

**BUILDING CODES & STANDARDS DIVISION**

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TTY: 651-627-3529

May 23, 2005

Mr. Frank Martin  
Building Official  
City of Inver Grove Heights  
8150 Barbara Avenue  
Inver Grove heights, MN 55101-2181

**RE: BCSD Staff Opinion – Sampson Hanger Code Review**

Mr. Martin:

This letter is in response to your request for a staff opinion on a number of code issues relating to the Sampson Hanger plans/project in Inver Grove Heights. Building Codes and Standards Division (BCSD) plan review staff reviewed the plans as submitted with regards to the five code interpretation questions you asked in your letter (copy attached). Our opinions on each are referenced herein:

**Question 1 relating to the required occupancy separation location:** The required fire-resistive rated stair enclosure serves the second floor of the Group B occupancy. As a *separated use design* (Group S-1/B occupancy), BCSD staff concurs with your position that the required 2-hour occupancy separation (fire barrier) be installed so that the stair enclosure is on the Group B side of the 2-hour occupancy separation. The required 2-hour separation must be on the hanger side off the stair enclosure so that the required occupancy separation assures for the required protection of the Group B occupants from the higher hazard Group S-1 condition.

**Question 2 relating to the required air test of drain waste and vent piping:** Section 4715.2800 of the 2003 Minnesota Plumbing Codes states in part "...all piping shall be tested and after the plumbing fixtures have been set, and before the system is put into use, the system shall be given a final inspection and test by the proper administrative authority....." You, as the designated Building Official, are the proper administrative authority; therefore it is you who makes the call on whether or not you want to require or waive certain testing or inspections. Section 4715.2820 also states in part that ".....air shall be forced into the system until there is a uniform pressure of five pounds per square inch on the portion of the system being tested....." This same code section also goes on to identify those conditions where a test is not or may not be required (exempt conditions). It does not exempt floor drain waste lines or flammable waste or sand traps from air test requirements. Those elements all require the same five-pound per square inch air pressure test. (I also verified this with one of the State Plumbing Inspectors. He supported your application of the testing procedures for the flammable waste trap.)

This information can be provided to you in alternative formats (Braille, large print or audio tape).

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**Question 3 relating to the orientation of gypsum board in a fire-resistive rated assembly:** Generally, when a designer fails to properly identify a tested/listed fire-resistive rated assembly on the contract documents, plan reviewers and inspectors will apply the generic fire-resistive rated assembly requirements of IBC Table 719 for proper installation conditions and requirements. These generic tables (which provide details of tested and rated fire assemblies) must be used and installed exactly as identified in the code. If the specific assembly used identifies that the gypsum board is to be installed horizontally, it must be installed exactly that way. If a designer identifies a proprietary assembly on the plan (as required by IBC section 703.2), such as a Gypsum Association or Underwriters Laboratory fire-resistive listed assembly, not only do you install the assembly exactly as identified, you must also use the exact materials as referenced in the assembly. In your case, if the assembly used/referenced requires the gypsum board to be installed horizontally and it was installed vertically, they either need to correct the installation, or they need to specifically identify a new system that allows for a vertical installation.

**Question 4 relating to the proper design and installation of a required exit enclosure:** When a stair enclosure is used/required (pursuant to IBC section 1005.3), the required fire-resistance rating of the stair shaft and the stair enclosure extension to an exterior exit door must be maintained and/or continued to the exterior exit door (see IBC section 1005.1). Under the exit passageway provisions of IBC section 1005.3.3, an exit passageway (from the stair enclosure to the exterior exit door) would be required to be 1-hour fire-resistive rated. Openings into the passageway would be required to be protected with 60-minute rated opening protectives. Ducts, conduits, or other miscellaneous piping may not be installed within or through exit passageway. Furthermore, there can be no openings into the passageway from spaces that are not normally occupied (i.e., restrooms, storage rooms, janitors closets, etc.). In this specific case, the hallway that leads from the stair enclosure to the north exit must be redesigned as an exit passageway per code.

**Question 5 relating to other/multiple tenants occupying the building:** The plans that were submitted seem to imply that there is only one tenant in the Group B occupancy portion of the building. We are assuming this is the case. If other tenants are introduced to the building, some of the immediate concerns that would need to be addressed are: 1) each tenant must be capable of exiting the building without discharging through another's tenant space (IBC Section 1004.2.3 & 1004.2.3.1); 2) access to public restrooms must be available at all times to each tenant – without passing into or through another tenant space (IBC section 2902.6); 3) depending on the occupant load, tenants on the second floor may be required to have access to two (separate) means of egress – without passing through another tenant space (IBC section 1004.2.3, 1004.2.3.1 and 1005.2.1). If separate tenants are expected, the applicant needs to address each of these issues for further plan review and compliance verification.

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In conclusion, comments contained in this letter represent consensus opinion from plan review staff at the Building Codes and Standards Division. Each of the aforementioned comments has been based on the building plans and design concept that was submitted with your request. If the design concept changes, some of these conditions or requirements will also vary.

I hope I have provided you with some insight on these conditions. If not, or if you have further questions or comments, feel free to contact me at 651-205-4712. Thank you.

Sincerely,  
**BUILDING CODES AND STANDARDS DIVISION**

Paul Heimkes  
Building Code Representative, Sr.  
SE MN Regional Building Official

attachment

CC: Scott McLellan, Supervisor, Plan Review & Regional Services Section