Rubenstein Ecosytems Laboratory
Burlington, Vermont

Owner: University of Vermont
Client: Anderson Schencker, Architects

Knight Consulting Engineers provided structural and geotechnical engineering services as well as pile installation inspection services for the construction of this three story laboratory facility at the Burlington Waterfront.

The structural systems consist of precast concrete plank floors supported on exterior concrete masonry bearing walls and interior steel framing. The third floor penthouse is steel framed. The building is supported on a system of monotube piles and concrete grade beams. The first floor slab is designed as structural slab supported by the grade beams and piles. Resistance to lateral wind and seismic loads is provided by the exterior concrete masonry walls.

The building is specifically designed to be energy efficient. Specific structural design elements include the exterior concrete masonry block walls to help hold and retain heat inside the building envelope. All structural steel is within the insulation envelope of the building in order to prevent thermal bridges between the interior and the exterior. Structural glass panels are installed in the second floor corridor slab to allow light from the roof skylights to reach the first floor corridor.