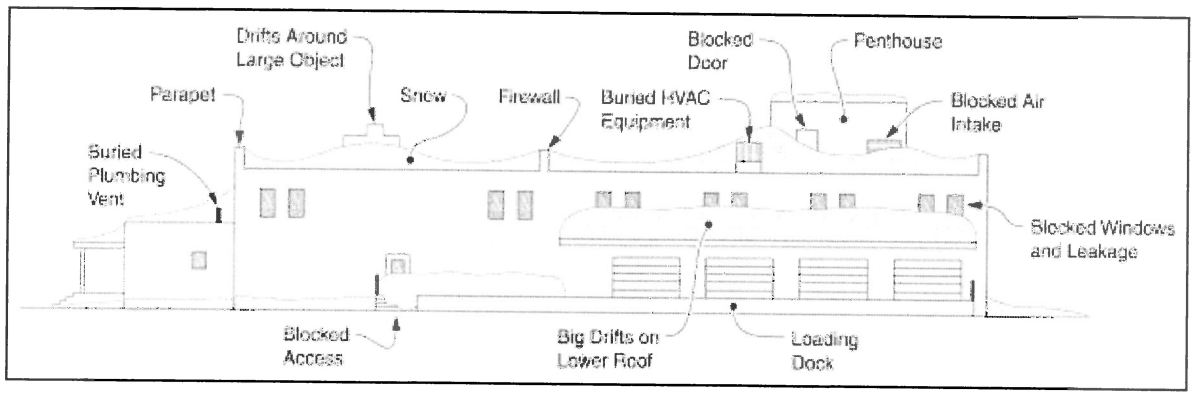

Figure 3. Snow drifts and their consequences.

kinds of problems that are encountered. Drifted snow can then affect the operation of plumbing and HVAC equipment or restrict access to the facility. Solutions to these problems are generally self-evident (e.g., place air intakes high up on the wall, keep windows at roof steps as high above the lower roof as possible, locate plumbing vents and HVAC equipment away from places where drifts are to be expected).

Figure 4. The peak snow load of this drift was 130 psf. The ground snow load at the time was 20 psf, and the snow load on the upper roof was 15 psf.

Big drifts often form on lower roofs. Figure 4 shows a large snow load due to drifting on a flat lower roof. The peak snow load on the lower roof is about nine times the load on the upper roof.

ASCE Standard 7 requires designers to assume that the high winds that cause snow to drift could come from any direction. Nonetheless, information should be sought from "locals" on drift orientation. Where such information indicates strong preferential orientation of snow drifting, give thought to placing drift-prone features (e.g., loading dock roofs) either upwind or alongside the building rather than at its downwind end. Design loads will not change, but the amount of drifting may be reduced significantly (Fig. 5). Raising or

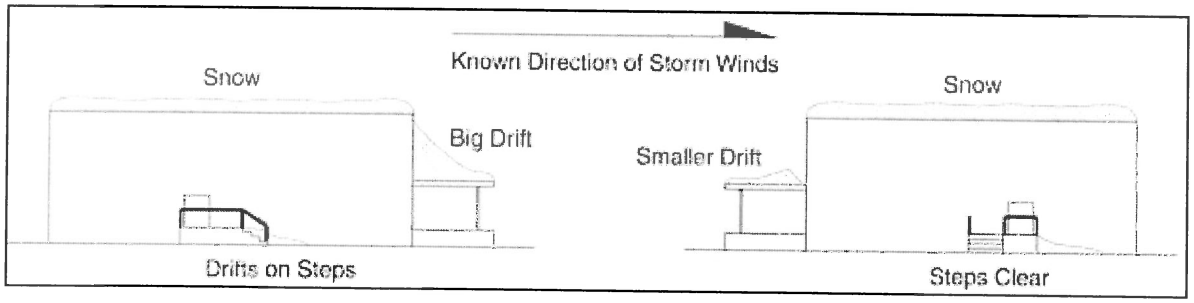

Figure 5. Orienting buildings with respect to the known direction of winter storm winds can reduce actual drifting, even though design loads do not change.