



FORT BUFFALO FIRE STATION #28

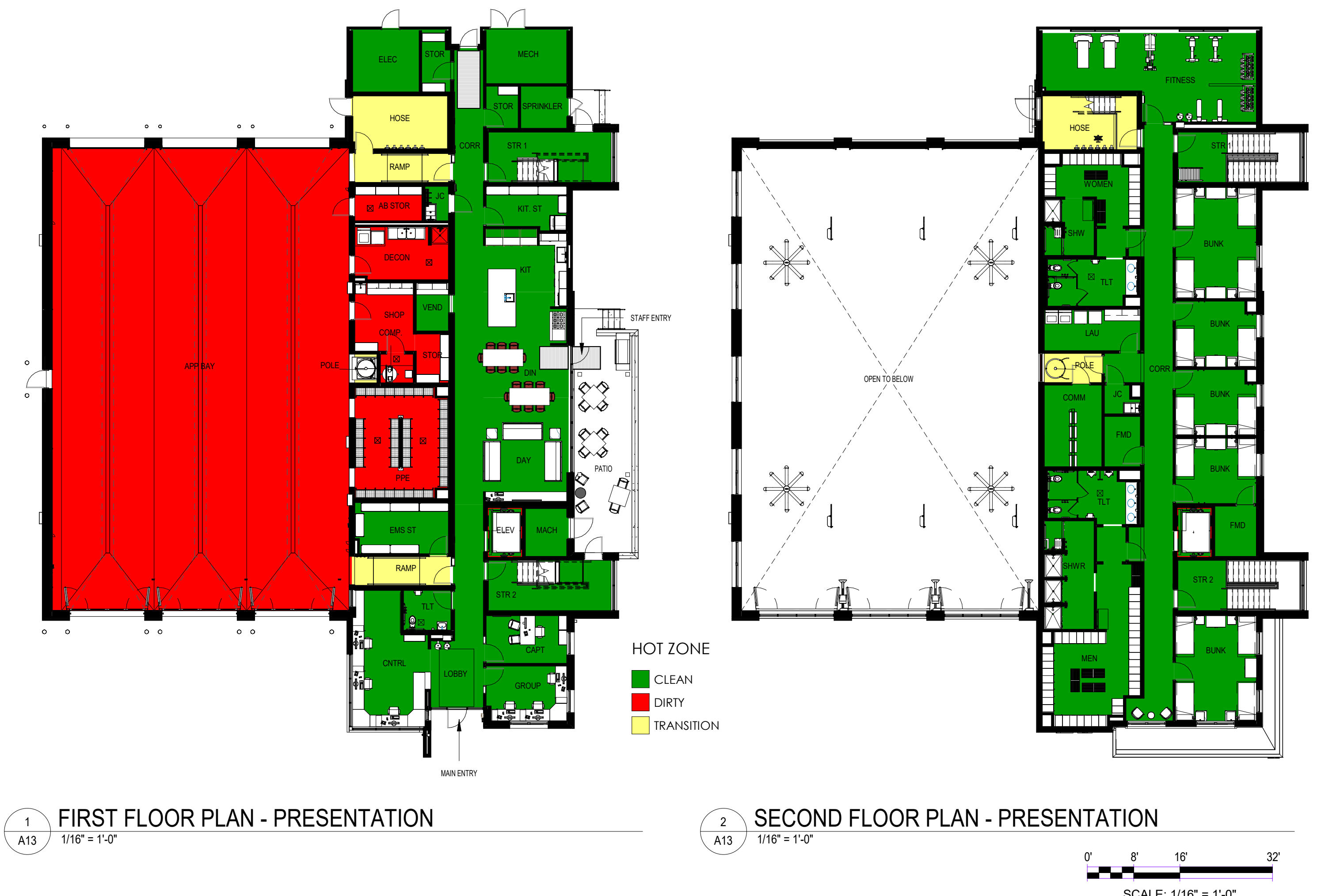
Seven Corners, Fairfax County, Virginia | BKV Group

BKV Group was commissioned by Fairfax County Department of General Services to provide design and construction administration services for the modernization of Fort Buffalo (seven Corners) Fire Station 28. The development of the basis of design for the various mechanical systems to serve the fire station was rigorous and data-driven to inform the system selection process.

The project was required to meet a minimum level of SILVER under LEED New Construction v4.1 rating system. During the initial planning phase, we saw the potential to achieve GOLD certification based upon the site location and strategies that were being considered to achieve goals of energy performance (EA) and indoor environmental quality (IEQ). For fire stations, energy performance, resiliency and indoor environmental quality align with key planning approaches specific to the fire industry and building typology.

As such, our team focused heavily on developing synergistic approaches that advance these goals and planning approaches.

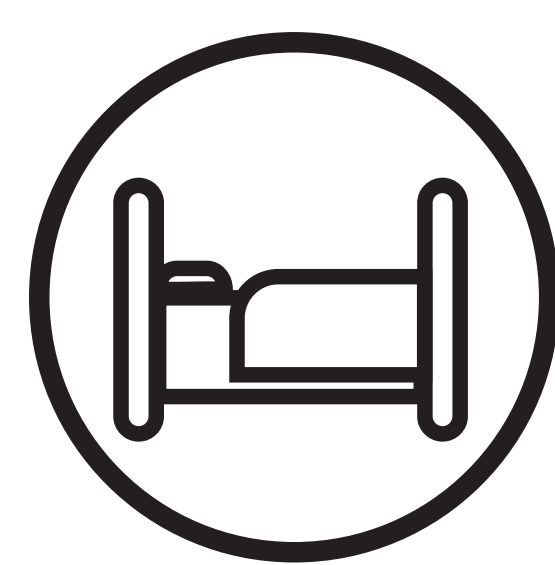
The County's process for HVAC system selection requires identification of three potential systemic approaches that are appropriate for a fire station facility of the proposed size. Fire stations are unique facilities requiring a comprehensive understanding of how individual areas within the facility operate and inter-relate. Cancer prevention has been a leading driver in fire station facility planning since the 1990s. The HVAC systems and cascading air pressurization approaches follow the "Hot Zone", "Clean Zone" and "transition" space planning strategies. When considering HVAC systems for fire stations, you are really designing separate systems to serve the hot and clean zones and performing two sets of LCAs to inform the system selection process.



3 BAYS



14 CREW



5 BUNKS



LEED GOLD

CLIENT

Fairfax County Dept. of Public Works & Environmental Services (DPWES)

FIRE AGENCY

Fairfax County Fire and Rescue Department

AGENCY TYPE

Career

SIZE

14,000 SF
3 drive-through bays

SITE SIZE

5 acres

COST

\$13M

COMPLETION DATE

Spring 2025

ARCHITECT OF RECORD

Boarman Kroos Vogel Group, Inc. | Architecture, Structural Engineering, Interior Design, Electrical Engineering, Mechanical Engineering

CONSULTANT(S)

Timmons Group | Civil Engineering, Geo-Technical Engineering

Sustainable Building Partners | LEED Consultant

Brinjac Engineering | Commissioning

Geo-Technology Associates, Inc. | Special Inspections

H2M | Pacheco Ross Architects | Firematics Architect