

LABORATORY BUILDING RENOVATIONS

Bender Labs at University Heights Campus

Owner: Renaissance Corporation
Contact: Mr. John Egan, (518) 514-0222
Budget: \$750,000 (MEP Only)
Completed: 2004

Key Design Elements:

- ◆ Existing Building Renovation
- ◆ ASHRAE Standards
- ◆ NEC Standards
- ◆ Laboratory Environments
- ◆ HVAC design
- ◆ Electrical Systems
- ◆ Fire Alarm Systems
- ◆ Emergency Power
- ◆ Fume Hoods and Specialized Ventilation



ALBANY, NY — Plumb Engineering, P.C. provided design services to fully renovate an important existing lab building. The facility's laboratories include Mycobacterium, Microscopy, Bacteriology, Chemistry, SEEMA, ELISA (Enzyme Linked Immunosorbent Assay), and Hematology labs.

The project goal was to upgrade outdated equipment and systems and bring the lab into compliance with ASHRAE standards for HVAC in laboratory applications as well as NEC standards. The new design complies the ASHRAE regulations for outside air requirements, ventilation in laboratory areas, duct velocity for fume hood exhausts, and minimum distances from fume hoods for air distribution. Additionally, the building now meets NEC requirements for emergency power distribution.

To accomplish these goals, Plumb redesigned the heating, ventilation, and air conditioning systems. This was done to accommodate increased heating and cooling loads and the increased ventilation requirements for the fume hoods. The project was designed with a variable air supply to adjust to the fume hood minimum and maximum airflow requirements and spot exhaust ventilation. The building is heated and cooled by fan coil units.

The electrical design upgrades the building power distribution, lighting system, security system, fire alarm system, and site lighting. These improvements provide electrical services that also meet the increased systems equipment load and laboratory equipment requirements.

Plumb also analyzed the building's emergency power requirements and designed an system that will maintain critical building systems and laboratory equipment in the event of power failures.



Above: The major building systems each needed significant redesign and renovation.

