle, and 30" working space in front of the appliance.

MECHANICAL INSPECTION NOTES 1999

JULY 16, 1999

Administration *(Continued from previous page)*

- 9) Attic furnace access. The heating contractor is required to provide a ladder to the attic for the heat final. It is OK for the inspector to take his ladder in at the rough inspection. PPRBC Section 16-4-102: "It shall be the responsibility of the permit holder to request all required inspections at the appropriate times. It shall be the duty of the person requesting inspections regulated by this code to provide access to and means for proper inspections."
- 10) Bob took orders for step ladders.
- 11) Employees are responsible for replacing lost phones and computers.

JUNE 25, 1999

Administration

- 1) Plans will be checked to the 97 codes beginning July 1.
- 2) January through May inspections averaged 236 per day. First 3 weeks in June averaged 250 per day.
- 3) Any pertinent letters for jobs need to go to Bob and then, to Dave L. to be scanned so they can be put in the permit file. Put the permit number on any letters or literature.
- 4) Try to accommodate AM or PM requests if you can. When unable to so due to heavy work load or scheduling call contractor or homeowner and let them know. Ask if OK to do earlier or later, if not reschedule.
- 5) Definition of a bedroom for retrofit inspections: Must be an enclosed room not freely communicating with rest of home, has a closet, and has an egress window (in newer homes). Furniture does not define a room use. A bedroom without a bed is still a bedroom. A rec room with a bed is still a rec room. If a rec room is being used for a bedroom make a note in inspection comments but do not reject.
- 6) Gas lines under patio slabs. For the time being allow installations with a block out at the riser penetration of the slab for ventilation.
- 7) Jim Vernon passed out some guide sheets for proper expansion tank sizing.
- 8) Grease and sand/oil interceptors. Currently the only waste water department that is taking responsibility for the inspections of interceptors is Colorado Springs. Continue to inspect all others.
- 9) Inform Bob about any time requested off or changes before entering it into the public calendar.
- 10) Inform Bob of any shower stall that is smaller than the code allows and has an IAPMO sticker.
- 11) Unvented room heaters and/or fireplaces are neither allowed in any building nor allowed to exist in any I or R occupancy. If discovered, note in inspection comments and report it to Bob.
- 12) Retrofit inspections. When something is wrong with the installation and the homeowner requests an explanation, use laymen terms, discretion, and avoid unnecessary details. Inform them if this is a life safety issue.
- 13) For the next two weeks, please call the contractor on the homeowner's phone if an inspection does not pass. The goal is to encourage the contractor to make immediate arrangements with the homeowner for corrections.
- 14) It has been reported that some H= inspections are showing up with builders ID number instead of the heating contractors.
- 15) DO NOT DOWNLOAD UNTIL A FEW MINUTES AFTER 8:30 AM if someone has been on hold since before 8:30, the administrative assistants are entering those requests shortly after 8:30.

JUNE 18, 1999

Administration

- 1) When you want days off, e-mail Bob to verify or it will not count. As previously stated, public calendar schedules are accepted as of 3/27/99 up to 9/1/99. Any changes must be verified.
- 2) Sign the permit cards. If it is not on the job or is wet put a note in the inspection comments.
- 3) If the stand pipe is close to full go ahead and pass the inspection. It is not policy to require an air test on rainy/wet days.
- 4) Be prepared for some backwater valve inspections on the West side. If you do any of these inspections be sure they do not try to put the fixtures that are above the next upstream man hole on the valve just like you do not put fixtures on the upper floors on an ejector pit. The code requirement for back water valves as written in the 1997 UPC will be deleted by the 1997 PPC.
- 5) Closet flanges are required to be on at the time of the top out inspections. This includes basement finishes.
- 6) Retrofit gas line inspections. Any add on gas pipe installations that are OVER 10 FEET-MORE THAN 8 JOINTS-ANY PART CONCEALED must have a 10 pound air test on the gage when the inspector arrives. If the installation is UNDER 10 FEET-LESS THAN 8 JOINTS-NOT CONCEALED then the inspection can be done by sniffing the pipe and joints with the Tiffs. The recommended procedure for testing is to put a shutoff immediately after the tie in to the main gas line and a gage on the flex connector after the appliance shut off. The inspector can then sniff (with the tiff) the tee at the tie in.
- 7) You as an inspector can allow exceptions if you are comfortable with the installation. When an exception is made, inform the contractor it is a "one time only" exception; it is not a policy change.

MAY 28, 1999

Administration

- 1) The Mechanical Committee approved existing water heaters being replaced with 40,000 BTU heaters and may be vented using the original 3" connector and venting system providing: The furnace is also a hood type, *and* the existing vent is undamaged. If the vent needs to be replaced then it must be brought up to the current code requirements. If the furnace is being replaced and the existing water heater is vented with 3" - the water heater connector may remain as is but the wye at the common vent must be changed to accommodate a 4" branch for a possible future water heater change out. The vent connector for the replacement furnace must comply with the Gama tables
- 2) Bob will be on vacation June 1-11. Kye will be filling in during the duration. Jim Vernon will be in office to help with plans.
- 3) The Mechanical Committee has approved the new code. *(Continued next page)*

MECHANICAL INSPECTION NOTES 1999

MAY 28, 1999

Administration (Continued from previous page)

- 4) Gas pipe testing. The current policy, and as written in the new PPRBC, for adding gas pipe to existing systems for new appliances allows inspectors to waive the air test and sniff the joints only if all new pipe and fittings are exposed, and there are 8 or fewer joints, and the developed length is 10 feet or less.
- 5) Dormont series 30 stainless steel flex gas connectors. If you see these in the field, the installer is supposed to leave a sheet there or sometimes the same info is on a tag on the connector.
- 6) Vent increasing. On appliances that have a smaller diameter collar than the Gama table requires, the proper procedure is to put an increaser on immediately at the appliance and then run the required size vent or connector.
- 7) A crawl space with insulated walls is a "conditioned space" in regards to whether a vent should be single or double wall.
- 8) RBD has received requests for variances for less than the required 15-inch clear space center to sides for water closets. We need to catch these at the "rough in" stage rather than final inspection. Check also for proper front clearance.
- 9) Call ahead inspections. The call ahead service we provide will be limited to when a homeowner is at a different location than the inspection site and needs time, limited to 30 minutes, to meet with the inspector to allow access. Contractors may utilize this service when it's access to an occupied residence.

MAY 21, 1999

Administration

- 1) Keep on contractors for readable addresses. An inspector not familiar with your area will be able to find inspections better.
- 2) The upcoming code update seminars are not mandatory. You will however be personally responsible for knowing the codes and we will not have the time to cover all the new material in our weekly classes. You will be paid overtime for attending. The seminars will be held at the county auditorium by the license bureau at 5:30 or 6:00 June 15, 16, 17, 18, 22, 23, 24, 25. . Dates and times are tentative. The seminars will begin with administrative codes, licensing and permits to the PPRBC amendments and the new codes in the 1997 Uniform Mechanical Code. One of the new inspections will be hydronic piping testing for residential and commercial.
- 3) Matt Johnston will be here full time starting May 24, and will be here in the mornings to help with lap top problems.
- 4) Everyone will be getting the new tough book lap tops.
- 5) Rolf has declared June, July, and August as "no tie" season for office personnel and inspectors.
- 6) Sign the permit cards when doing inspections.
- 7) Remember to call in your trip fees ASAP and reject the inspection with the comment trip fee called in.
- 8) PR person to handle the news media - Refer any calls or questions from news media to Leslie (phone 327-2977).
- 9) The Building Commission approved funding for two new inspectors in our department.
- 10) Construction meters. Watch for heating contractors putting the bulb type thermostats in the blower compartment of furnaces. Mountain Air is one of the contractors.
- 11) Kye will be checking plans and other office work; when available he will fill in for inspectors in the field.
- 12) Furnace filters are going to be required for H= in the new 97 code book. Start looking for them now and let the contractors know if they are missing but do not turn down the inspection yet.
- 13) A Certificate of Occupancy (CO) will be required for residential dwellings in the new PPRBC. The utility department is not going to transfer gas utility bills to homeowners from the contractors without the CO.
- 14) Proposed new construction meter procedure. HC inspections will not be scheduled when the new codes go into effect. There will only be Residential rough and gas inspections. When either of these inspections is the last one to be done the inspector is to enter a construction meter request at that time. It will no longer be necessary to check for a stat, 110 voltage, or vent connectors just that the gas is either connected to the appliance or capped off after the shutoff.
- 15) Floor drains are required in garage locations. The new PPRBC will require the floor drains to be within 10 feet of the appliances instead of 3 feet.
- 16) Check the manufacturer's installation sheets for each appliance; manufacturers differ despite similar appliances.
- 17) There are no listed dresser couplings available for connections of plastic fusion pipe to steel for underground gas pipe. There is a metal coupling that must be taped or painted for underground installation, also must have a wire jumper.

MAY 14, 1999

Administration

- 1) Remember to keep your phones on till 4:00.
- 2) Pass 32x32 showers that have been approved but, tell the contractors they will not be allowed on the next job. Verify installation by the approved plans; if master plans show smaller than 34x34 the plans must be revised.
- 3) The common vented section of the manifold including the wye must be double wall even on two draft type appliances.
- 4) Tell the contractors to post the addresses.
- 5) 40,000 BTU water heaters. Retrofit water heaters that are required by the Gama tables to be vented with 4" must be done so even if it means changing the wye at the common vent.
- 6) Old permits that are administratively closed will show as "Trip fee if not complete" on your printout.
- 7) If any portion of a wet vent is run on the horizontal, the entire vent is considered a horizontal wet vent for sizing purposes.
- 8) HV inspections. Size the vent connectors on a rough vent inspection *only* when there appears to be a sizing problem.
- 9) The new 1 to 3,000 combustion systems allowed are to be ducted directly to the outside. This sizing criteria is a minimum, so it is okay for the duct to be larger. This is strictly for installations with access only through a bedroom or bathroom.
- 10) Heat finals - check for adequate accessibility for filter removal.

MECHANICAL INSPECTION NOTES 1999

MAY 7, 1999

Administration

- 1) Mechanical Committee is reviewing an idea to allow contractors to validate code compliance of furnace and water heater retrofit installations as a possible solution of contractors scheduling RBD inspections with homeowners.
- 2) The listing for the Fernco bands only allows the plain unshielded bands to be used underground. We have allowed them to be used at the floor level on the vertical transition from ABS to PVC pipe.
- 3) Remind contractors that nail plates are required on the rough when new code is adopted.
- 4) Gas line inspections - list appliances on HI inspections.
- 5) Condensate lines. Remember both the overflow and regular condensate lines from attic furnaces in residences can be run to the floor drain by the water heater.
- 6) The test on a PTO DWV inspection must be up to and through the last group of fittings.
- 7) Before the construction meter can be ordered all the outlets on the gas line must either be hooked up to the appliance or capped off after the shut-offs and the opening in the vent for the water heater must be capped.
- 8) Crawl space floor drains. New homes with appliances in the crawl space must have a floor drain with a back water device.
- 9) Gamma Table note. The common vented manifold sections including the wyes must be double wall.
- 10) Bob will discuss with contractors the report that 40 gallon water heaters will be rated 40,000 BTUs which will affect the retrofits with 3" connectors.

APRIL 27, 1999

Administration

1. Yard sprinklers. The staff rejected the idea of 2 cards for sprinklers permits.
- 2) Steve is working on updating our laptops so we will be able to look up addresses to check for permits.
- 3) All structures in El Paso County are to have a building permit with the exception of public funded schools.
- 4) When you will be gone for 1 or more days, make arrangements for someone to check your messages as Rolf does not want these calls to go unanswered. Set up a second phone message stating you are off and activate it when gone.
- 5) Watch for permits that are rough in only, such as shell permits. When the rough is finished put in a final to close permit.
- 6) Venting information:
 - a) Selkirk is a true double wall connector.
 - b) Do not take any reductions for the flex connector.
 - c) If one of the appliances on the manifold uses single wall connector, Table 3 must be used for sizing the common vent.
 - d) If the flex connector is bent in a 90 degree angle, count that as an elbow in the connector.
 - e) Corrugated chimney liner can run from the chimney to the appliance as a flex connector.
- 7) CSST and fireplace connectors. If within 3 feet of the appliance gas valve, the gas supply may be sized per the gas flex connector table. You may see the smaller sizes of CSST wound around into the fireplaces.
- 8) Range and dryer connectors. Can the gas line to a range or dryer be reduced if it is within the allowable 6 foot connector length? No for these applications the gas branch line must be run full sized up through the floor and then reduced.
10. Discussion of insulation of duct and fittings in attic. Jim Vernon said that it would be difficult to enforce the amount of insulation required around the register boots. In discussion, it was questioned whether the blown insulation in the attic would suffice, however, vaulted ceilings are insulated with batts. Bob responded that if the flex duct was pulled down on the boot as far as possible it might be acceptable. Inspectors should also be alert to proper insulation of ducts run into cantilevers. Bob suggested treating them as traps and water lines with the run placed up as high as possible with the insulation placed underneath.

APRIL 20, 1999

Administration

- 1) Concentric fireplace vents. Fireplace manufacturer specs are different from UMC. Some triple wall (concentric) pipe will have 0 clearance and possibly different termination requirements. Rely on manufactures instructions.
- 2) Sprinkler info. Research continues on working together with the Water Department to solve the problem of sprinklers being installed without permits. A possible suggestion is a notice on the home owners water bill.
- 3) CSST/black pipe - On mixed types of gas piping be sure to size as CSST back to meter.
- 4) Residential duct inspections: Watch for a lack of insulation in attics primarily boots and wyes. Also required for plenums on attic furnaces.
- 5) LP drains. Section 504(f) UMC does not address the difference between a first floor story versus a basement. It only prohibits LP appliances in any area where heavier than air gas can collect. A basement that fits into the first story category in the UBC can still be considered a pit like area. Walk out doors with a floor level sill will require an LP drain.
- 6) H= or HC.
 - a) Stat must be wired to the furnace not just hung and wired in hall.
 - b) If the HC is requested without all windows or doors in, order meter. The Gas Depart. will decide whether to set meter.
- 7) Watch for rated doors on closets holding water heaters accessed through garage. If rated door not used then the vent and combustion air must be chased to roof or outside wall if penetrating the house.
- 8) Shower stalls. If IAPMO stickered it's probably okay; 32 x 32 is not acceptable.
- 9) We do not do an inspection on the shower pan material but do check the shower drain to be sure it has weep holes.

MECHANICAL INSPECTION NOTES 1999

APRIL 13, 1999

Administration

- 1) If called back to inspect an Administratively Closed permit and work remains incomplete, assess a trip fee - no partials.
- 2) New orange cards will be used as partial sign off for jobs in phases or partials; then complete yellow card.
- 3) Policy for offering and requesting help with inspection loads:
 - a) Before you leave with your inspections in the mornings be sure there are no inspections remaining in anyone's screen who will not be doing inspections that day.
 - b) If your area borders an area that does not have an inspector for the day, take those inspections.
 - c) If you are overloaded with inspections, help is to be provided by the inspector in the adjacent area.
- 4) Pool permits: Problems are arising with apartment, hotel, and motel pools. If you are called to do an inspection in a building that would include the pool equipment, i.e. clubhouse, leasing office etc. and the approved plans state "pool and equipment by others", check to see if there has been a separate permit pulled for the pool. If no permit has been issued for the pool, do not do any inspections on that building until a permit is obtained.
- 5) Do not delay plumbing final inspection sign offs when there is no water meter until new code is effective.
- 6) Building finals will not be entered into the computer until plumbing and heating finals are complete.
- 7) Modular homes on permanent foundations are to be permitted as R-3s not as an HT. If you go on an inspection shown as a mobile home, but is actually a modular, reject it until the permit is straightened out.
- 8) Placement of permit and plans is at the main entrance to the job or in the job trailer.
- 9) Contractor provides proof to Rolf that a government job is under the state's jurisdiction and not RBD.
- 10) Adjustable B-vent sleeves. Install to manufactures specs with the stove bolt not screws with the seam straight. The manufacturer does not recommend using them in a series but does not prohibit it. If they are used in a series then each one must be supported individually.
- 11) Sprinklers without permits. It was suggested we ask the water department to pull the water meter from any home that has sprinklers installed without permit and no effort has been made to obtain a permit. Another suggestion was made for an amendment to the PPRBC to require future sprinkler stubs and the backflow preventer installed at the time of new construction.

APRIL 6, 1999

Administration

- 1) E-mail or personally see Bob when requesting time off so he can put it on his calender; be sure to get confirmation he received your mail.
- 2) Duct and vent inspections for condominiums and townhomes, R-3 Single family dwellings without stacked units, are the responsibility of the inspector of the area, not the commercial heating inspector. As of now John W. will get the heating inspection requests and if he determines it fits the criteria, the inspection will be RBD's responsibility.
- 3) A suggestion was made that projects with multiple buildings be issued a separate permit card for each one.
- 4) Horizontal fireplace vent update. The ANSI Standard does not require fireplace vents to be graded. They may be run flat, but not back graded.
- 5) Foundation only permits. Do not do any plumbing base inspections with plans and permit marked foundation only. Exception: If special approval is given by the front office and plans contain a plumbing sheet that is stamped approved.
- 6) Use your timer to determine accurate inspection time. Push F2 when going in for the inspection and then F12 when done. If the clock box says stop clock in Green Letters that means the clock is running. The box should really say To Stop Clock.
- 7) When an inspection requires a trip fee, promptly call the office so it can entered. Eventually Steve will have it set up where the trip fee uploaded in the AM will over ride any requests made the day before.
- 8) Underground stop and waste. Drain down yard hydrants are prohibited. Sec.1002 (A) UPC
- 9) Chipped fixtures. Do not reject plumbing finals for chipped fixtures but do note in comments and on cards.
- 10) Air admittance valves. Do not allow on ejector pits, that includes the small under sink type as they are not approved for such installations
- 11) Uniform budget. Rolf says we are over budget for uniform costs so do not order anything new until next fall.
- 12) Stainless steel venting. Always rely on the manufacturer's installation guides.
- 13) Pipe stub outs on base inspections. The code calls for the building drain to be run out two feet from the building before it becomes the building sewer and can be run in S&D pipe. However, sometimes it is merely stubbed under the footer and the sewer contractor has to run some schedule 40 pipe out to his S&D. This will be discussed again in the future.