

BUILDING DIVISION

PLAN CHECK NOTE

From: Building Plan Check

PCN #21
Effective: 9-23-2008
Revised: 1-1-2014

Subject: Clarifications for buildings containing courts and yards

Reference: CBC 702, 705.3, 706.5.1, 1019.4, 1026.5, 1027.4.2, 1022.7, 1203.4.3, 1206, ICC300 310.2, and ANSI/ASHRAE Std 62.1-2010.

Purpose: To provide direction to architects and plan review staff regarding construction requirements for buildings containing yards or courts bounded by at least two walls.

Background:

1. Fire protection

Section 705.3 specifies that an imaginary line must be located when there is more than one building on the same lot, unless they can be analyzed as one building. There is no code section that requires that an imaginary line be placed within a court formed by the same building.

2. Exiting

Several code sections, all related to exiting, have specific minimum dimensions as follows:

- a. Bleachers to an adjacent building, 10 feet. ICC300-2007 310.2.
- b. Exterior balconies, 10 feet. CBC 1019.4
- c. Exterior stairways and ramps, 10 feet. CBC 1026.5
- d. Exit enclosure walls to unprotected openings, 10 feet. CBC 1022.7
- e. Egress courts, 10 feet min, CBC 1027.4.2

3. Ventilation for parking structures

Although CBC 406.5.2 and footnote 3 to CMC table 4-4 describe the required open area of the building for natural ventilation of parking garages, they do not address the dimensions of a yard or court from which the ventilation would be drawn except where required openings are below grade. CBC 1206 describes the minimum dimensions of a yard or court required to achieve natural ventilation, but is referenced in CBC 1203.4.3, not 1203.4.2, which addressed ventilation of contaminants, such as those produced by motor vehicles. This section refers to the Mechanical and Fire codes.

Findings:

The code assumes the safety of exiting components will be tenable from smoke by requiring a 10 feet distance. This will provide the time needed for the occupants to safely exit the building. To minimize the conflagration hazard, the code provides specific requirements. Where the code is silent, the following shall apply:

1. Where the occupancies at both side of the court are required to be separated per CBC Section 508 or per CBC Section 402, an imaginary line is required to determine the fire separation distance. Exterior wall construction and opening protection shall be determined per CBC Section 602 and 705.8 based on the fire separation distance to this imaginary line. The rating can be provided on one or both walls, and need not exceed the separation required per CBC table 508.4.
2. Where a Fire Wall designed per CBC Section 706 intersects a court wall, an imaginary line shall connect and extend outward only for the purposes of determining the maximum opening area per CBC Section 705.8 within the 4 feet area of Section 706.5.1. Use of the imaginary lines for both wall and opening areas could be reviewed through an AMMC application process.
3. Where exception 4 to CBC Section 1026.6 is used, the opening required by item 4.4 shall not be open to more than the upper most two floors. Any opening through additional floors shall require a smoke tenability study. Other openings to this open area are generally not allowed; however, an AMMC can be submitted for review by the committee on a case by case basis for court sizes significantly larger than those required by item 4.5.
4. Where an exterior exit (exterior stair, exterior ramp, egress balcony, or opening in a corridor) is located less than 10 feet to the wall of the same building as may occur in a court, the exterior walls shall be at least 1-hour fire rated construction and the openings shall be $\frac{3}{4}$ hour rated. Additionally, when the path of egress continues from an exterior exit through an exit court of a width less than 10 feet wide, the wall construction and opening protectives shall be based on CBC Section 1027.4.2.
5. The width of courts used for exit components shall be wide enough to prevent the accumulation of smoke. As a minimum, they must be wide enough to meet CBC Section 1206.3. For courts over 6 stories tall bounded on all sides, a smoke tenability study is required to show that stratification will not occur.
6. Where an above-grade open parking garage is adjacent to a court bounded by walls on three or more sides, the court width shall be one and one-half times the height of the court, or 20 feet, whichever is smaller. Smaller court sizes could be reviewed through an AMMC application process for the compliance with CBC Section 1203.4.2 to remove contaminants in naturally ventilated spaces. Pollution dilution calculations by a licensed Mechanical Engineer is required as part of AMMC application to show compliance with ANSI/ASHRAE Std 62.1-2010.

For questions or comments about any of the above items please contact your Plan Check Engineer.