



Kent State University Lake and Olson Residence Hall

This fall semester students living in the Lake & Olson Residence Halls at Kent State University were pleased to return to campus to find their student rooms recently renovated. HEI Engineering Group upgraded all the heating equipment throughout the entire 4-story building and added air-conditioning to all the student rooms. Approximately 275 hydronic, vertical fan coil units were installed to provide heating & cooling in the student rooms and Resident Director apartments. Other hydronic heating equipment replaced includes convectors, cabinet heaters, unit heaters, perimeter fin-tube radiation and Runtal radiation.



Campus steam is utilized by (2) two, 4400 MBH shell & tube steam to water heat exchangers, where if one fails the other is capable of handling approximately 2/3 of the system heating load. Two (2) 15HP system pumps, utilizing variable frequency drives, efficiently circulates heating water down into the building's tunnel space where numerous vertical pipe risers are fed to serve units from Floors 1 thru 4. Similarly, campus chilled water is circulated throughout the building's tunnel space to vertical pipe risers.

Where possible, the student room fan coil units were located in the same corner of the room on Floor 1 as the identical student rooms directly above on Floors 2 thru 4 to try to minimize the number of vertical pipe risers which lowered both material and labor costs.

The tunnel space is ventilated via intake louvers with motor-operated dampers and is tempered to prevent the freezing of pipes via hydronic unit heaters. The replacement of roof drains and electric water coolers, the addition of flow meters and the upgrade of the DDC temperature control system was also included in the project scope.

HEI USEFUL TECH NOTE:

We found that where ceiling space is limited and does not allow for straight pipe routes, it is better to install copper pipe with ProPress fittings instead of steel pipe with Victualic fittings. The copper piping requires less installation space and provides a more secure fit for pipe insulation.

