STATION DESIGN AWARDS

FIREHOUSE

VOLUNTEER/COMBINATION GOLD

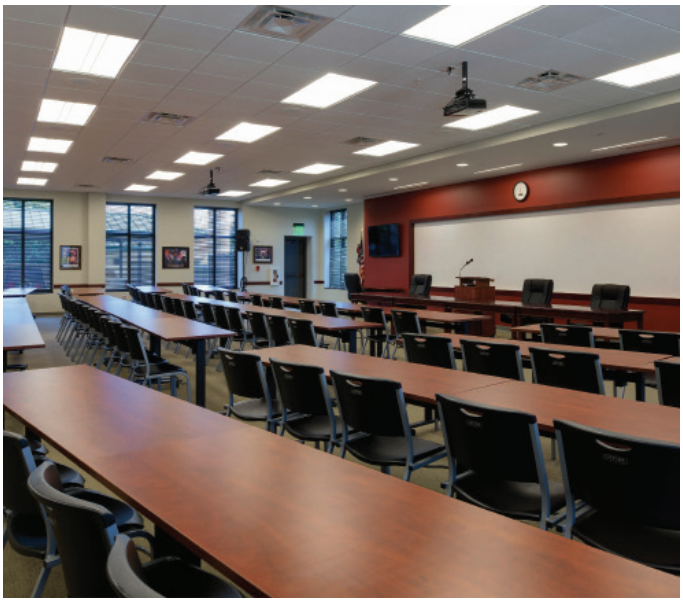
Westlake Volunteer Fire Station

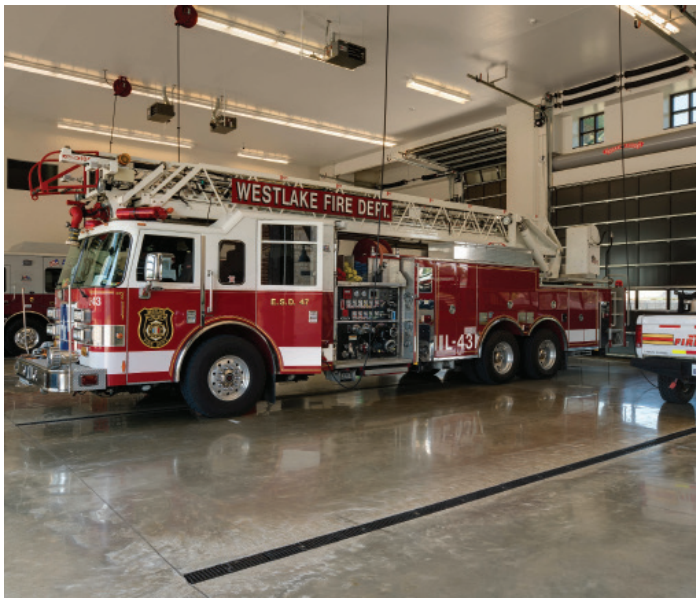
KATY, TX

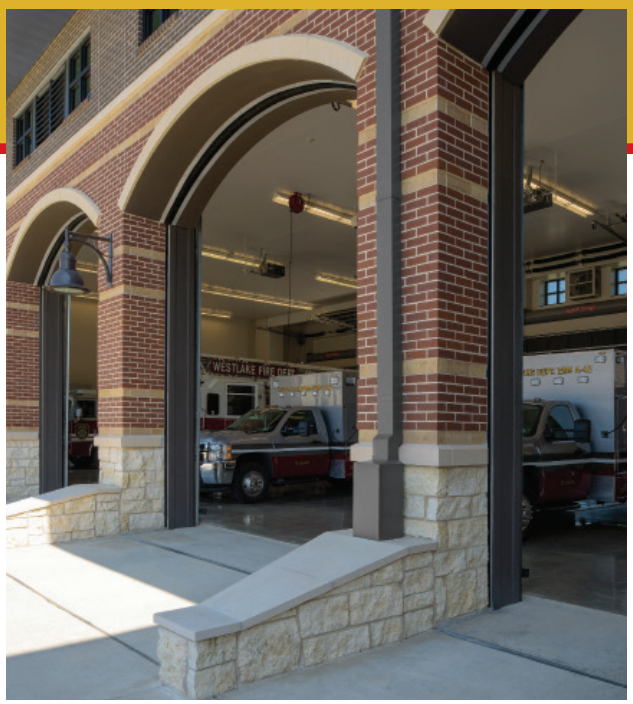
The Westlake Volunteer Fire Department, comprised of 71 volunteers and 26 paid employees, serves the Houston suburb of Katy, TX. The department wants to encourage volunteers to participate in the day-to-day activities of the department; however, the existing station couldn't accommodate staff or additional fire apparatuses. Knowing their service area was built out, when land came up for sale across the street, the department decided to build a station that would be home to the entire fire family and community.

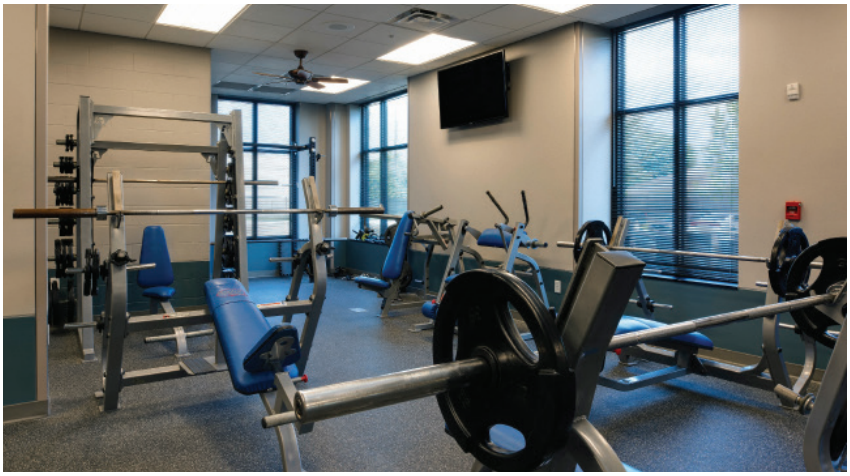
The 4-acre site features secured staff parking with covered and electrically powered command vehicle stalls. Natural daylight illuminates the six double-deep bays, which are fully equipped with exhaust fans integrated into the alerting system, specialty cord reels, air hoses, truck fills, commercial trench drains and maintenance-free floors. The first floor, open to the public, consists of administration spaces, a 165-person training room, and a break room with pass-through window to serve banquets from the lobby. Living spaces are located on the second floor.

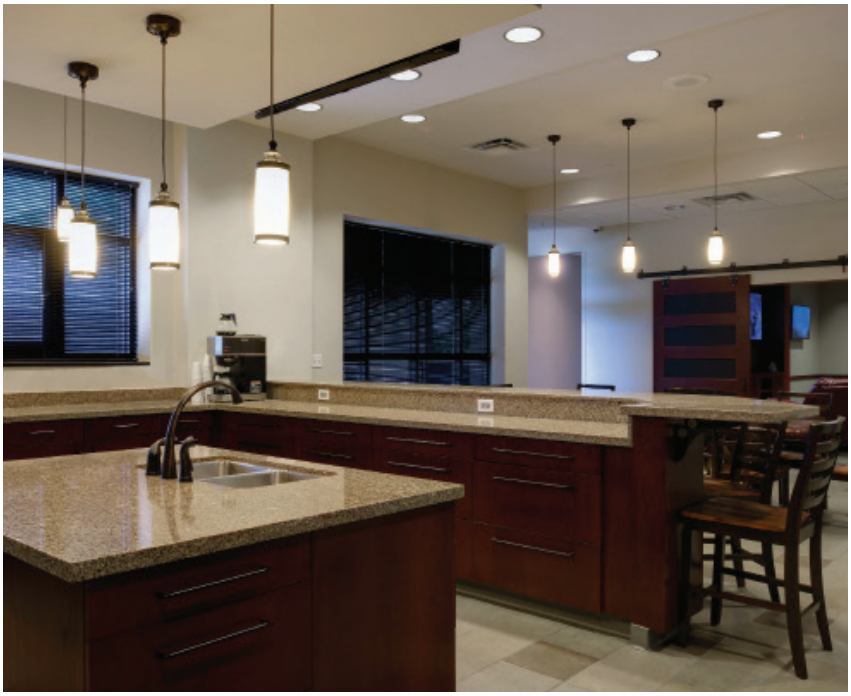
Administration wanted a place where the volunteers and their families would be welcome, as they're devoting precious free time to serve the community. The kitchen and balcony patio can host large groups while others relax in the dayroom or play pool in the game room. A watch office provides quiet space for paperwork, overlooks the bays through fire-rated windows and doubles as an independent command center during











emergencies. The two large bunkrooms solve gender issues and accommodate volunteers overnight, while the hallway has individual lockers for all the staff.

Additionally, unlike the old station, this station meets all ADA standards, allowing the department to be an active partner within the neighborhood by encouraging daily interaction with the public and allowing the community to utilize the facility for meetings/ banquets.

Official Project Name: Westlake Volunteer Fire Station
Project City/State: Katy, TX
Date Completed: May 9, 2014
Fire Chief: Mark Palmer
Project Area (sq.ft.): 23,320
Total Cost: $5,950,000
Cost Per Square Foot: $255.14
Architect/Firm Name: Brown Reynolds Watford Architects
Website: brwarch.com
Design Team: Principal: Mark E. Watford, FAIA, LEEP AP BD+C; **Project Architect:** Ray Holliday, AIA, ASLA, LI; **Project Manager:** Jennifer Bettiol; **Architectural Designer:** Dianne Jones; **MEP & Communications Coordinator:** Laura Pivonka, IESNA; **Civil Engineers:** O'Malley Engineers, LLP; **MEP Engineers:** Jordan & Skala Engineers, Inc.; **Structural Engineers:** TMBP I Click

Fairfax County Fire and Rescue Station No. 10

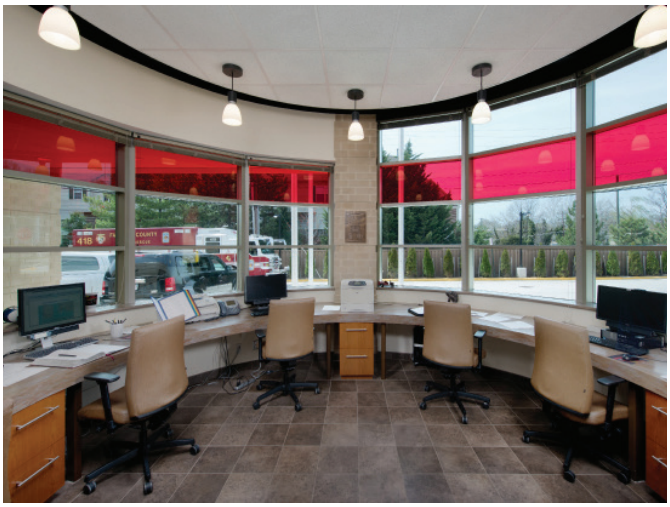
BAILEY'S CROSSROADS, VA

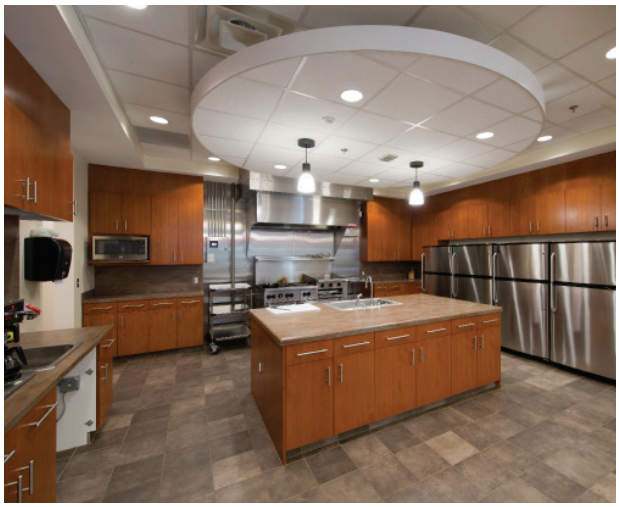
Bailey's Crossroads Volunteer Fire Station No. 10 is a 16,000-square-foot four-bay fire station in Fairfax County, VA, which replaces a fire station that was severely damaged when its apparatus bay roof collapsed during the blizzard of February 2010. Rising up from the rubble, the new fire station is constructed on the existing station site and provides 20 bunks, living and dining accommodations, four apparatus bays (with two drive-through bays), administrative offices, a physical training room, a training classroom, and a dual-purpose tower for hose-drying and training.

The tight 1.2-acre site presented numerous challenges. The design was restricted by an existing 130-foot-tall communications monopole and associated support structures that remained intact and operational throughout the course of design and construction. Further, a major underground utility corridor combined with significant yard setbacks and landscape buffers to constrict all edges of the property and reduce the buildable area by nearly half to 0.69 acre. Finally, the client directed the architects to provide a single-story design solution. The resulting design is a highly efficient layout that utilizes every square foot of usable site area.

The building is targeting LEED Silver Certification. Sustainable design strategies include site selection, water use reduction, regional materials, recycled content materials, high solar-reflectance roofing materials and low VOC interior finishes.

Official Project Name: Fairfax County Fire and Rescue Station No. 10
Project City/State: Bailey's Crossroads, VA
Date Completed: July 1, 2014
Fire Chief: Richard R. Bowers Jr.
Project Area (sq.ft.): 16,676
Total Cost: $5,500,000
Cost Per Square Foot: $329
Architect/Firm Name: LeMay Erickson Willcox Architects
Website: lewarchitects.com
Design Team: LeMay Erickson Willcox Architects; **Civil Engineer:** Bowman Consulting Group, Ltd.; **Structural Engineer:** Ehlert Bryan, Inc.; **MEP:** Global Engineering Solutions, Inc.; **Peer Review/Commissioning:** Brinjac Engineering, Inc.; **Cost Estimators:** Downey & Scott, LLC

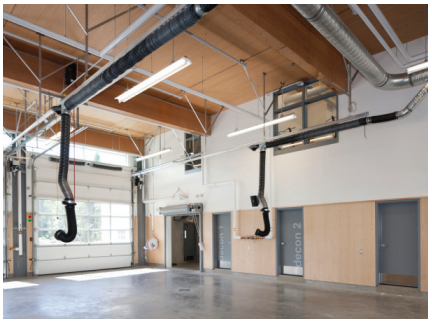




Qualicum Beach Firehall

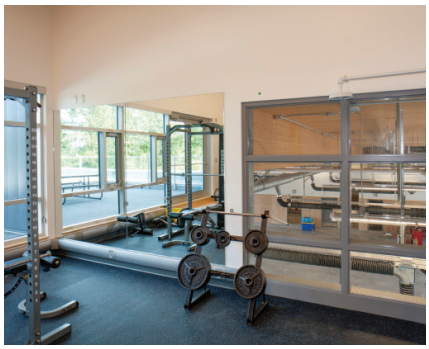
QUALICUM BEACH, BC, CANADA

Johnston Davidson Architecture + Planning Inc. and its team of consultants were commissioned to design the new Qualicum Beach Firehall located in the Township of Qualicum Beach on Vancouver Island. The new firehall consists of an 18,000-square-foot two-story building designed to incorporate many sustainable initiatives, including British Columbia's "Wood First Policy" and integration of a 90-panel photovoltaic field. It has achieved an FCM-GMF grant of $464,467 for achieving a 72 percent reduction in the energy usage of the ASHRAE 90.1 (2010) standard.



The new facility has eight truck bays (four tandem drive-through bays) to serve the volunteer suppression crews and career headquarters staff. The project includes a suite of rooms at the entry of the hall that can be secured from the remainder of the hall to allow the public to use the reception, meeting room and barrier-free washroom. Beyond this point, there are administrative offices, open workstations, a fitness/exercise room, a dayroom, a kitchen and dining room and an association room to serve the fire department and town.

The operational areas consist of a decontamination apparatus bay washroom, gear storage, utility/gear washer, washdown/deluge shower, workshop, SCBA room, rip and run, hose tower and gender-neutral washroom facilities. The hall also has a training room large enough to divide successfully into two functional rooms to be used as an integral part of the ongoing training process and the backup town Emergency Operations Centre. In addition to achieving a 72 percent increased energy efficiency above the new ASHRAE 90.1 (2010) standard, this project integrates the use of solid timber (LVL panels) for the roof and floor structures. This is the first time in Western Canada that this product has been used to this extent in a post-disaster building.



Official Project Name: Qualicum Beach Firehall
Project City/State: Qualicum Beach, BC, Canada
Date Completed: Aug. 15, 2015
Fire Chief: Darryl Kohse
Project Area (sq.ft.): 18,000
Total Cost: $5,500,000
Cost Per Square Foot: $305
Architect/Firm Name: Johnston Davidson Architecture + Planning Inc.
Website: jdarch.ca
Design Team: Principal Architect: Kimberly Johnston/Johnston Davidson Architecture + Planning Inc.; **Structural Engineer:** Sean Herold, P.Eng./Herold Engineering Ltd.; **Mechanical Engineer:** M. Asif Hussain, P.Eng./Flow Consulting Group Inc.; **Electrical Engineer:** Bruce Campbell, P.Eng./Roy Campbell Ltd.; **Landscape Architect:** Victoria Drakeford/Victoria Drakeford Landscape Architect

Dundee Fire Station

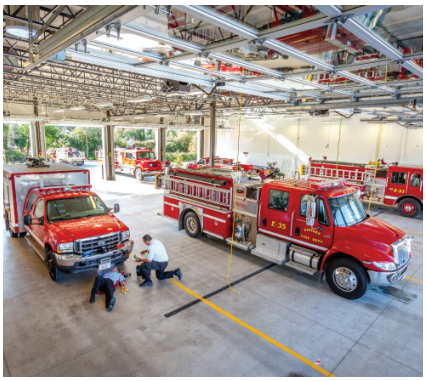
DUNDEE, OR

Nestled in the heart of Oregon's wine country, the Dundee Fire Station satisfies the needs of both the growing fire department staff and the greater Dundee community. Designers were tasked with designing a new station that would reflect the character of the community, encourage maximum workspace efficiency and accommodate their anticipated growth over the next 30 years. In addition, designers were tasked with developing a solution that would allow the city's existing fire station to remain operational during construction and worked carefully with the city to determine a building location and site design that would address this request.

The station consists of 17,500 square feet of space, including expanded living accommodations with dedicated bunks, gender-neutral toilets (single occupancy) and an improved kitchen, as well as dining and dayroom areas. In addition, a large multi-purpose room was created to serve the needs of the city, fire department and surrounding community.

The new apparatus bay is significantly larger than the previous bay space. The station also features skylights and clerestories in the bays to provide extensive, natural daylighting and an adjacent stair tower for training as well as access to the mezzanine. The design allowed for a phased construction process to accommodate the existing station operations through the entire construction process. A Structural Insulated Panel System (SIPS) design with a masonry veneer was used in the construction. This innovative building design is resilient, energy efficient and cost-effective.

Designers initially worked with the City of Dundee on a space needs assessment for the fire department to determine the requirements and associated costs for multiple development scenarios for the new station that would encourage growth over a 30-year period. With the design team's assistance, the City of Dundee successfully gained voter approval for a general obligation (GO) bond in the May 2012 election.



Official Project Name: Dundee Fire Station
Project City/State: Dundee, OR
Date Completed: Nov. 11, 2014
Fire Chief: John Stock
Project Area (sq.ft.): 17,500
Total Cost: $2,900,000
Cost Per Square Foot: $165
Architect/Firm Name: Mackenzie
Website: mcknze.com
Design Team: Mackenzie – **Principal:** Jeff Humphreys; **Architect:** Scott Moore; **Designer:** Chad Daarud; **Job Captain:** Jack Claros; **Civil Engineer:** Ryan Suarez; **Structural Engineer:** Landon Harman; **Landscape Architect:** Ron Heiden; **SDC – Electrical:** Jeff Davis; **HVAC:** Bruce Meyers; **Plumbing:** Robert Lewis; **Cost Estimator:** Construction Focus

East Putnam Fire Station

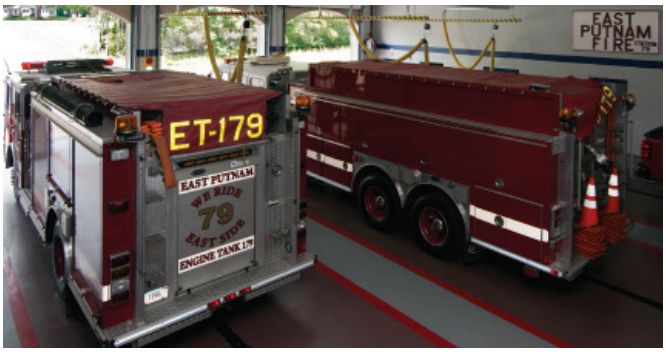
PUTNAM, CT

The new fire station designed for the East Putnam Fire District offers improved emergency services to residents in Putnam, CT. The department has 30 volunteer members who respond to 275 calls per year, providing fire, EMS, heavy rescue, hazmat and water rescue. They cover 18 square miles and 4,000 residents. The new station is located on a 21-acre parcel that's more centrally located and has space for outdoor training and recreation.

Putnam is a traditional 1800s New England mill town. In keeping with the "traditional" look, the building's design uses brick and architectural concrete masonry units. At the same time, the design addresses a 21st-century focus on energy efficiency and low maintenance. The airtight building has R-24 walls in the apparatus bays, R-29 walls in the living/office spaces, R-38 roof, and high performance Low-E Glass. The design utilizes 96 percent efficiency condensing boilers with heat recovery ventilation. Ventilation is proportional to the building occupancy based on measured CO_2.

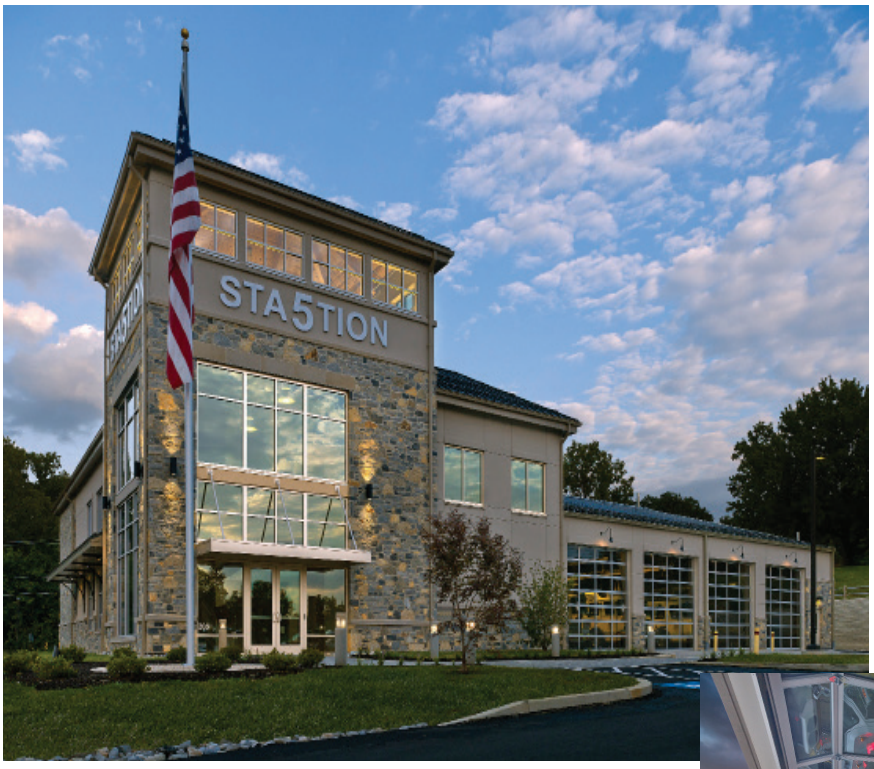
There is no municipal water system in Putnam. An under-building water storage system allows topping off of trucks and was intended to feed a fire sprinkler system. The building went to bid just as construction prices increased during the great recession and came in over bid. The Commissioners decided not to go back to the voters for more money. Instead, they took advantage of a low-cost USDA loan and used value engineering to bring down costs. Economizing maintained essential operations but forfeited the station's planned sprinkler system. The one-story 13,062-square-foot facility is compact, with circulation that is only 6.5 percent of the total area. The mezzanine provides training features that include a bailout window, a manhole for confined space exercises, and space for mazes.

Official Project Name: East Putnam Fire Station
Project City/State: Putnam, CT
Date Completed: Aug. 15, 2014
Fire Chief: Abram Walker
Project Area (sq.ft.): 13,065
Total Cost: $3,533,700
Cost Per Square Foot: $270
Architect/Firm Name: Mitchell Associates Architects
Website: mitchell-architects.com
Design Team: Architect-in-Charge: Robert Mitchell, AIA; **Project Manager:** Peter Signorelli, AIA; **Structural Engineer:** Craig Maloney; **Mechanical Engineers:** Plum Excel Engineering; **Civil Engineers:** Messier & Associates, Inc.; **East Putnam Fire Department Building Committee:** Scott Belleville; Douglas Cutler, Jr. and Fire Chief Abram Walker

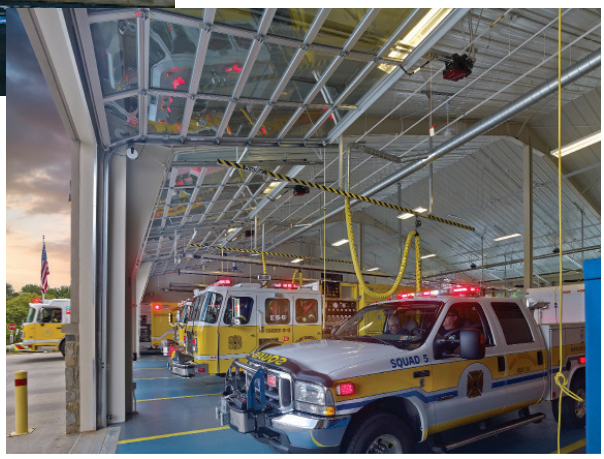


East Whiteland Township Volunteer Fire Association

FRAZER, PA

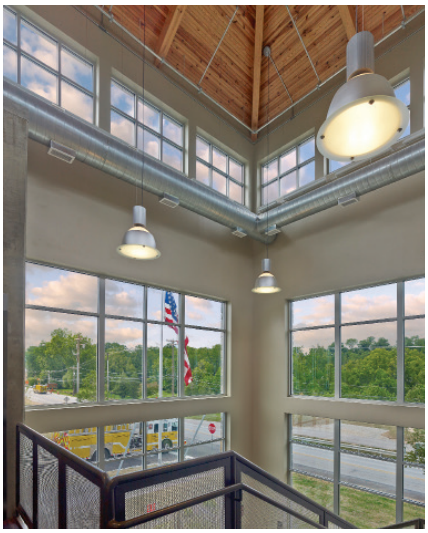


Official Project Name: East Whiteland Township Volunteer Fire Association
Project City/State: Frazer, PA
Date Completed: Feb. 1, 2015
Fire Chief: Ken Hurley
Project Area (sq.ft.): 17,450
Total Cost: $3,285,000
Cost Per Square Foot: $188.25
Architect/Firm Name: Bernardon
Website: bernardon.com
Design Team: Architect: Bernardon; **Structural Engineer:** Bala Consulting Engineers, Inc.; **Mechanical/Plumbing/Fire Protection/Electrical Engineer:** McHugh Engineering Associates, Inc.; **Civil Engineer:** Chester Valley Engineers, Inc.; **Construction Manager:** IMC Construction



After 50 years in their station, growth in the service area, the evolution of firefighting technology and the integration of volunteer and career staff put enormous pressure on the East Whiteland Township Volunteer Fire Association (EWTVFA) facility. In 2009, the search for a new home commenced, and a site was chosen for a new facility that would be more centrally located and allow them to better serve the local community.

The station is designed for maximum comfort, health and safety, and includes a spacious dayroom with modern kitchen, training room, fitness room and dorm rooms that are large enough to accommodate both career staff and volunteers. The building plan provides a direct flow from the dayroom through the gear room and into the double-sided apparatus bays, allowing for faster emergency response time.



The northwest corner is the landmark feature and ceremonial entrance to the building. A distinctive two-story tower lobby echoes traditional fire station forms. As a tribute, a steel beam salvaged from the tragic events at the World Trade Center on September 11, 2001, is on display directly opposite the visitor entrance.

The natural stone veneer is a key element of the exterior design that contributes to the long-term performance of the building. All the stone is sourced locally, including about 25 percent extracted directly from the project site during excavation, an elegant solution to a rocky site that might in other cases have slowed construction.

In addition to the locally quarried natural stone, other sustainability features that will help the building achieve the desired LEED Silver certification include a building envelope with insulating values up to 40 percent higher than code requirements and an underground rainwater collection cistern.

The new station will make the EWTVFA a more responsive and efficient operation, reliably serving the community for the next 50 years.

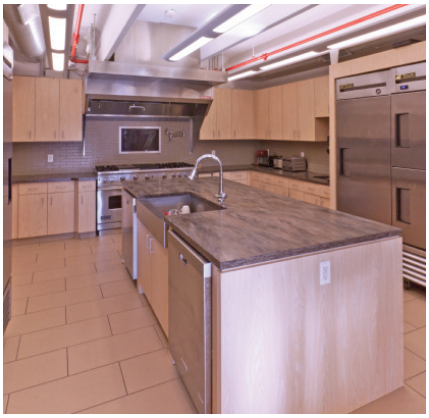
STATION DESIGN AWARDS

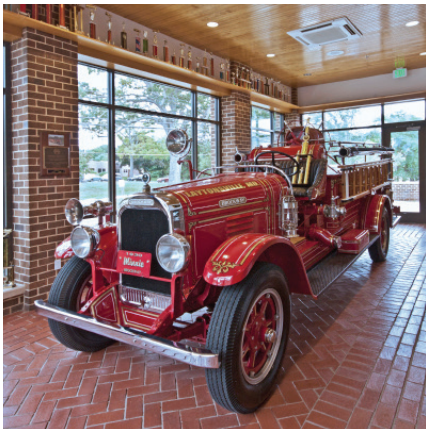
FIREHOUSE VOLUNTEER/COMBINATION NOTABLE

Laytonsville District Volunteer Fire Department

LAYTONSVILLE, MD

The Laytonsville District Volunteer Fire Department consists of an extensive interior renovation and 3,200-square-foot addition to the existing operations, living and administration spaces. The project was completed while the station was fully occupied. The original station, built in 1966, no longer provided sufficient space or functionality for the department. Shortcomings of the old station included fitness equipment being located in the kitchen. The growing demand for service called for larger and more efficient operations and living spaces. Minimal upgrades were required for the existing apparatus bay, consisting of a new vehicle exhaust system and a new roof.





The completed building features a prominent lobby displaying the department's historic fire equipment, visible to the passing community and visitors entering the station. Special attention was paid to the overall form and proportion of the completed design by using low, shingled roofs to tie into the historical context of the community.

New spaces include an inviting kitchen and dining room with commercial appliances, outdoor patio, a dayroom designed to comfortably seat 13, and a conference room for 18 people. The design also accommodates two operations offices, restrooms, watch office/command center, fitness center, lockers, four private showers with janitorial storage, and space for 14 bunks and four private dorm rooms. Spaces were carefully organized around existing bearing walls and structural components to create safe and efficient response paths to the apparatus bay while maintaining station privacy and security.

This newly configured space serves the career and volunteer members of the department by providing a more efficient

space for daily operations and emergency response. The completed addition ties into the existing apparatus bay façade, which was modified several years ago, to create an 11,500-square-foot fire station for the town of Laytonsville, MD, and Montgomery County Fire Rescue.

Official Project Name: Laytonsville District Volunteer Fire Department
Project City/State: Laytonsville, MD
Date Completed: Nov. 30, 2014
Fire Chief: Buddy Sutton
Project Area (sq.ft.): 6,000
Total Cost: $1,380,000
Cost Per Square Foot: $230
Architect/Firm Name: Manns Woodward Studios, Inc.
Website: mwsarch.com
Design Team: Principal Architect & Lead Designer: Robert Manns/Manns Woodward Studios; **Project Architect:** Emily Ratzlaff/Manns Woodward Studios; **Contractor:** Ken Wingate/North Point Builders

STATION DESIGN AWARDS

FIREHOUSE

VOLUNTEER/COMBINATION NOTABLE

Roslyn Highlands Hook & Ladder, Engine & Hose Fire Company – Fire Station No. 2

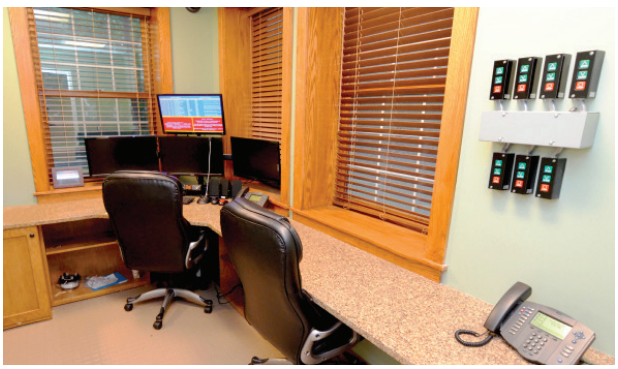
ROSLYN, NY

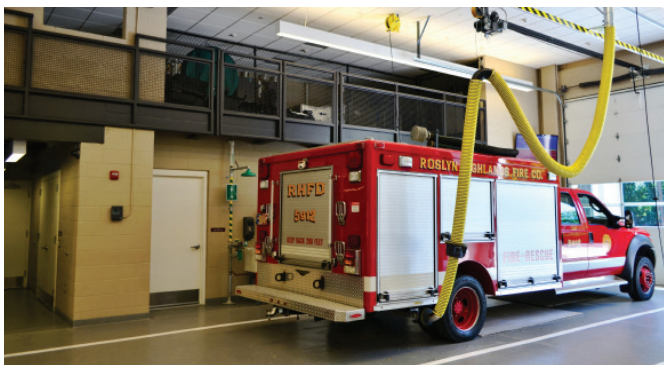
Nestled within the community of Roslyn Heights, the Roslyn Highlands Fire Department's Station 2 firehouse was an outdated, cramped volunteer substation that had been outgrown by its staff and its modern firefighting equipment. With an eye on expansion, the client was looking to demolish the existing building and retained h2m to design the new firehouse from the ground up. Through a series of workshops, h2m worked hand-in-hand with the client to develop a design that would cost-effectively fit everything into an efficient footprint.

The project's primary challenge was to incorporate the surrounding community's aesthetics into the firehouse design. The building, which is constructed entirely of masonry, is clad in cementitious siding, providing a more residential appearance. Other exterior design elements include a pitched roof, which adds to the building's residential look, as well as doors at the front and back of the building so trucks are able to pull into the building through the rear, as opposed to backing in from the street. Within the interior building design is an equipment mezzanine for mechanical equipment and storage and bailout windows along the mezzanine for training purposes.

Completed within the client's budget, the finished project has won over a once skeptical community, garnering positive feedback from area residents as well as local politicians.

Official Project Name: Roslyn Highlands Hook & Ladder, Engine & Hose Fire Company – Fire Station No. 2
Project City/State: Roslyn, NY
Date Completed: April 1, 2013
Fire Chief: Bill Trottier
Project Area (sq.ft.): 8,250
Total Cost: $3,300,000
Cost Per Square Foot: $400
Architect/Firm Name: h2m architects + engineers
Website: h2m.com
Design team: Architects: Danny Tanzi, Kevin Medler, Adam Post;
Civil Engineers: Michael Keffer, Charles Beckert: **Structural Engineer:** Michael McKeown; **Mechanical Engineers:** Joseph Manzella, Paul Foerth;
Plumbing and Fire Sprinkler Engineers: Joseph Manzella, Joseph Tutrone;
Electrical Engineers: Ernest Iannucci, Anthony Kim





Vineland City Fire Station No.1

CITY OF VINELAND, NJ

The existing Fire Station Co. #1 had been closed and demolished as part of a city redevelopment project for the historic Landis Avenue Theater. This necessitated the fire department to build a new fire station at the nearby 8th Street and Chestnut Avenue site that the city acquired as part of the redevelopment. This has allowed the Vineland City Fire Department to keep emergency response time to a minimum.

Because this site is located in a hybrid commercial/residential zone, the station must blend into the fabric of the existing building types present. Similar materials and scale elements have been incorporated into the design of the new facility while still maintaining the look and function of a traditional fire station.

The building is carefully sited on the lot that fronts both a wide commercial Avenue (Chestnut) and a smaller residential street (8th). Because existing corner properties had to be maintained, creative orientation of the apparatus wing has allowed fire trucks and equipment highly desirable drive-through access from back to front. The parking is off of the secondary access road and first responders' parking is adjacent to the apparatus bay entrance.

The fire station design accommodates four fire trucks. The four-bay apparatus room has an adjacent control room with full view of apparatus room and all four bay doors. The administrative spaces include an office and meeting room on ground level and additional office space on the upper level. A dayroom, kitchen and pantry along with additional storage space complete the first-floor layout. Access to the upper level is by elevator or the stairway. Additional upper level spaces include bunkrooms, fitness room and male and female locker facilities. The third level is used for much needed station storage and mechanical space.

Official Project Name: Vineland City Fire Station No.1
Project City/State: City of Vineland, NJ
Date Completed: Jan. 31, 2014
Fire Chief: Robert Pagnini
Project Area (sq.ft.): 11,430
Total Cost: $2,400,000
Cost Per Square Foot: $200
Architect/Firm Name: Rodier Ebersberger Architects
Phone: (856) 875-2792
Design Team: Rodier Ebersberger Architects; **MPE Engineer:** SunRose Engineers; **Civil/Structural Engineer:** Keith E. Conroy Engineers

Whitney Fire Department
SPARTANBURG, SC

Bobbitt Design Build completed a 7,571-square-foot addition for the Whitney Fire Department located on Bryant Road in Spartanburg, SC, making the overall station approximately 12,777 square feet in size.

The single-story addition provides a modern station designed to effectively accommodate full-time staff and expanded operations. The structure includes sleeping quarters for up to 10 members, offices for all paid personnel, and gender-specific areas for female volunteers. The structure also includes a large open plan dining/kitchen/day room providing a comfortable living environment for its members. The facility also includes a large exercise room to promote firefighter health and wellness. Whitney Fire Department hosts numerous training classes in conjunction with other stations, so a large training room which seats approximately 25 was included in the design. A smaller conference room was included for private conversations and to accommodate training on a smaller scale if necessary.

The building is designed to complement the neighboring school and other local surroundings. A brick façade covers the entire structure with accent brick and stucco to highlight the curves of the new station and give the building a clean, modern image. The existing apparatus building is capped with a new cornice clad in the same stucco material as in the new building, providing design continuity among both the existing and new structure.

Possibly the largest challenge in designing the new station were site constraints. The site was very narrow and deep, proving to be a challenge for placement and layout of the new station. By keeping the apparatus bays intact, Bobbitt effectively located the addition to minimize the impact on the site. Architrave, Inc., delivered the design plan, and the project was implemented successfully, even with these limitations.

Official Project Name: Whitney Fire Department
Project City/State: Spartanburg, SC
Date Completed: Aug. 20, 2014
Fire Chief: Shawn Petras
Project Area (sq.ft.): 12,777
Total Cost: $1,738,331
Cost Per Square Foot: $136.05
Architect/Firm Name: Bobbitt Design Build LLC/Architrave Inc.
Website: bobbitt.com
Design Team: Whitney Fire Department – Chief Shawn Petras, Captain/Fire Marshal Cody Pucetas; **Design Builder:** Bobbitt Design Build; **Architect:** Architrave; **Civil Engineer:** DH Hagins & Associates; **Structural Engineer:** K&P Engineering; **Mechanical Engineers:** MECA; **Electrical Engineers:** ETI