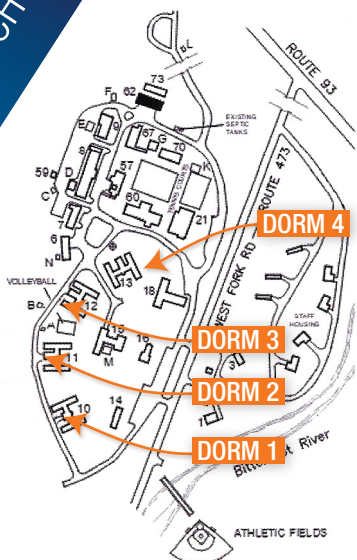


DORMITORY LOWERS HARMFUL CO₂ LEVELS

CASE STUDY SCHOOLS



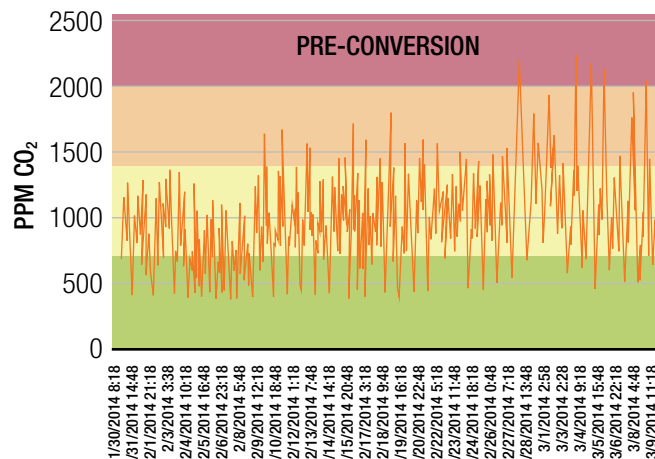
FEDERAL GOVERNMENT CAMPUS IMPROVES VENTILATION

This U.S. Job Corps Center educates young workers ages 18 - 24 pursuing high school completion, as well as getting job training in forestry, masonry, carpentry, culinary, and other trades. It was a Civilian Conservation Corps camp in the Great Depression, and has done limited upgrades as budgets permitted. Each 6,000 ft² dorm building was previously ventilated only when the forced air heating furnaces operated. No mechanical ventilation operated in the summer and shoulder seasons, and it was intermittent in the winter, greatly impacting sleeping conditions (as seen below). With the focus on healthy levels of CO₂, optimal heating system improvements were not done in this pilot. To solve the recurring nightly unhealthy levels of CO₂, one HRV per dorm was installed four in total. The HRV is programmed with a combination of demand-based controls via a CO₂ sensor within a certain PPM range, programmed with time / day-of-week scheduled operations. This will ensure healthy levels of CO₂ for residents.

INSTALLATION FACTS

Building Construction Year	Circa 1930
Occupancy Type	Dormitory
Number of Stories	1
Conditioned Area	6,500 / 5,848 / 6,036 / 6,500 ft ²
Ownership	USDA – Forest Service

PRE-CONVERSION DORMITORY CO₂ LEVELS



HVAC FACTS

	Pre-Conversion	Post-Conversion
Fuel Source	Heat: Electricity Cool: Electricity	Heat: Electricity Cool: Electricity
HVAC System	(5) Armstrong Air Electric forced air furnaces per dorm; (1) exhaust fan ventilation with 20 kW make-up air heat	(1) VS 1000 RT per dorm (4 in total)
CFM	est. 6,000	4,400 max
Tons	ext. 20	9