



Municipality of Anchorage



Handout P.02

Roof Overflow Drains

There have been questions regarding whether or not overflow drains were required in the Anchorage area. Overflow drains or scuppers have always been required in the Anchorage inspection area.

2003 Uniform Plumbing Code, Section 1101.11, titled Roof Drainage, covers the general requirements for roof drains, overflow drains and scuppers. Section 1101.11.2.2 states as follows: "where secondary roof drainage is provided by means of roof drains or stand pipes, the secondary system shall be separate from the primary system and shall discharge independently at grade or other approved point of discharge." However, there have been no major problems with the design and installation of overflow drains the way they have been installed in the Anchorage area over the past years. The intent of the Uniform Plumbing Code is to require a separate independent drain system for overflow drains from roof to storm drain.

The main concern is the structural integrity of the roof system. The potential blockage or back-up of roof drainage usually results from one of the following:

1. Overloading the roof as a result of an excessive rate of rainfall.
2. Leaves or debris blocking roof drains or piping.
3. Freezing roof drain(s) or piping exterior to building.

Items 1 and 2 above have not been a problem for the following reasons:

1. The maximum hourly rate of rainfall in the Anchorage is approximately 0.6 inch.
2. Leaves and debris are normally not a problem in Alaska plus the dome strainer prevent entry into the piping system. If, by chance, both the main and overflow drains become blocked, the drainage piping is not a contributing factor to this problem. Note that horizontal piping must be 3 inch minimum diameter.

The primary concern in the Anchorage area and previous problems with roof drainage systems have resulted from freezing of roof drains or drainage piping exterior to the building. The piping within the building is usually not a cause in either case. The problem of roof drain freeze-up is normally solved by heat loss through the roof or installation of electric heat trace cables, depending upon the type roof and conditions. The building connection to the utility can also be insulated and heat traced; however, the possibility of service line or utility freeze-up still exists.

The cost of an independent or separate overflow drainage system within the building is very significant. The additional cost is not justified in the Anchorage area in order to meet the intent of the Codes.

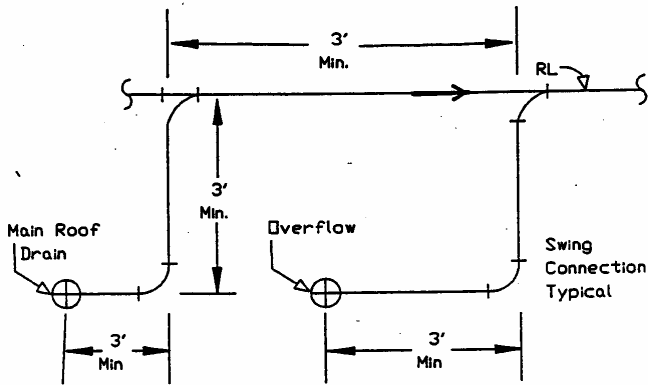
Building Safety will not approve roof drain systems without an appropriately designed overflow drain or scupper system. Overflow drains will be permitted to be installed and tied back into the original drain line no less than 3 feet downstream from the roof drain or drains. See Detail "A". When this option is selected, an overflow line must be installed in the drain line and run to the exterior of the building above grade to allow sheet flow from drain line to surface in case of below-grade freeze up of main drain line or storm main. For approved installation methods in case of system blockage protection see Details "B", "C", or "D".

Ron Thompson, Building Official

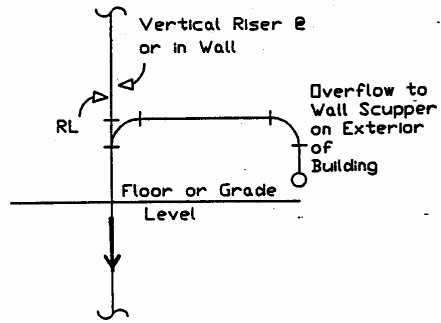
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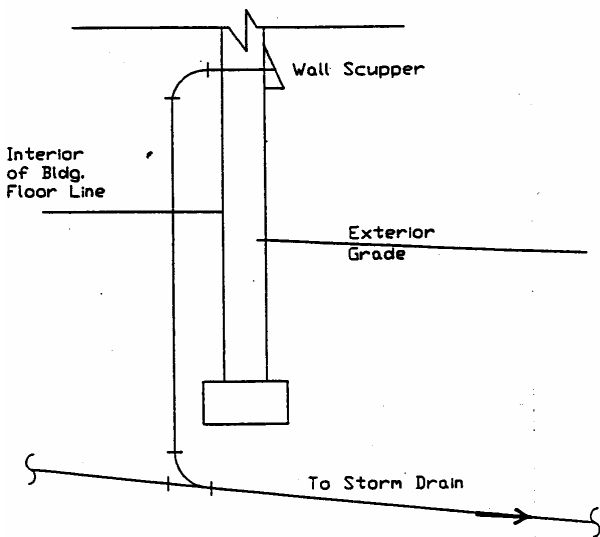
ROOF OVERFLOW DRAINS AND DRAIN LINE BLOCKAGE PROTECTION DETAILS



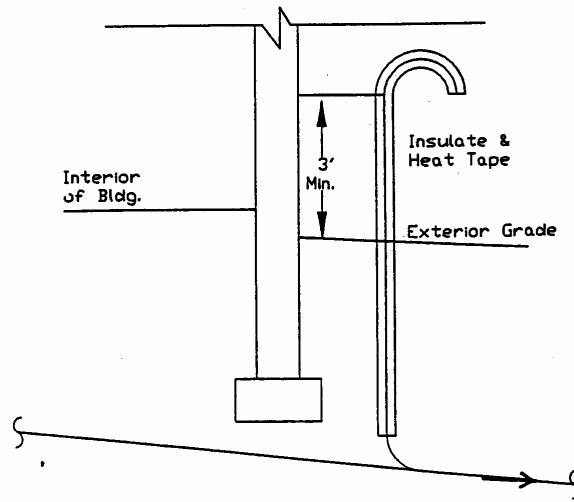
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"