

Construction

# Preparation, maintenance key to life-safety systems

Hospitals and health care facilities place an especially high value on the capabilities of their specialty contractors because of the integral part these experts play in the design and implementation of life-safety systems. These life-safety systems protect each patient, hospital employee and visitor in case of an emergency and include fire alarm and notification systems, sprinklers and emergency power.

With today's increased emphasis on life safety, selecting mechanical, electrical and plumbing contractors with experience in medical facilities is crucial. With the right team in place, developers, contractors, architects and engineers can better provide safe and efficient health-



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care facilities that will meet the many complex and diverse state and local codes.

In this article, we will focus on the benefits of teaming with a qualified and experienced electrical contractor for the proper design, installation and maintenance of a health care

facility's fire alarms and emergency power systems.

• **New construction.** Because health care environments are designed and built for long-term use, it's



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important to consult those who will not only be responsible for initial building construction, but also for the facility's maintenance, in the planning process. Getting input on important maintenance and reporting considerations from both the building operations team and specialty contrac-

tors early in the new construction process will make for much more efficient facility.

In regard to important life-safety considerations such as fire detection and alarm, power outages and other potential emergencies, it's recommended that you work with an electrical contractor with both electricians and fire alarm experts and get them involved in the pre-construction process. Also, look for a contractor with professional engineers who can contribute to the design-build process by helping to integrate life safety plans with the electrical systems and accelerate the process of getting the drawings done and plans approved.

• **Managing budgets.** Since budgets are developed long before the start of the design and build phases and often are based on basic concepts, you will benefit from the help of a contractor with a dedicated pre-construction team that can help navigate changes and manage the budget through creative ideas and

solutions based on relevant experience in other health care facilities they have budgeted and built.

When plans change, you can rely on your contractor and his pre-construction team to help handle these changes and budgets, while ensuring you get the best electrical and life-safety systems possible.

• **Intelligent systems.** In any health care facility, it's crucial that the fire alarm, lighting and energy management control systems all work together. The electrical side is vital in making sure that nothing is missed in connecting these important life-safety system links and in providing the comprehensive controls and reporting required. Nearly all of these systems have a computer basis, designed to gather data and to provide important information on the operation of the facility.

We have a hospital client who wanted to monitor a damper through its building automation system to know if it was open or closed. It was important for the staff/client to know immediately if a damper had failed so that the problem could be fixed before there was an issue with infectious diseases being compromised throughout the hospital. When our client received a quote to include this capability in the building automation system, it was far too expensive, so the client opted to leave out this function.

When we learned of their need in this area, we offered a far less expensive option that could perform the same function through the



Engelstad and McGovern examine a fire alarm station to ensure proper installation.

Please see McGovern, Page 18



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## McGovern

Continued from Page 14

fire alarm system. Our client already had the necessary infrastructure in its fire alarm system at every damper and it would have been simple to add one more component to test whether the damper was open or closed. Unfortunately, we were brought into the project too late, and now our client has to physically check every damper once a year to

see if it's open or closed.

• **Conformance with state and local fire laws.** An electrical contractor experienced in health care facilities can add a great deal of value in life safety coordination based on local and state requirements. Colorado fire codes and local area codes and amendments are very complex and the expertise to successfully navigate them comes only through relationships and years of experience

gained through active involvement and support of various regulatory agencies.

Fire and other life safety codes are always changing and a good electrical contractor can help you avoid problems by being aware of these changes and updates. Considerable cost and time can be saved when you have subject matter experts with you throughout the lifecycle of a project.

• **Finding the right partner.** Having solid working partnerships is vital for building owners and operators when facing the growing challenges to expand and maintain health care facilities.

For both your new and existing facilities, consider partnering with an electrical contractor, who is experienced in health care, and who can also offer preconstruction services and fire alarm expertise to help ensure your success. ▲

## Mohlenkamp

Continued from Page 16

The individual living spaces remove the traditional studio unit apartment and replace it with an equivalent size “tiny-home” sized unit that includes a living room, kitchen, bedroom and bathroom, all fully accessible. This unit recreates the normal household spaces in a compact tiny-home size module that reinforces the expected dignity of a home.

The key idea here is that these neighborhoods encompass a single level of a building, and that more neighborhoods can be added – stacked, if you will – to make the most efficient use of a single land parcel. The small-house model can be stacked or organized in any fashion required, from a single floor to a high-rise building.

### Improving Outdoor Amenities with any Footprint

The traditional small-house model typically has been a single-story building serving skilled nursing patients. The stackable model offers developers the option to repeat the design and amenities again and again going up multiple stories, and adjusting the design and layout for independent living, assisted living, memory care and skilled nursing as needed. It also allows for amenity-only floors that have indoor and outdoor spaces. These amenity floors can be inserted multiple times in the stacking of the building. The developer, operator and designers can work together to mix and match the different components based on the needs

of the immediate market.

What's more, the stackable small-house model ensures that every neighborhood has access to an outdoor amenity. With this model, architects can group different neighborhoods or levels of care in a thoughtful way while also interspersing access to greenery, fresh air and even gardening opportunities throughout the building.

These big returns are possible even with a small footprint, ideal for more compact sites or urban infill locations. This concept also plays to research that shows more and more older adults wanting to stay in urban areas near their families and contemporary retail and recreational amenities.

An advantage to the stackable small-house model is that it can be

inserted into urban or other already developed areas that have smaller pieces of property open for development. With a footprint of approximately 9,000 square feet, the stackable small house can be used for urban infill and designed as a high-rise, or can be established on an existing campus at a lower scale. Based on its modules, it offers complete acuity level flexibility with a small footprint.

This creative concept of the stackable small-house model provides amenity-rich, patient-centered care for residents or patients at any acuity level. With a focus on outdoor access and community living, this idea of efficient, stackable living spaces offers a new way to look at designing for older adults in an urban environment. ▲

## Sims

Continued from Page 15

ment and services are increasingly important to today's senior consumer. Technology will continue to gain importance among the senior population.

• **Health services and care.** Telemedicine and digital care services have become the baseline. Existing facilities must have their eye on future health

care technologies and best practices for user experience.

• **Indoor-outdoor connections.** Large windows for natural light, access to the outdoors and nature, meaningful, programmable outdoor activity spaces and outdoor fitness and walking trails are ranked high on today's senior wishlist. Assure that your program includes the development of outdoor site amenities.

### The Real Payback

There are nearly 65 million baby boomers, many just starting to consider senior living options. Those who chose to move into a senior living community will have many options to choose from, new, old and in between. Many will compete on cost, all will provide levels of care, however, the ones who provide higher levels of social engagement, mul-

tidimensional wellness programs and progressive consumer-driven indoor and outdoor dining and entertainment choices will be strategically positioned for success through the boomer years and the following generations. Repositioning best practices are more than market studies, goals and objectives, they're strategic implementations for market relevancy. ▲

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