Chilled Water Coils

- See ***Cooling Systems*** narrative for waterside delta-T requirements.
- Coils isolated from campus chilled water via plate-and-frame heat exchangers shall be designed to use 30% propylene glycol.

Reheat Coils

- Design for 40% propylene glycol mixture with EWT of 130 Deg F, with an entering air temperature of 50 to 55 deg F (to allow for preheat coil temperature swing at low loads).

***AHU Supply Fan(s):*** The use of fan arrays in larger air handling units is encouraged. Fan arrays provide more redundancy and better air distribution

minimum. Relief air shall be ducted directly to the outdoors rather than being discharged into a mechanrgeenr.yH.)evpbòm.wpò) vpb.yinhdnr.yH.pHqò)nrvhybnri n

***Vibration Control:*** All large fans shall be supported by properly selected spring type vibration isolators in order to minimize transmission of vibration into associated equipment and building structures. Such isolation is much more critical on upper levels of a building than on lower levels. Thus, our preference is that large rotating equipment be located in equipment rooms at the lowest level. Flexible duct connections shall be installed at all points of connection between fans and associated air distribution ductwork regardless of location in order to minimize transmission of vibration into and throughout duct systems. Exception: Flexible connections may not be required for small in-line fans, roof exhausters and some fume exhaust fan installations.

***Sound Control:*** The use of sound attenuating devices within supply and/or return air duct systems is sometimes necessary. However, when the efficiency of air distribution systems is maximized noise becomes much less of an issue and sound attenuators are not required. This is accomplished

In areas of potential high humidity (restrooms, locker rooms, vestibules, etc), diffusers & grilles to be aluminum construction (as steel may rust and blister with time).

Diffusers shall have built-in deflector plates or be able to have plates clipped on externally.

Ceiling diffusers to be provided with adjustable quadrant banks to allow for adjustment of airflow patterns.

Supply diffusers and grilles shall be selected and installed so as to direct a greater percentage of the supply airflow toward the source of the heating/cooling load (e.g. toward exterior walls). In exterior spaces where no perimeter heating unit(s) have been provided, slot diffusers (or equivalent) shall be provided near the exterior wall(s) to deliver supply air downward at high velocity to ñreach the flooròwith warm supply air in the heating mode.

In those areas served by return air plenums were noise travel is an issue, a duct sound boot on return air grilles is preferred.

ñAir Scoopò type integral balancing dampers are not allowed.

***Exterior Ductwork:*** The installation of exterior ductwork other than that conveying fume exhaust is disallowed. Non-insulated exterior ductwork (e.g. exhaust ductwork) shall be stainless steel construction.

***Toilet Exhaust:*** Multiple toilets shall be served by a common exhaust system when feasible. When zoning such systems, consideration shall be given to coordinating exhaust zones with air supply zones. This approach allows supply and exhaust systems serving a common area to be cycled on and off together. Exhaust air from toilets shall be discharged in an appropriate manner at roof level to minimize potential for recirculation back into air intake opening(s).

***Custodial Exhaust:*** Custodial exhaust fans may be combined with restroom exhaust fans provided chemicals located in custodial rooms do not require the system to run 24/7.