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By Alan Predmore

Building Community Support

It's critical to explain your needs—and do so early

To gain the support of the community, start by inviting members of the public into one of your fire stations to learn more about the functions of a station. If possible, also invite members of the community and your department to hear station design proposals from the architect. *Photos by Alan Predmore*

Building community support for a new fire station project can sometimes be the most challenging part of the entire project. Time and time again, in all regions of the country, we have seen voters reject bond measure after bond measure to fund the construction of a new fire station that is badly needed in their community.

While we know many people will generally oppose any new tax, there may be a number of other reasons that voters are quick to reject these bond measures. And we can't always place the responsibility on the voters unless we can say that we did everything we could to educate the community about our needs well in advance.

Explain the need

Building community support for a new fire station begins long before the question to fund such a project appears on the voter's ballot. If you wait to embark on a community support campaign to align with an election, you've likely waited too long and shouldn't be surprised if the measure meets resistance and is ultimately rejected at the polls. Many voters perceive an election campaign to be nothing more than a sales campaign and will generally be quick to make the decision "not to buy," especially when they don't understand the need.

Helping the community (voters) to understand the need is one of the essential elements of a successful bond measure. A well-known quote by author William Bridges really helps put it in perspective, "People aren't in the market for solutions to problems they do not see, acknowledge and understand."

For us in the fire service, it is easy to understand the need for a new fire station facility. Within a minute we can quickly identify, point out and usually quantify in some terms a number of deficiencies in an aging and inadequate fire station facility that we know needs to be replaced. But the majority of our community members, without any fire service experience, have

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no understanding of what a fire station is supposed to be and needs to be.

Put yourself in their position: Pick a service industry business located in your community that you know nothing about and then ask yourself, "Is the building in which the business is located adequate for their needs? Does it have adequate space for their business to be successful today and in the future? Does the building have the amenities and mechanical features to make it both safe and efficient? What does the building lack that the business needs?" Because you know nothing about the building needs of the

Share with department and community members the purposes and functions the fire station building serves.

business, you can't answer any of these questions; you can only think of more questions to ask. And now you know how most voters feel when being asked to fund a fire station. They often don't understand why it's needed.

Long before the time comes to ask voters to fund a new fire station, we need to educate them about what a fire station really is. The fire station isn't just a garage to park the fire engines in, with a kitchen where the firefighters eat, play cards and tell stories. We know this, but do our community members know this? Are we inviting the community into our fire stations where we have the best opportunity to educate them about what a fire station building is?

My personal experience for a number of years was a reluctance to invite the public into our fire station. The station was small with very cramped quarters, it was in need of a number of visible repairs, there wasn't a part of the building that didn't look worn and uncared for, even though the care and maintenance of the building had become quite labor-intensive because of its age and use. Inviting the public into the station seemed to be an embarrassment and contrary to the professional image that our organization continually strives to display. But by keeping the public out, protecting them from seeing the conditions, we were missing a great opportunity to educate them.

Begin by inviting the public into your fire station—and this means you have to let them past the lobby or public area. Take the time to point out and explain the deficiencies in the building and how

the building impacts your ability to provide service. Tell them the purposes and functions the fire station building serves. Within the short station tour, do what you can to educate them about the conditions and what it is like to work in a fire station, specifically your fire station. Make arrangements with neighboring jurisdictions to bring groups from your community to tour their fire stations, especially when you have the opportunity to show your constituents what a "real" fire station is. Even people with no fire service knowledge or experience can be educated quickly about the need when given the visual opportunity to compare and contrast an inadequate fire station with one that is meeting the needs of the community. Take advantage of one of the things we do well in the fire service—educating and training others.

You know the need exists for a new fire station, but you need the community members to know the need exists and, unfortunately, they may not believe you on your word alone. Well before a bond measure makes it to the ballot, invite a broad cross-representation of key stakeholders to become involved in the Needs Assessment process. Include representatives from the business community, social and civic organizations in the community, faith-based groups, special interest groups, and don't leave out those who can represent the interests of the "citizens at-large." Whether you decide to bring this collaboration of individuals together as a formal or informal group, these individuals will likely take a great deal of ownership in the overall process if you allow them. Don't let them freelance. Like any group, they need a leader to be effective, and the leader should be someone who has the authority to represent the interests of your fire service organization in the process.

Take advantage of all the time you have available before it's time to campaign and build your support network.

Your fire department and the leaders of your organization probably know 3–5 years in advance of when the community is going to be asked to support the construction of a new fire station. This is when the focused process of building community support needs to begin. And remember that community support is about giving the community knowledge and understanding of the need. Using this time effectively to build progressive community support will lead to positive support of funding to build a new fire station. While you should recognize that there will always be naysayers, know that a much larger majority of the community will get behind and support a cause they understand.

Building a new fire station is not easy, but it is a very exciting and rewarding experience when the new station is operational and the community supported it.

Don't "campaign"

It's important to understand there is a difference between building community support and an organized election campaign. In most cases, a fire department that operates as a function of government is not allowed by law to "campaign" for or against a measure; rather, it can only offer factual statements for the purpose of informing the voters of the details of the measure they are being asked to consider. This can be challenging because during an election (which is usually considered to be once a measure has been filed with the election office), a department or anyone representing the department cannot request voters to "Vote Yes" or make statements recommending they "Vote Yes"; either could be a violation under state and/or local governances or laws.

Take advantage of all of the time you have available to you before it's time to campaign and build your support network. In my experience, the community supporters developed early on were the ones who self-initiated as an organized political action committee (PAC) and ran the campaign in support of the bond measure to fund the construction of a new fire station in their community.

In sum

Building a new fire station is not easy, but it is a very exciting and rewarding experience. The tasks leading up to building a new fire station are even more challenging, but should be equally as rewarding in the end. Starting very early to build the community knowledge and understanding of the need is where your support will come from. With an army of supporters who believe in the need, the steps toward a successful bond measure to fund the construction of a new fire station are much easier. There is nothing better than having community members telling other community members how badly a new fire station is needed before they hear it from you. ■

By David Hartman & Mashal Afredi Hartman

15 Questions

What to ask before selecting an architect/engineer team

Fire chiefs and their staffs are experienced veterans when it comes to leading fire departments, managing community crisis, hiring personnel, purchasing equipment and specifying apparatus. However, most of these chiefs are operating out of small departments with facilities that have been around for 25, 50 or even more than 75 years.

As such, the likelihood of them having much experience with a building project—and specifically hiring an architect/engineer (A/E) for a station renovation, expansion, replacement or addition—is rare.

Dealing with facility issues often requires finding expertise outside the fire department. You will need funding, procurement services, project and construction management specialists, an A/E team and a general contractor. It is important that you assemble the team yourself. Don't hire the architect and have them assemble the team, as someone like the mechanical, electrical and plumbing (MEP) engineer can be equally important to the success or failure of any fire station project. Create a partnership among these various entities from the beginning.

Charlotte, NC, Station 34 features a truck bay with decorative hydrant caps overhead. *Photo by David Hartman*

The following is a list of questions to ask when selecting your A/E team. These questions can be answered while talking to potential A/Es at industry trade shows, fire station design conferences or during the selection process. Every building project has a story in which the A/E team has a critical role. It's important to get an A/E team with the most positive stories and most collaborative spirit. Proactive research on your part will be critical and is priceless!

1. What is your firm's experience building fire stations?

Fire stations are very complex facilities, and other than aircraft carriers and prisons, are one of few unique facilities that are both office and a home 24/7 and 365 days each year. Do not focus on the quantity of stations in their portfolio, but rather the quality of what they built.

2. Who are your MEP, civil and structural consultants?

MEP consultants are critical to fire stations during design and construction. We have traveled across the country and visited more than 50 new stations in the past 12 years. The MEP com-

BATTALION CHIEF DAVID HARTMAN (Ret.) served with the Charlottesville, VA, Fire Department for 33 years in several leadership roles, culminating as the department's special operations battalion chief. After retirement in 2010, he served as the owner representative for 4½ years during the planning, design and construction of the Fontaine Fire Station and Training Center. David earned his bachelor of business degree from James Madison University.

SENIOR PROJECT MANAGER MASHAL AFREDI HARTMAN has worked as a project manager for University of Virginia Facilities Management for more than 17 years and has successfully managed more than $226 million worth of projects during that time. David and Mashal are co-owners of Hartman Fire Station Consultants, LCC and can be reached at davidhartman@hartmanfsc.com.

Charlottesville, VA, Fire Station 10 *Photo by Joe Rice, City of Charlottesville*

ponents are usually the most problematic and least obvious until the building is complete. It is important to check references on all consultants.

3. Does the A/E team have experience in specialized fire station components driven by such needs as ISO, accreditation, training, disaster preparedness, communications and unique department/community needs?

Having someone on the team who speaks your language and comes from the fire service is critical. If they don't have that member, request that they add a fire station design consultant to the team.

4. Has the A/E team worked together?

Teams that have worked together have an edge over teams that have not. Getting two well-known consultants who have never worked together often presents challenges with coordination and, ultimately, quality control. If they have worked together, those issues are not being worked out at your expense. Get a list of stations they have worked on and contact the users for feedback.

5. Has there ever been any litigation from any of your past projects?

This should be looked into for both the architect and MEP, separately. It doesn't have to be directed at them, just the project. Litigation is often the result of errors or omissions on drawings, missed items during bid, or breach of contract by the general contractor. It is important to find out the whole story.

6. Who is your internal project team during design and then during construction? Will there be continuity?

You want the "A" team from any A/E firm. It is important to check references. Equally important is to find out about continuity of personnel from design through construction. During construction, firms sometimes bring in lesser-experienced members who may be well qualified technically but do not have institutional memory of why certain things were included during design. Thus, substitution requests or deletion of items that are important to the department may occur without the department knowing about it until they occupy the building.

7. Will you be using Building Information Management (BIM) during design?

This is a 3-D tool that significantly reduces coordination in the field. Most non-residential A/E firms have this and should use it in the project regardless of whether it is new construction or a renovation.

8. What is a project you are proudest of and why?

Have they received any design awards or user feedback? Obviously the latter is very important to you. The building must function well.

9. What is a project you are least proud of and why?

Was it litigation? An unrealistic schedule? A difficult contractor or subcontractor? A difficult client? It is important to know the whole story to avoid similar mistakes.

10. How willing are you to listen to the client (as opposed to imposing your own design style)?

Contact references and ask about the proposed team, during design and construction. Beware of stubborn A/E teams. Conversely, give them the respect they deserve, as you are hiring them as experts.

11. How do you propose to approach the project, from programming through construction?

Do they do a Needs Assessment? How many other consultants will they bring in at various phases? Ask about their quality control during design and construction. Again, you can have a great design but if it is not carefully shepherded and protected during construction, the results can be disappointing to disastrous.

12. Do you have resources with experience to help to select fixtures, furniture and equipment?

This is a very important component that's often shoved onto department members who are ill-equipped to specify, and provide the cut sheets on everything specified, to the team early enough to be incorporated into design. Identify this resource, either internally or externally, early on.

13. Can you provide us with your overall fees for your five previous projects?

Ask for Total Construction costs at the end of the project, including change orders. Similarly, ask about their fees, including add services, at the end of the project. The range should be 8-11 percent of total construction. Tight sites or renovations tend to be higher.

The Good Client

Before commencing on any project, be mindful that you need to be a good and reasonable client. Insisting on a very tight schedule, and changing design or adding scope during construction, adds burden to the entire team. There are three main components to any project: time, money and quality. Being reasonable about time and money should guarantee a high-quality product. If you squeeze either time or money, quality often suffers.

14. What was the price spread on bids for your last three projects?

Assuming projects were bid after construction documents were 95 to 100 percent complete, if the spread between bids was within 5 percent, drawings are excellent. If it was 20 percent or more, that is cause for concern.

15. Have you conducted post-occupancy evaluations of projects with occupants one to two years after occupancy and, if so, do you have any lessons learned from those projects?

This is a key step if firms care about learning from previous projects. If they haven't conducted any, it is a red flag. Also, lessons learned are important to learn about as they reveal the character of the team and may help you avoid some pitfalls.

In sum

A building project is a marriage, and you want to know as much about your partners before entering into that partnership. What is not revealed is often just as important as what is. And similar to a marriage, it is important to enter into the project as a team, with you, the A/E team and the general contractor all being equal and respectful partners; otherwise, it is bound for failure. ■

By Mark D. Shoemaker, AIA

Training at the Station

Basic training props can be incorporated for a fraction of the total building cost

Does your fire department promote a training culture? Is safety and training foremost in the minds of your staff? Your officers? What about your elected officials?

A recent U.S. Fire Administration (USFA) publication "National Safety Culture Change Initiative" (www.usfa.fema.gov/downloads/pdf/publications/fa_342.pdf), developed by the IAFC through a partnership with the USFA, presents a compelling case for a change in the culture of the nation's fire departments, particularly as it relates to safety. This report was developed to explore reasons for, and how to respond to, the disproportionate number of losses in the fire industry relative to the decrease in the number of fires in the U.S. Seldom (if ever) does a week go by without news concerning an injury or death to an emergency responder, whether directly related to a line-of-duty event or a medical emergency stemming from a heart attack. Among numerous topics in this report, health, wellness and training are given significant emphasis. Many such incidents are avoidable, or at least their severity can be reduced, when a training program is implemented and, most importantly, embraced by the entire department.

The need for experience

A challenge to maintaining high-level firefighting skills is that the national reduction in the number of fire incidents over the years has resulted in fewer on-the-job training experiences. Of course, a downturn in the number of fire incidents is good, but it has resulted in a need to increase the level and opportunities for training, not only for new recruits, but for veteran firefighters as well. Repetition of basic firefighter training to maintain sharp motor skills and knowledge of existing techniques may be just as important as training on new tools and techniques. Training elements and equipment built into fire stations can enhance the training opportunities necessary to refresh and hone these skills.

Three major challenges face fire departments relative to training: 1) time constraints, 2) resource constraints and 3) leadership. Time constraints are perhaps most significant for volunteer departments as they struggle to find new recruits, but it is often noted as a challenge in career departments, too. Resource constraints (i.e., lack of funding) impact most departments in this time of reduced funding, staffing cutbacks and station closures. It is the final challenge—leadership—that can have the most profound influence in changing the culture of a department. The commitment to a training and safety culture must begin at the top of an organization and, with strong leadership, be filtered throughout the ranks of the department.

A dry standpipe and sprinkler training prop in training stair/tower.

These windows are used for bailout and firefighter rescue training.
Photos by Mark D. Shoemaker

Department leadership can also influence the local officials who hold the purse strings. Making a strong case for funding training and safety initiatives is critical to gaining the necessary political will and funding to support an effective training program. This is critical when establishing a budget and seeking funding for a new fire station. Providing the infrastructure to support a training program in a new building project need not be expensive, and can potentially create a relatively quick return on investment. Basic training props can be incorporated for as little as 1 to 3 percent of the total building cost. One department reported the training tower and simple training props incorporated into their new headquarters station were essentially paid for within five years, given the savings in transportation and staff costs related to offsite technical rope rescue training that had previously been required.

As Director of Public Facilities at KZF Design in Cincinnati, OH, **MARK SHOEMAKER** is responsible for leading KZF's efforts in delivering professional architectural and engineering services for local government clients, including studies, design-bid-build and design-build projects. With more than 30 years of experience, Shoemaker has worked nearly exclusively on public projects, having completed more than 70 local government projects—administrative buildings, public works facilities and public safety facilities. He has a special interest in fire station design, and has completed more than 50 fire station projects around the country.

Ideas for your "training station"

Over the past 15 years, fire departments around the country, along with their architects, have increasingly embraced the concept of the "training fire station." These include small fire stations (10,000 square feet or smaller) to large fire headquarters. Training props incorporated into these stations range from simple floor openings to relatively complex training towers joined with training mezzanines and below-grade confined-space training.

For relatively little cost, a mezzanine overlooking the apparatus bay provides a versatile platform on which basic ladder training, rappelling and confined-space props can be built. Openings placed in a wall, between the mezzanine and the bay floor below, provide basic ladder training, rescue training and ropes training. A simple opening in the mezzanine floor, utilizing removable steel bar grates or a standard manhole cover, provides an opportunity to train with a tripod. Careful placement of this opening over an alcove or similar space below provides a convenient opportunity for confined-space training. Careful consideration of the design and location of that space provides the ability to observe training—initial basic training with lights on, ultimately progressing to advanced training with lights off. Finally, the stairs required to access the mezzanine can be extended beyond the mezzanine to the roof level and above, transforming the stair into an essential training prop for hose advance drills, rappelling (both inside and outside the stairs) and high-angle rescue training. If the stairs are built with appropriate material for wet areas (including a dry standpipe with fire department connection and a valved pipe extension for sprinkler heads), it becomes a space to practice discharge hose and sprinkler head change-outs. As an added benefit, the roof access not only allows for easy access to any rooftop mechanical equipment, but also provides a roof area where additional parapet ladder training may occur.

These same props, if planned and incorporated carefully and imaginatively, can also be used to develop higher-level skills training. In this way, props used for repetitive skills training (ladder evolutions, technical rope techniques, hose deployment drills) can be expanded to create simulated scenarios incorporating critical decision-making into the training session. *Firehouse Magazine* Editor-in-Chief Tim Sendelbach has created and written about many training props that can be adapted and incorporated into a basic station design to augment the basic props described above. Consider the possibility of breaching a door, including a ceiling breach, advancing hose up a stair, connecting to a standpipe, then proceeding into a simulated bedroom on the mezzanine level, including a search and rescue complete with a rescue through the upper-level window accessed by a ladder.

Don't discount the creativity of your department staff, especially your training officer, when developing concepts and designs for training props. Most of the solutions I have seen or participated in evolved from ideas generated in discussions with the firefighters themselves. Occasionally, with the creative juices flowing, ideas might exceed practical applications, yet brainstorming is often a productive exercise. A client once suggested a flood door at the basement level of his training stair that would allow him to flood the lower portion of the stair for water-rescue training. (He was a former Navy training officer.) The prohibitive cost of that idea eventually gave way to more important program requirements, but that volunteer department has remained to this day one of the more aggressively active training departments I have had the opportunity to work with.

In addition to training props, training rooms and fitness rooms are essential components of a fire station built to facilitate training.
Photo Courtesy Bennington, NE, Fire and Rescue

Training and fitness rooms

In addition to training props, training rooms and fitness rooms are essential components of a fire station built to facilitate training. Many stations have been built where the added cost of these facili-

ties are offset by making them available for other users. Consider making the training room available for outside groups. I remember one client who looked forward to the food left for the staff after Scout or community group meetings. Training rooms as well as fitness rooms can also be made available for other city staff. However, remember that if outside users are permitted to use these facilities, it is important to design the station to permit direct access to these spaces without entering the private living and administrative areas of the station. A separate small locker room and toilet/shower is recommended for a fitness room shared by others, and public male/female restrooms must be considered for a publicly accessible training room.

Make the shift

A new fire station is an opportunity to support a cultural change related to safety in a department—or reinforce a safety culture that already exists. Providing effective training opportunities in the station design is a practical and effective way to make training more accessible, and with reduced time constraints on the department, ultimately saves costs, injuries and lives. A recent article addressing the decline of volunteer firefighters in one Northeastern state suggested that one reason for the decline is that volunteers spend 90 percent of their time fundraising. That leaves little time for training, and in a state where volunteer firefighter training may not be required, the safety of those who do volunteer is at risk. Training props built into the station and readily available for training scenarios, requiring little or no time for setup, are an invaluable asset to any new station design. ■

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Indicate 167 on Reader Service Card

By Jeff Humphreys

Gender & the Fire Station

Incorporating privacy and gender flexibility in fire station design

Today's fire stations serve not only as efficient command centers but also as homes for the firefighters, 24/7. Firefighters' ability to protect their citizens is directly influenced by the quality of the environment in which they live and work.

As such, fire departments around the nation are constantly seeking to improve these environments so they can enhance the level of service they provide their communities, retain and recruit the best firefighters, achieve their operational goals, and manage their budgetary constraints.

Similarly, fire station designers are constantly looking at ways to improve social interaction, strengthen the sense of camaraderie and promote team building. Along with this, designers are looking at the need for, and level of, privacy in the living quarters portion of the fire station. This leads to the importance of carefully designed public and private areas. An ideal situation allows for personnel to interact with their fellow firefighters when necessary but also to enjoy a sense of privacy when needed. This privacy is key when it comes to study areas, sleeping quarters, lockers, changing areas, restrooms and showers.

Gender-specific vs. gender-neutral

With an increased number of women joining the firefighting ranks, there's a need to rethink how we design fire station living environments. Departments are now looking at these changing demographics and trying to assess their impacts over the next 10 to 20 years, or more. This has led designers to seek various means of providing privacy for fire personnel with gender-"specific", "-neutral" or "-friendly" facilities.

As more and more women enter the fire service, we see departments either trying to retrofit existing facilities or design new facilities to meet the increased need for privacy in living quarters. Areas that have the most sensitivity or need for privacy are sleeping areas, locker and changing areas, restrooms and showers.

The traditional gender-specific approach of one dormitory, one locker room, one restroom with multiple toilets, sinks and showers is now giving way to a range of other options. Some say that one advantage to the dormitory-style arrangement, with multiple beds in one large room, is the sense of team-building and camaraderie that can occur in this setting.

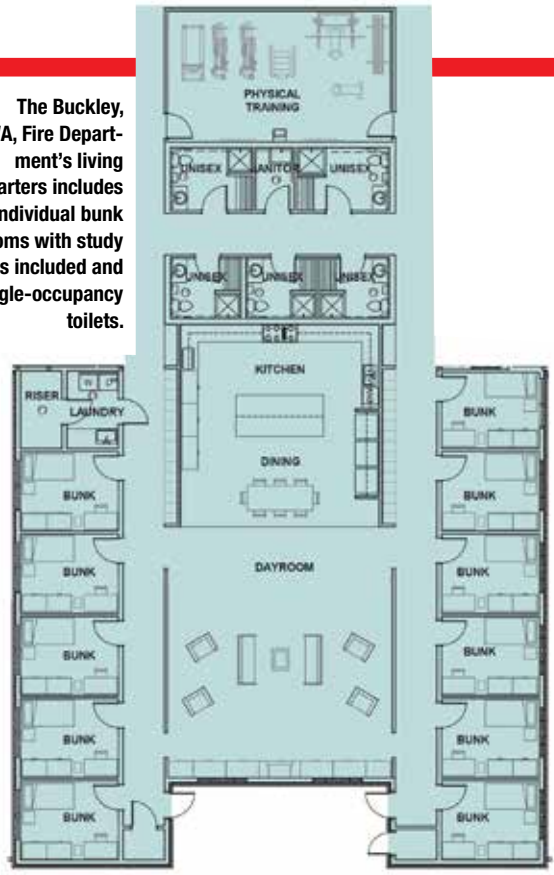
This has led some departments to create gender-specific dormitories. Even though the configuration of the dormitory room itself is very efficient, having to provide dormitories for each sex requires careful estimating of gender mix and often means adding additional beds to allow for shifts in numbers of men vs. women.

As a result, other departments have taken an approach that modifies the dormitory so it becomes more gender "neutral." One way this can be done is to add partial height walls between beds and possibly curtains that offer additional privacy. In some departments, there is standardized "modesty gear" (i.e., shorts and T-shirt) issued to each individual to be worn for work and sleeping.

The dormitory space can often contain additional elements, such as lockers and study areas, with lockers designed so they can also contain storage space for bedding. These can be configured in such a way as to provide a degree of privacy between beds.

Restrooms can be configured in a number of ways. The traditional approach is a gender-specific facility with multiple toilets, sinks and showers. These are often combined with lockers and changing areas. This approach requires determining what the ratio of men and women will be over the life of the facility, and usually results in building more facilities than are actually used.

Director of Architecture and leader of Mackenzie's public projects team, **JEFF HUMPHREYS** has more than 20 years of architectural experience. Humphreys specializes in public safety and emergency response facilities and has been project lead on nearly all of Mackenzie's public safety projects over the past decade. He takes an active role in the design community, and regularly presents at fire and police design conferences. He is a board member for the Oregon Fire Chiefs Foundation and serves on the IAFC Environmental Sustainability Committee.



The Buckley, WA, Fire Department's living quarters includes individual bunk rooms with study areas included and single-occupancy toilets.

Image Courtesy of Buckley, WA, Fire Department

Crucial to a successful fire station design is a careful analysis of short- and long-term staffing needs. This includes determining number of crews and staff per crew; procedures to be followed during crew changes, such as taking showers and changing clothes; the number of part-time and full-time firefighters; and the role the facility will serve in times of major emergency events. As mentioned, it also requires anticipation of the ratio of male and female firefighters. Further, it is important to consider other functions that occur in the facility, such as training or staff meetings. In some instances, dormitories are designed with built-in Murphy beds that can be folded up, allowing the space to be used for other activities.

While we have seen a number of approaches to designing sleeping areas, restrooms and locker areas to address privacy and mix of gender, we are seeing a higher percentage of departments opting for a more gender-neutral approach. This will often include individual bunk rooms with study areas included, single-occupancy toilets that include showers, and remote lockers that are often located in an adjacent hallway, with changing occurring in the bunk rooms or restrooms/shower areas. One of the main advantages of this approach is that it allows a department to design the facility for a set number of firefighters regardless of their gender, even if the ratio of men to women changes over time. It also allows the highest degree of flexibility for the individuals regarding their personal space and allowing them to come and go without disturbing the other crewmembers. Further, by placing the lockers in a remote location, they can be configured with enough lockers for multiple shift changes. This can allow the bunk beds to be oriented so they get natural light and ventilation that could be individually controlled.

The example above shows how this approach can be arranged so it literally wraps around a central shared kitchen and

dayroom space. It is critical that the configuration of all the living quarter elements be arranged to allow maximum interaction between spaces, while providing an appropriate level of privacy.

We have seen cost-saving benefits for developing stations with single occupancy restroom/shower facilities with common area lockers over traditional dedicated gender restroom/shower facilities. This is typically a result of the reduction in actual area needed and reduced total quantity of plumbing fixtures. Comparing the sample design on A17 to a station with a gender-specific restroom/shower facility with a similar quantity of lockers and plumbing fixtures (completed for a different fire department) demonstrates that the single-occupancy approach achieved a reduction of 40 percent of the required area. This not only translates to reduced cost for the project, but can also allow for a tighter, more compact floor plan, improving flow and travel time across the station.

Create a good space for all

When designing for today's fire station living quarters, it is important to carefully consider a variety of factors. These range from the departmental goals and culture to anticipated growth projections and specific operational conditions. In addition, it is important to consider the gender and related privacy issues we have discussed. Departments across the country are finding that a comprehensive response to these issues will result in a highly flexible environment that creates a more livable environment for all crewmembers.

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By Janet A. Wilmoth

Bob Costello's Buckeye Fire Department Fire House No. 3.

Shared Lessons on Building a Fire Station

Advice on forming planning committees, hiring architects, involving department personnel and the community, and more

You need a new fire station. Where do you begin? Every question seems to generate more questions and involves more people. Costs increase exponentially, and it's starting to appear that the project will take twice as long as you planned.

If you have never built a fire station, or haven't built one in a long time, then the sooner you begin the research, the fewer mistakes and the less costly the errors are likely to be.

We contacted several fire chiefs from across the country who recently completed new fire stations and asked them to share some of the lessons they learned from building a fire station.

Where to begin

Denis McCarthy, fire chief and emergency management director for Norwalk, CT, was involved in the construction of a $15 million, 31,000-square-foot station that took 10 years to complete.

"Designing and building a new firehouse is a daunting task," McCarthy says. "It regularly put me out of my comfort zone. Many times I was the final say on some controversial issues and building options. I felt that I had the responsibility to represent my vision of what was needed for the fire department and the community."

By seeking as many opinions as possible, McCarthy believed he could best meet his responsibilities to complete a project that was financially feasible and create a building that would last 50 to 75 years.

McCarthy had seen other municipal projects that were not properly vetted by internal and political stakeholders, but believed he had the opportunity to follow best practices in engaging staff and the approving city boards and commissions in the process. "While this was time-consuming, it avoided any surpris-

JANET WILMOTH grew up in a family of firefighters in a suburb of Chicago. Wilmoth, owner of Wilmoth Associates, worked with *Fire Chief* magazine for 27 years until it closed in 2013. She is currently a Project Director for Firehouse/SouthComm. Wilmoth currently serves on the Board of Directors for the Fire Emergency Manufacturers & Services Association and lives in Lisle, IL.

es and built support as the project moved through the process," McCarthy says.

McCarthy also offered regular updates for department members, workshops and tours of both the building they demolished and the new building during construction. In addition, reviews and approvals from authorities were important parts of that process.

Planning committees

Forming the initial planning team is often the first step in the process of considering a new fire station. Bob Costello, fire chief of the Buckeye Fire Department, recently saw completion of the sixth fire station in the growing city of Buckeye, AZ. He believes that forming the initial team is too often more difficult than it should be. In the perfect world, asking for input from all of the stakeholders is the first step, but according to Costello, it can also make the process more difficult.

Fire Chief Denis McCarthy's station in Norwalk, CT.

"I find keeping the initial planning team as small as you can will make the process smoother and most of the time you will reach the desired results," Costello says. "It is a fine line between not enough information/input and too much."

On the other hand, Bennington, NE, Fire and Rescue, is an all-volunteer department that provides fire and ALS ambulance service and, according to Assistant Fire Chief Ron Johnson, when it was time for a new fire station, they asked for volunteers who were willing to make the commitment "from design phase through final punch list with the general contractor."

Johnson explains, "Our team consisted of the fire chief, two assistant chiefs and four firefighters with none having less than 10 years of [fire] experience."

The design phase of the project took 11 months. Plans were updated and posted in the station to keep members abreast of the progress and for their input. The committee also visited numerous new fire stations in the area for ideas and to look at the quality of work from contractors.

Data-driven decisions

Jim Bloomer, assistant chief and current City of Mesa emergency manager for the Mesa Fire and Medical Department, also holds general contracting licenses in the state of Arizona for both residential and commercial construction. He is strong believer in maintaining records and knowing your numbers.

"Make data-driven decisions," Bloomer says. "Nothing sells a fire station like good solid facts." He continues: "How many calls are you getting in the area to be covered by the new station? Are you having many extended response times? How has the area changed in the last 10 years and where do you expect it to be in the next 10? Is there anything happening that will cause call volume to go up, such as new residential developments or commercial facilities? Keep in mind that in order to use data you have to have the data to use. Many departments don't have the capability to retrieve call information."

Assistant Chief Jim Bloomer's station in Mesa, AZ.

Hiring an architect

Each chief we spoke with emphasizes the importance of hiring an architect with experience in fire station design. Bloomer, however, cautions to be prepared for pressure from local officials.

"Many times architects tend to be very politically connected," he says. "Because of this there is sometimes great pressure on departments and districts to use a local architect. But fire stations are highly technical buildings with unique challenges. The local architect may not have any background in fire station design." So how do you get around this challenge? Bloomer suggests, "You insist that if your community is going to go with the local architect that they hire an outside architectural firm with fire station experience as a consulting architect."

The experienced architect will come in and meet with the home architect, decide on the scope of work that each will do, negotiate the price and move forward. In this scenario, the locals are happy and the department will benefit from the expertise of the consulting architect.

Department personnel and the process

From the initial effort, Norwalk's Chief McCarthy worked at recruiting members to be involved in the process of investigating the feasibility of a new headquarter station. "I recruited four members (shift commander/deputy chief, captain, lieutenant and firefighter) to attend the Kansas City Station Style Expo," he explains. "They were enthusiastic participants in the project from then on."

McCarthy also offered personnel who demonstrated a willingness and capacity the opportunity to work on key elements of the project and to be the lead for those areas. These included the following: History and Photographs, EOC, Kitchen, Exercise Space, Lounge and Training Area.

Serving the community

William A Pearson, Jr., captain and construction project manager for the Atlanta Fire-Rescue Department, explains that the city of Atlanta has Neighborhood Planning Unions (NPU) that are a part of each councilmember's district. The fire department allows

Assistant Fire Chief Ron Johnson's Bennington, NE, Rural Fire Protection District #7.

the community to offer their wishes and/or advice regarding the fire station that will be servicing their neighborhood. The community is kept abreast of the progress of the station through the councilmember's office or through attending the monthly NPU meetings. "Our stations belong to the community; it's their tax dollars that are being spent and the stations are used quite frequently by the community," Pearson says. "It's a requirement that a community/training room is built within every station."

Buckeye's Chief Costello agrees, noting that, "The station needs to fit into and reflect the community. It should go without saying that the architecture should match and it should be a point of pride. There are no other civic buildings that are as imbedded in a community as a fire station and the community should think of it as theirs. We name our buildings *firehouses* as a reminder they are that much of the community they serve."

Building a fire station is also adding to the history of a community. There is probably nothing more important than the exterior elevation and how it fits into the community. "This is the part everyone sees," Costello adds. "I constantly hear comments on how the station looks and very few on the function."

Taj Mahal or fire station?

In recent years, some fire departments have caught flak from members of the community for elaborate, expensive facilities. With fire calls declining and EMS calls increasing, understanding the changing role of the fire department in the community is an ongoing educational process. Fire stations are being built to last 50 to 75 years, so sustainability and environmental aspects must be considered. Health and safety are critical for the personnel dwelling in the building. Designing for quick response, community access and fitting into the neighborhood are all elements of design. Looking at the data, assessing the operational needs and predicting the future needs of the department are a tremendous undertaking. Every department is different from the next.

Captain Pearson shares something his supervisor told him before he retired: "We all want a Rolls Royce, but a lot of times we have to settle for the middle of the road and get a Honda or Toyota." Pearson adds his own concluding thought: "We all want the best, but when it comes to a fire station, make sure you take care of the necessities first and then whatever you can get that would be more beneficial to you, get it." ■

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