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DESIGNING FOR SAFETY, SERVICE, AND SMALL-TOWN SPIRIT

How a Rural New Hampshire Community Reimagined
Its Fire Station and Rallied Around the Future



Overview

In the small town of Westmoreland, New Hampshire, the community desperately needed to replace its fire station. Constructed in 1956, the station lacked the space required for a modern fire department's equipment and safety practices and was located adjacent to a state road, limiting vehicle access. Michael Petrovick Architects was selected to design a new fire station on the existing site to comply with contemporary health and safety standards while blending with the town's historic character.



History of the Project Site

Westmoreland is a small, tight-knit, agricultural community nestled along the Connecticut River. With a population of just 1,730, Westmoreland relies entirely on a fire department of 20 volunteers, 10 of whom are highly active.

As first responder health and safety concerns evolved in recent decades, it became clear that the station, originally built as a garage for apparatus, long posed challenges to the department due to its limited size and outdated facilities. The size of the department's modern-day apparatus exceeded the dimensions of the existing station. Additionally, the station's location next to the road offered very little apron space, which prevented vehicles from parking between the station and the state highway when the fire station doors were closed. Moreover, during winter storms, ice would accumulate, making it difficult for the vehicles to exit the station in response to emergencies.

The Role of the Architect

Our team embraced the challenge of designing a new station to meet the evolving needs of this rural, volunteer-run fire department. The natural first step was to assess the existing space to identify its shortcomings and develop a wish list of current and future spatial requirements. A committee of fire department members, an individual from the board of selectmen, and community stakeholders collaborated with the architect to determine their wants and needs. Guided by our understanding of community dynamics and experience with designing similar fire stations, we prioritized needs vs. wants and began designing a space to meet those complex needs best.

Recognizing the significant capital investment this project represented, we assisted with community consensus-building efforts to gain support for the project. This project had the highest capital outlay for the town—second only to school projects—and people were concerned about the project increasing their property taxes. The messaging needed to be informative and persuasive. Through town

forums and informational sessions, we effectively communicated the project's goals, budget, and potential benefits, addressing concerns about property tax implications. By informing stakeholders about funding sources—including a \$2.5 million bond, Capital Improvement Plan funds, and fire department fundraising—we positioned our design as a prudent investment in public safety.

While initial budgets came in high, we leveraged our expertise in value management to refine the budget to a more reasonable place while upholding design integrity. Ultimately, the committee felt we were a responsible steward of municipal funds, with a design that showed both restraint and creativity.

As architects, we uniquely understand how to make the best use of all available space and how to select the most appropriate building systems to provide comfort to occupants. Our value is the ability to balance optimizing all available space while maintaining the design's impact and integrity and staying within budget.

Innovative Design Solutions

Onsite gear decontamination

In the old facility, first responders took their gear home in their personal vehicles, further exposing themselves and unknowingly exposing their loved ones to harmful toxins. To address this, we designed a state-of-the-art turnout room for the safe decontamination of gear, eliminating the risk of exposing families to harmful toxins and bringing the station in line with current health and safety standards. Firefighters can now remove their gear at the station and place it directly into the extractor and dryer to remove contaminants. Each firefighter has two sets of gear to ensure that they are always prepared for a call.

Improved collaborative emergency response

Improved collaborative emergency response: The new station enables first responders to more easily and safely collaborate with other stations when the need for mutual aid coverage or assistance arises. In the 1956 station, when trucks from other neighboring stations provided coverage, they were forced to park in the adjacent parking lot because the outdated facility could not accommodate modern apparatus. With the new and more thoughtful site design, visiting firefighters can easily maneuver onsite and park their trucks in the apparatus bays, allowing them to respond to emergencies more promptly.

A balanced design aesthetic

The Westmoreland community expressed concern about the proposed exterior design of the new station, preferring a design reflecting the town's historic character rather than the proposed more modern aesthetic. To address these concerns, the team created and presented redesign studies to the community illustrating how the new, modern design followed preservation guidelines for new buildings and would preserve views of the iconic Town Hall steeple when approaching the village from the west. As part of this study, we also explored more traditional design options, including one with a gable roof that was more rooted in the surrounding historic styles but would have been more expensive to build and would obstruct views of the iconic town hall. By discussing both design options side by side, the team demonstrated that the modern design was more suitable because it complemented the village's historic character without being distracting or detracting from it.

Optimization of space

The new space incorporates several essential functional elements of a modern fire station, each appropriately sized and designed to accommodate all potential use cases. For example, while the decon room is somewhat smaller, the extractor is positioned to permit access to all four sides for easy maintenance. There is also space for a workbench, as many repairs are performed in-house. While we were constrained by the existing site footprint, our ability to optimize every square foot showcases our commitment to maximizing utility without compromising design quality.

Truck ventilation system upgrade

The apparatus bays are fully ventilated to reduce airborne contaminants the vehicles produce. This safety measure was lacking in the previous station.





Commitment to Sustainability

Despite the limited budget, our team was able to maintain reasonable sustainability goals for the fire station. A long, sloping roof is poised for future solar panel installation, projected to occur within the first five years, providing renewable energy to both the fire station and the adjacent town hall. The building envelope design extends beyond simply meeting energy code, optimizing thermal performance, durability, occupant health and comfort, and long-term cost of ownership. Additionally, the station incorporates electric-powered HVAC systems that carefully balance energy consumption with the building's intermittent occupancy. During cooler seasons, the apparatus bay is maintained at a

minimum of 55°F, while the administration area is maintained at 60°F when not in use. All of these sustainable design choices ensure the new fire station can meet the needs of the department and the broader community with a light impact on the environment.



Community Impact

The fire station is not connected to municipal water, so to provide sprinklers in the building, the team installed a 22,000-gallon underground water tank. The neighboring Town Hall took advantage of the new water source to add a sprinkler system to its building, saving the Town close to 70% of what a traditional sprinkler system project would cost.

Westmoreland's new fire station has positively impacted both the volunteer first responders and

the broader community. Volunteers are ecstatic about the significantly enhanced functionality of the new space, with each area working just as they'd hoped to meet their needs. The new design promotes efficiency, organization, and improved safety, fulfilling the evolving needs of first responders. The station not only elevates public safety but is now a point of pride for the Westmoreland community, fostering community spirit and demonstrating the profound impact of thoughtful architectural design.



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Michael Petrovick Architects is a small architecture firm filled with people who are passionate about design and connecting with our clients. We are a firm of listeners and designers. We will guide you through a process of discovery, helping to uncover all the needs your building project must fulfill. We are alchemists, meaning we translate your vision into something better than you can imagine.

We take inspiration from the charming historic New England architecture that surrounds us. Using the backdrop of our community, we are equally versed in preserving or adapting historic buildings for new uses as we are designing modern buildings that fit within the community fabric.



**Contact us today to learn more about our fire station projects
or schedule your free consultation.**

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