

Naval Air Warfare Center

Patuxent River Naval Air Station, MD

In conjunction with the consolidation of Naval Air Development Center (NADC) and the Naval Air Test Center (NATC) into the Naval Air Warfare Center Aircraft Division, Michael M. Simpson served as structural project engineer of record for all structural engineering services for twenty-eight renovation projects on base, encompassing over 390,000 SF of minor to major renovation and exceeding \$20 million dollars in construction cost. Two of these projects included Frank Knox School and General Library.

General Library

The General Library project involved 14,000 SF renovation / addition. The library's existing structural system consisted of typical 1940's wood floor and roof joist construction with load bearing wood stud framings and perimeter and concrete foundation walls. Renovation consisted of installing new architectural exposed concrete columns and construction of a new vaulted wood glue-lam roof structure at the main entrance. New masonry piers, footing, and header girders were added where structurally necessary to accommodate the new library floor loading plan.

Frank Knox School

Originally built as Frank Knox Elementary School, Building 2189 was constructed in 1945 and is a designated historic structure which was to become the "main entry" to the base. The building is load-bearing masonry construction with cast-in-place concrete floors, and a flat wood-framed roof. It originally provided classroom/support space for the 34,000 SF elementary school. Renovation converted these classrooms into modern labs and classrooms for technical training and college courses.

Prior to beginning design, an extensive field investigation and review of the facility's structural framing and its electrical/mechanical systems was conducted. System conditions, capacities, and suitability for continued use were evaluated. In addition, detailed field information necessary to accomplish the design was gathered.

The existing structural cast-in-place concrete beam and slab systems were modified by adding steel beams and grouted masonry piers and concrete footings in the craw space to increase the floor live load capacity for lab floor loading. Mr. Simpson was the Structural Project Engineer for these buildings.

**While working with another firm (HOK Architects, Inc.) and prior to the establishment of Michael M. Simpson & Associates, Inc.*

