# UFAD – The Good The Bad and the Ugly

## CASE STUDY

### BOSTON COLLEGE ADMINISTARATION BUILDING

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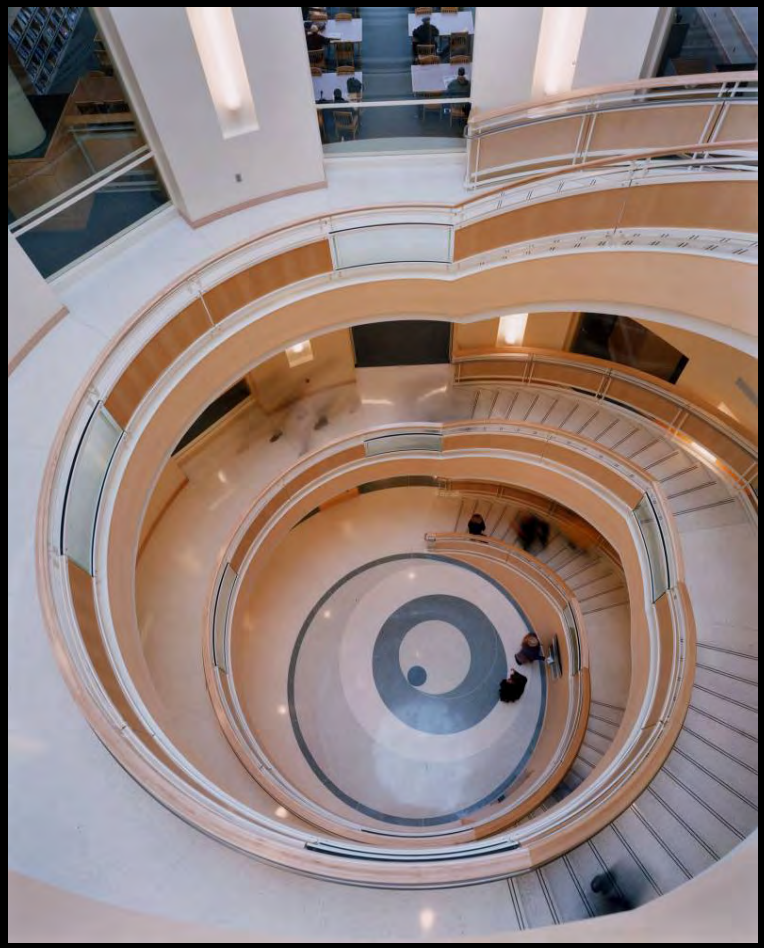
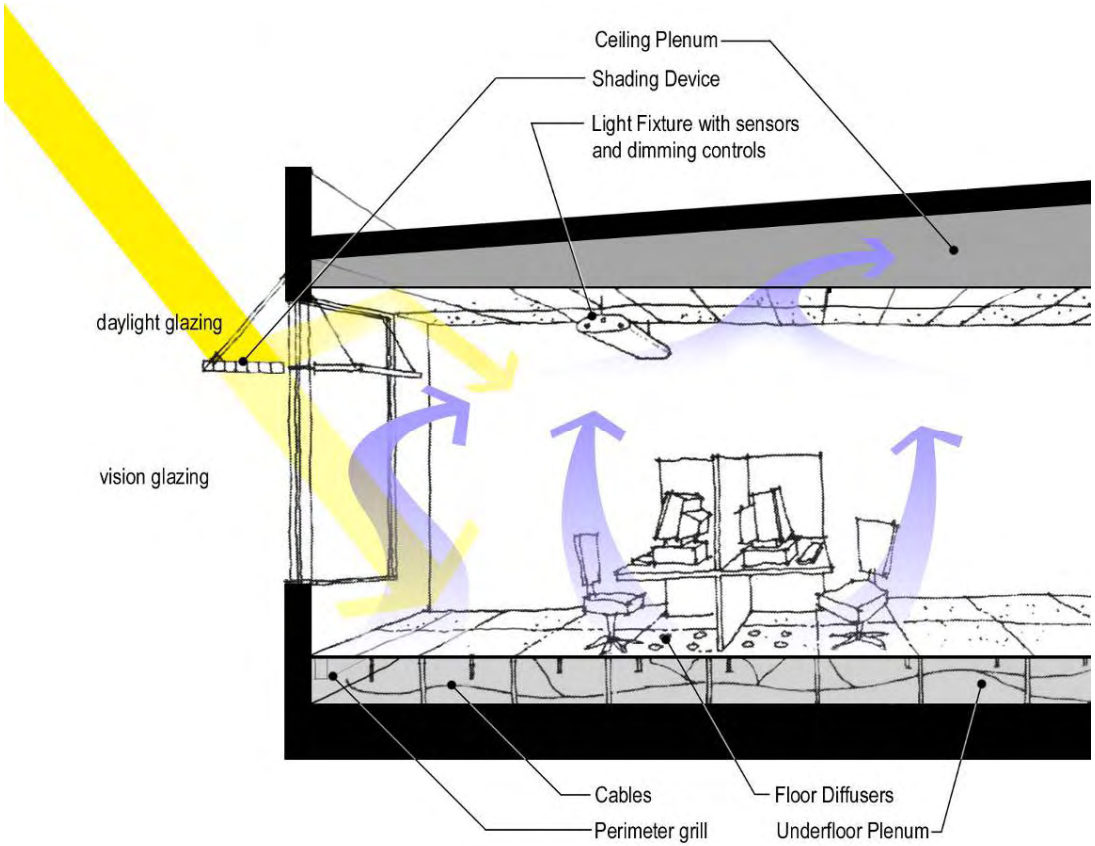
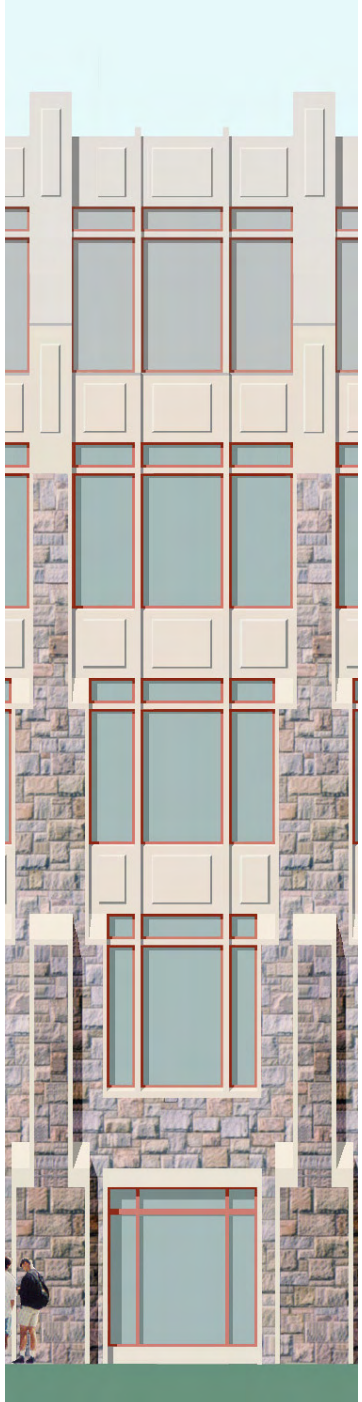


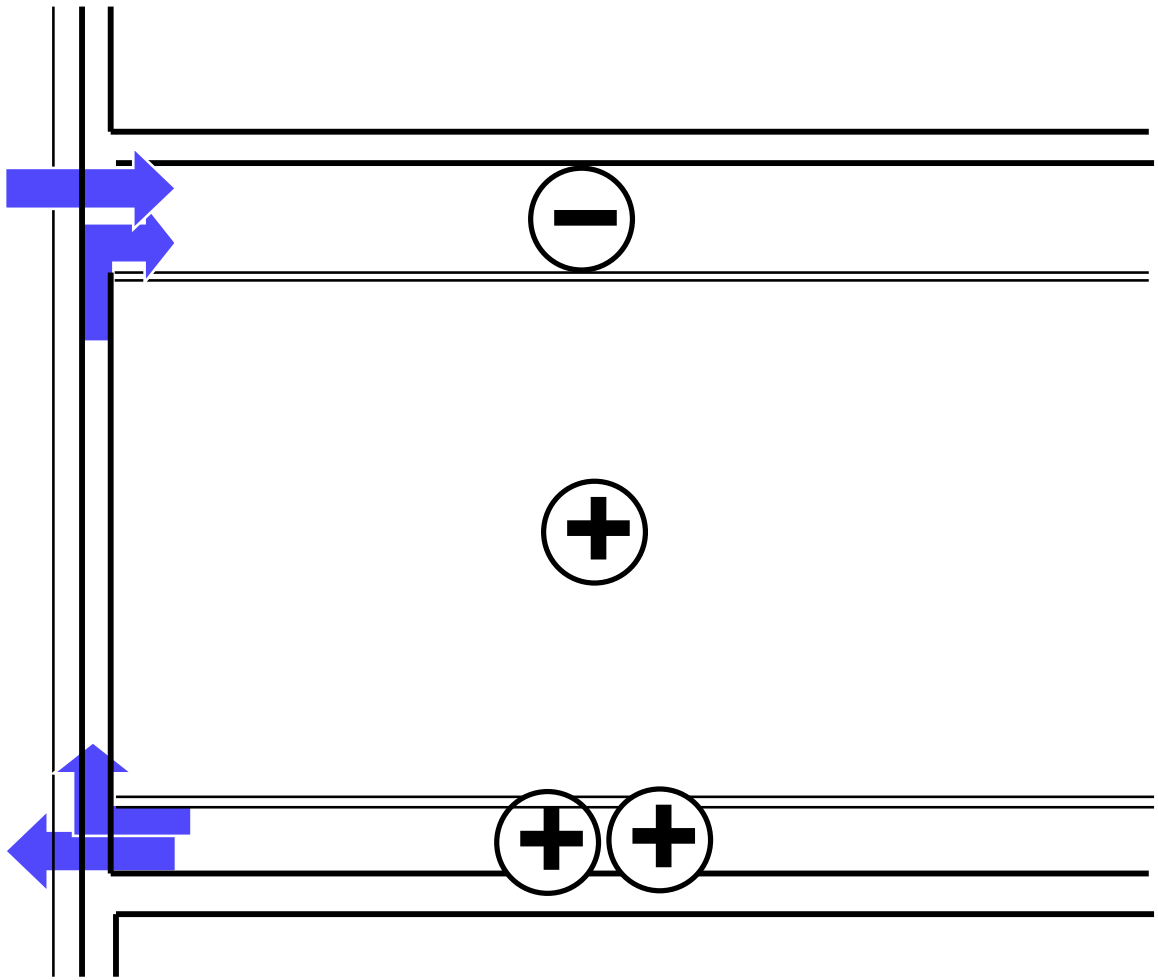
# WARREN B. RUDMAN US COURTHOUSE, CONCORD, NH

# EQ 2 – Increase Ventilation Effectiveness - EQ 6.1 and 6.2 Controllability of Systems

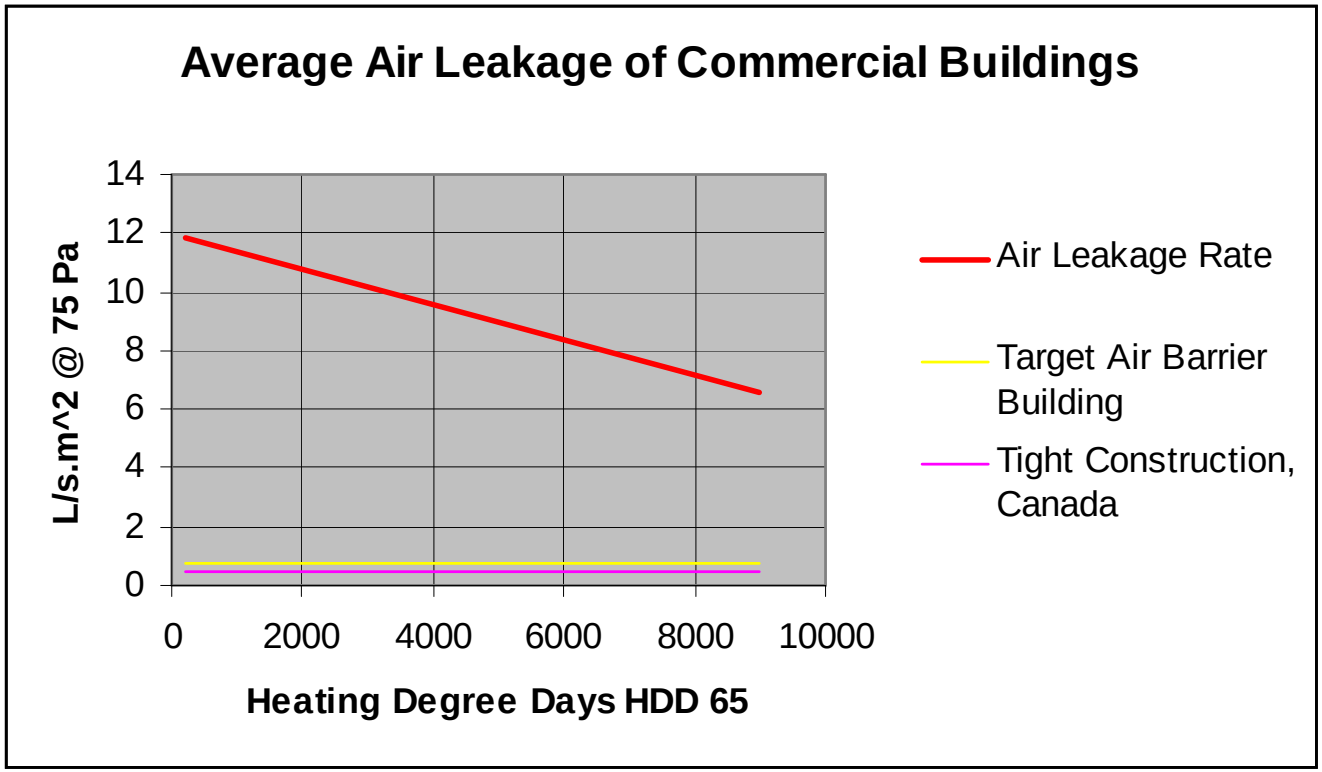




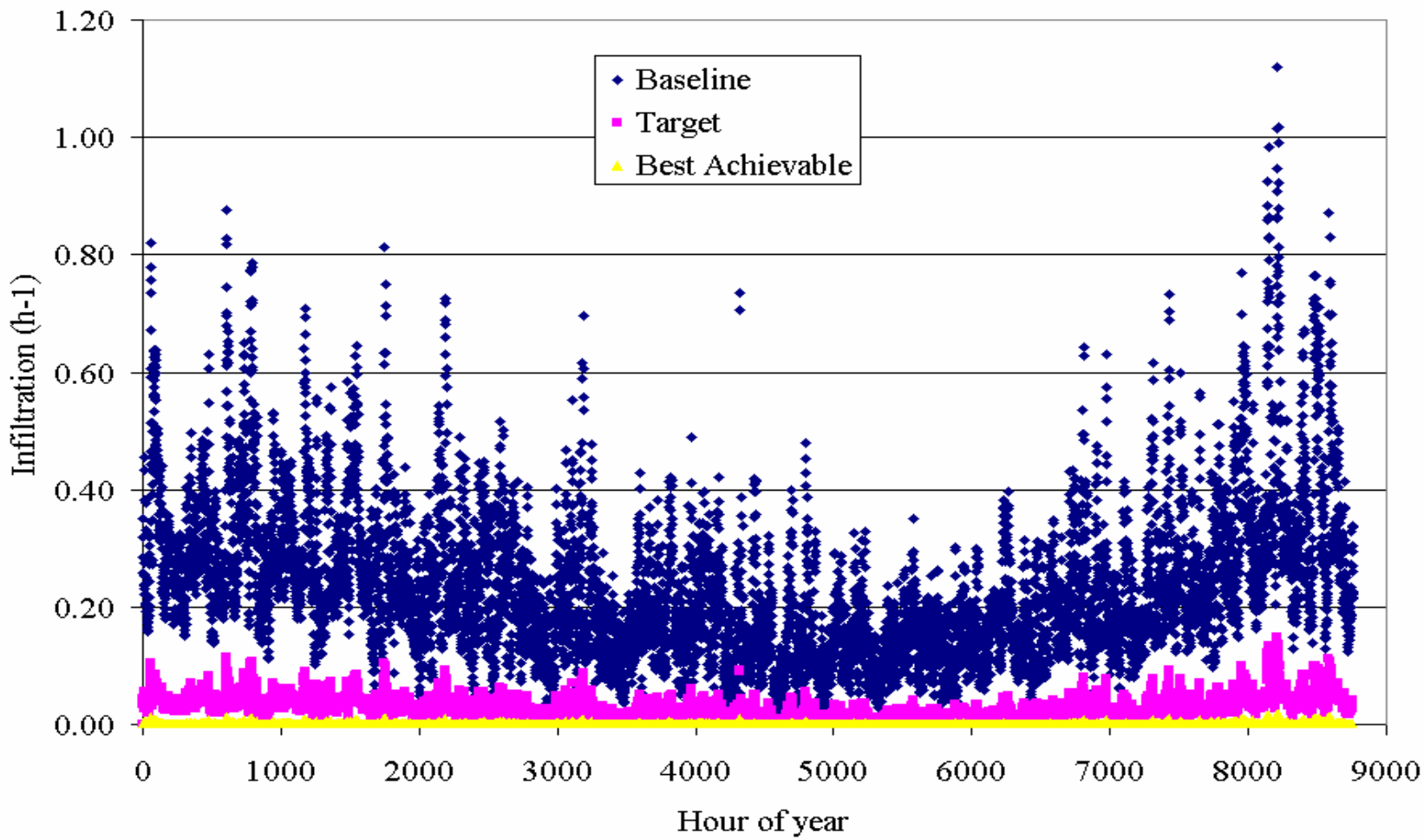
# Are you trying to inflate a balloon with holes?



# INFILTRATION RATES



# Hourly Infiltration - St. Louis
# NISTIR 7238



# Curtain Wall Firestopping

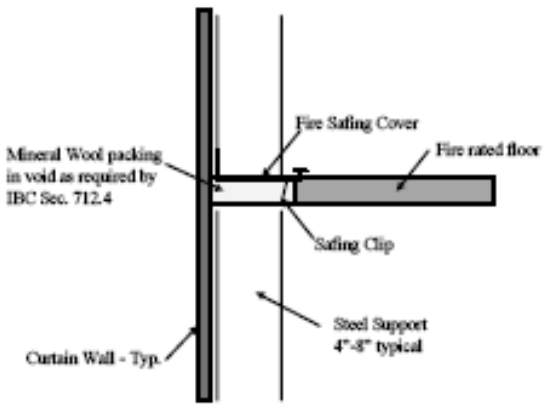
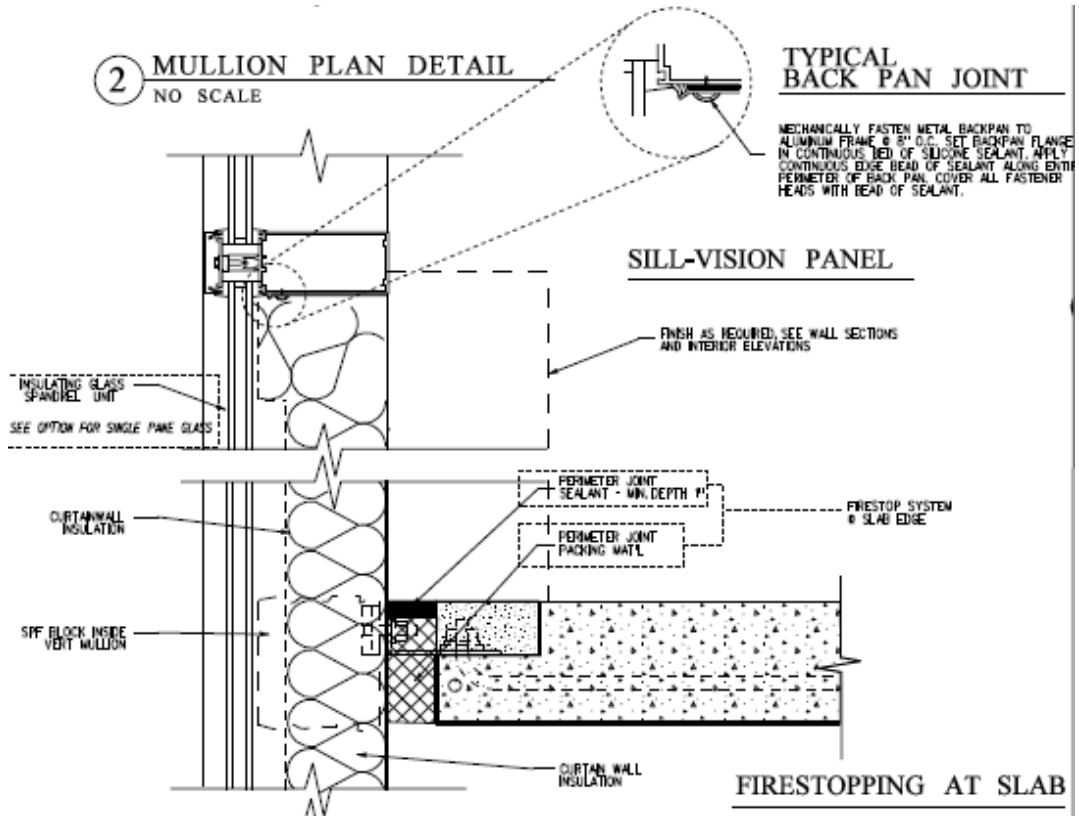



Fig.2 Exterior Curtain Wall/Floor Intersection with no interior wall

# Curtain Wall Backpan and Firestopping



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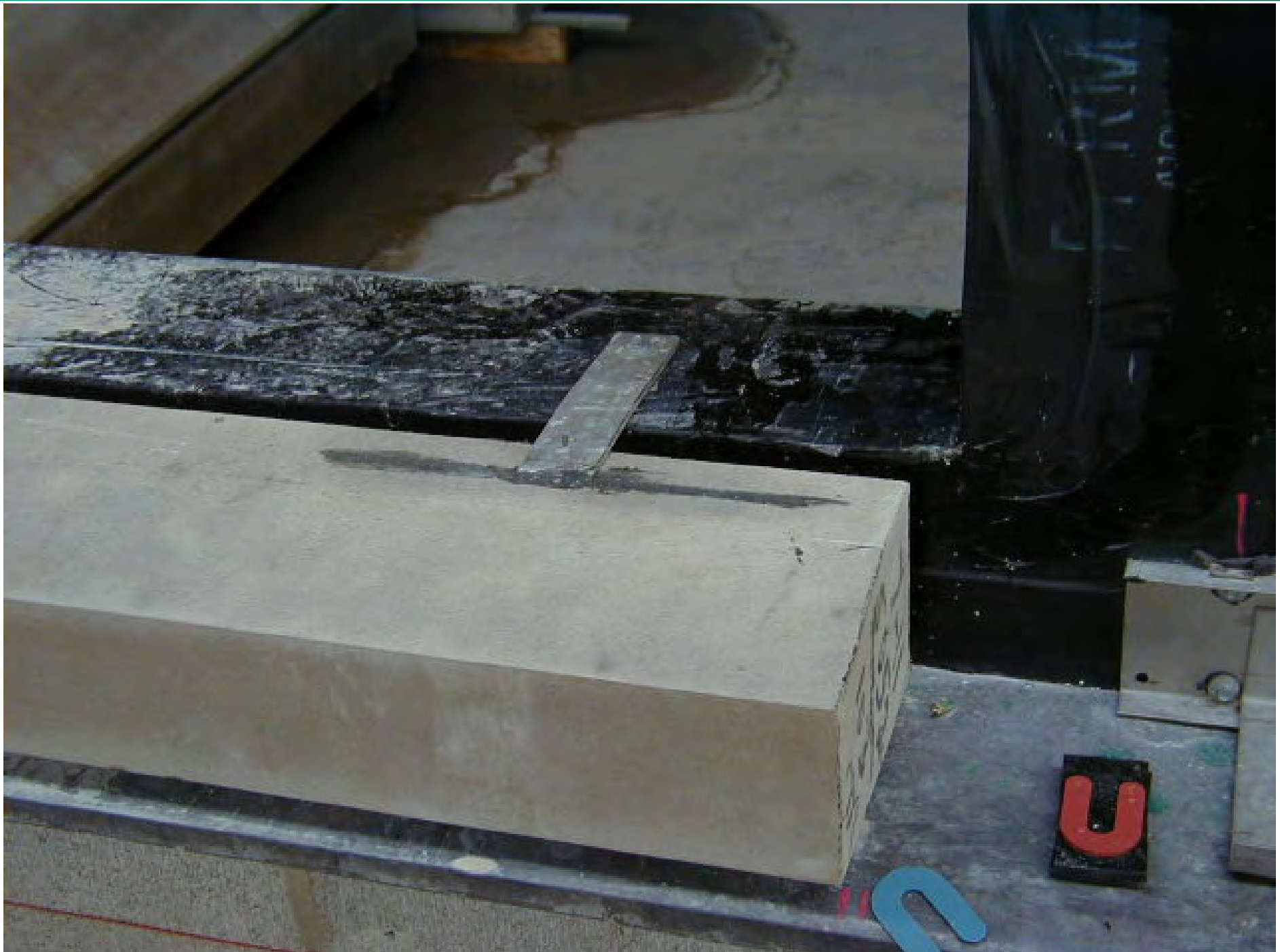

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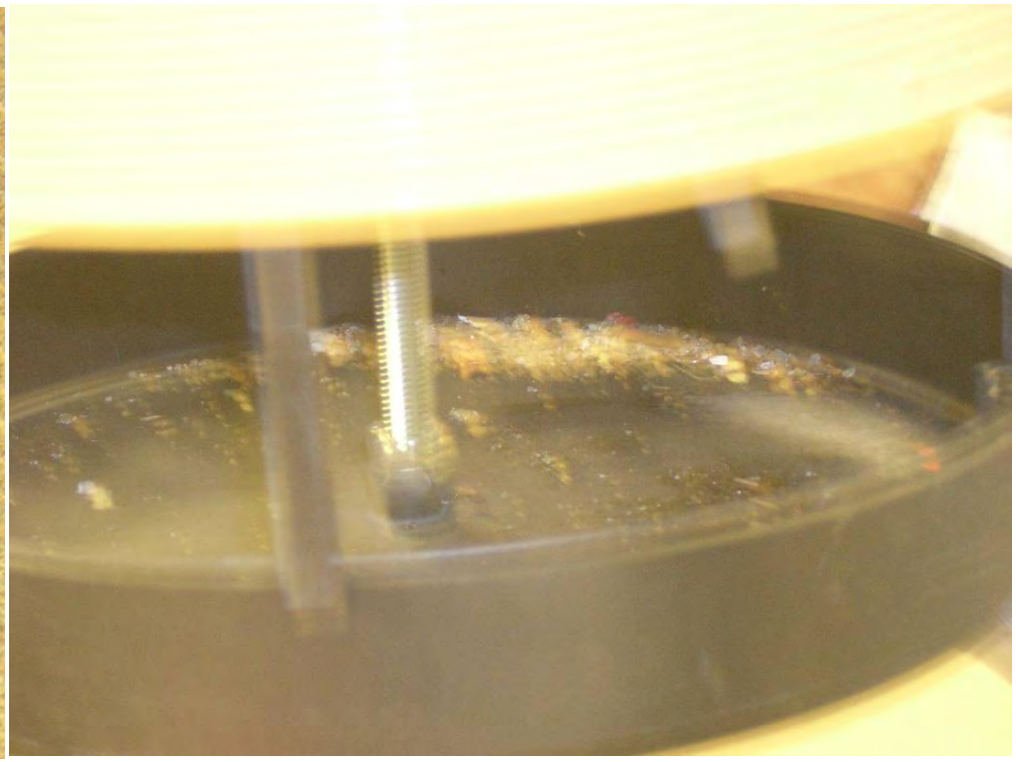

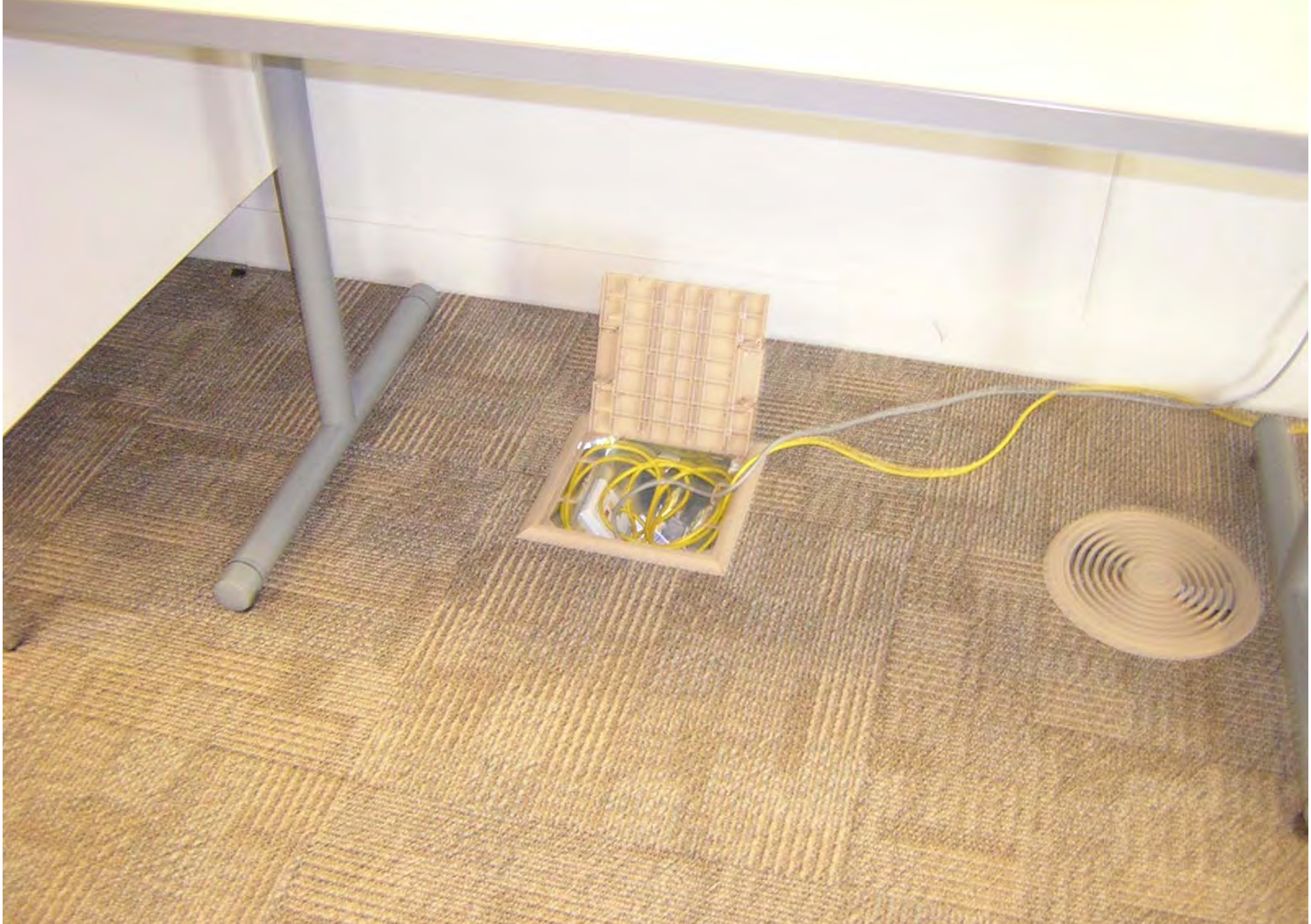

# Conclusions

- Compartmentalize UFAD zones in accordance with fan service zone
- Fans with VSD's and pressure sensors
- Catastrophic water leak: structural collapse: Indirect drains with solenoid valves activated by water/sensors/alarms.
- Insulation of slabs on grade and other slabs
- Seal conduits esp. to thermostat
- No MC Cable
- Filters on fan boxes need access

# Conclusions

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- Pressure test plenums.  Leakage 12% max. achievable.
- Educate building users.  Users' manual?
- Coordinate outlet locations w/ workstations.
- Provide longer "whips" on outlets
- Building uses "less energy than budgeted"
- Fewer occupant complaint building

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