BUILDING DIVISION PLAN CHECK NOTE

From: Building Plan Check

PCN #28
Date: 09-02-10

Subject: Information on Plans for AHSRAE 62.2 compliance

Code reference:
2008 Title 24, part 6, 150(o) and 152(a) exception 5, 2007 ASHRAE 62.2

Purpose:
Describe the minimum information required to be on the plans.

Background:
To maintain minimum indoor air quality for residential structures 3 stories or less in height, the 2008 California Energy Efficiency Standards require new residential structures, and those with additions of 1000 sq ft or larger, to comply with ASHRAE 62.2-2007, "Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings." The mandatory checklist, MF-1R, includes this reference, but does not itemize the requirements. The ASHRAE standards are a separate document not owned by all designers, but the Residential Compliance Manual has an extensive discussion on this subject in section 4.6, available at http://www.energy.ca.gov/title24/2008standards/residential_manual.html

Findings:
As a minimum, the plans shall provide in a conspicuous location, a set of notes titled as "ASHRAE 62.2 compliance" addressing the following categories.

A. Whole building ventilation
There are several compliance methods, which are combinations of continuous, intermittent, supply, and/or exhaust, fans. The plans must identify which method is used, and the location of the fan used to comply with this requirement.

1. **Continuously operating fan**. This can be located in any room. The location shall be shown on the plan and identified as continuously operating. The minimum flow rate in cfm shall be specified, meeting:

Floor Area (sq ft)	Bedrooms 2-3	4-5	6-7	>7
1500-3000	60	75	90	105
3001-4500	60	75	105	120
4500-6000	90	105	120	135

2. **Intermittent fan.** The fan size shall be increased. The plan shall specify the duration and frequency of operation. See the residential manual for tables and formulas.

3. **Supply fan**
   Same as 1 and 2 above, but pumping air into the house.
4. **HVAC**
   A central forced air system designed to draw outside air. For this approach, the design will be reviewed in the field. The plans need to identify the frequency of operation.

B. Local Exhaust

The kitchen, all utility rooms, and each room with a water closet must be provided with a local exhaust fan even if there are operable windows.

1. **Kitchen exhaust**
   An exhaust fan providing 5 air changes per hour is required. The kitchen hood can be used to meet this requirement, but must be ducted to the outside. Identify a hood on the plans and specify that it is ducted to the exterior.
2. **Utility exhaust**
   Not required if there is a dryer in the room, see C2.
3. **Bathroom exhaust**
   Show on the plans all bathroom exhaust fans and size. They must be 20 cfm minimum.

C. Miscellaneous

1. **Make up air**
   Buildings with gravity appliances such as water heaters, furnaces, gas fireplace inserts, etc, within the conditioned envelope must provide make up air if the combined exhaust rate of the two largest exhaust fans (including clothes dryers and kitchen hoods) exceeds 15 cfm/100 sq ft. Identify on the plans if appliances are direct vent or gravity and show the location on the plans. If this requirement applies, indicate that make up air is required.
2. **Clothes dryers**
   Dryer must be vented to the exterior
3. **Filtration**
   For central forced air HVAC systems, specify a minimum MERV 6 filter, sized for a maximum pressure drop of 0.1" water column
4. **Sound rating**
   a. Continuously operating fans must have a sone rating of 1.0 or less.
   b. Intermittent fans 400 cfm or les must have a sone rating of 3.0 or less.
   Note: Sound ratings do not apply to in-line fans with more than 4' of duct to the intake grill
5. **Controls and Labeling**
   Instructions on the proper operation shall be provided and all controls labeled (unless the operation is obvious).

Important information:

The above information is only for approval of the plans for single family homes. Although the requirements are the same for multi-family 3 stories and less, a full mechanical plan check is performed. The mechanical design aspects will be reviewed in the field for single family homes.