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CELEBRATING 55 YEARS

Reprinted from the July 2011 Construction Executive: Military health care facilities take a new look at rehabilitation

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By Jessica Porter

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Since the United States declared war on Afghanistan in October 2001, more than 11,000 U.S. soldiers have been wounded in the Middle East.

The medical system responsible for caring for these soldiers has been totally revamped in recent years after The Washington Post discovered in 2007 that many soldiers recovering from traumatic injuries at Walter Reed Army Medical Center in Washington, D.C., were housed in barracks infested with rodents, cockroaches and mold. Also, complicated paperwork processes made it difficult for soldiers to get the continuing care they needed.

After these critical problems were exposed, an investigation led by former Brig. Gen. Mike Tucker, who is now the commanding general of the U.S. Army's 2nd Infantry Division, found 150 problematic areas in the military health care system. In response, the military allocated $1.2 billion for the construction of new units to house recovering soldiers and $173.5 million for the operation and maintenance of medical buildings.

"To have a place to come home to and to be able to get better in peace and have a nice facility is the least that we can provide," says Shana Opdyke, Mid-Atlantic sales and LEED certified engineer for GeoStructures, Inc., Purcellville, Va., who currently is involved with updating Walter Reed facilities.

The long-term construction and maintenance plan calls for a new breed of medical care facilities for wounded soldiers called Warrior Transition (WT) complexes. These intensive care facilities are geared toward soldiers who need complex treatment or care for six months or longer, and are staffed partially by active component, National Guard, Army Reserve and Army civilian workforce.

WT units take a holistic approach to medical treatment, rather than solely focusing on improving a soldier's physical health. The units aim to improve soldiers' quality of life while they receive care by consolidating various treatments, which previously were spread out among many buildings, into a more centralized and easily accessible location.

What makes WT complexes even more unique are the Soldier and Family Assistance Centers (SFACs) found in most facilities. These centers provide various support services to family members, such as legal assistance, pastoral care, housing assistance and vehicle registration, among others. Family members can receive therapy and attend various counseling sessions. Additionally, the living quarters allow family members to stay on base and help their loved ones transition to the next stage of recovery, whether that is going home or going back to active duty.

"It gives soldiers and families time to deal with the tragedies of war and gives families counseling to deal with what their sons or daughters are coming back with, such as the loss of a limb," says Jim McGregor, senior manager with B.L. Harbert International, Montgomery Ala., which is building a WT unit on Fort Bragg. "The facilities are a transitional barracks from the realities of war."

Though family support is vital to a soldier's recovery, the units also use a unique model called a "triage of care." This system includes a physician, a registered nurse who works on a more personal level with the patient and a staff sergeant who helps the soldier with any administrative problems.

The soldiers also are assigned to a battalion modeled after the ones they served in during active duty, complete with a commander, executive officer, first sergeant, six platoon sergeants and 19 squad leaders.

The plan calls for a total of 36 units on nine bases throughout the country. So far, two units are complete, one of which is on Fort Bliss.

Fort Bliss

The $57 million WT complex on Fort Bliss, just outside El Paso, Texas, covers 185,000 s/f. Phase 1 of the project was completed in May and includes a headquarters, administrative facility and a SFAC. Sundt Construction Inc., Tempe, Ariz., began work on Phase 1 in October 2009 after winning a $30 million design-build, Multiple Award Task Order Contract (MATOC). Contractors that bid on projects with this type of contract must be selected in the first round of bids before they can bid on smaller task orders. Sundt won the bid on Fort Bliss because it was the best value, says Frank Bejarano, project manager with Sundt.

Sundt's team of 400 workers was responsible for the design process; detail, plan and spec reviews; and overall construction of site infrastructure and the barracks facility.

Sundt also designed the landscaping, an element that sets the complex apart from other medical facilities because it incorporates many principles from the book Healing Gardens. The book focuses on ways to make the garden a sanctuary for healing soldiers and a tool for medical rehabilitation, emphasizing alternative practices such as feng shui, meditation and color therapy. It also includes lean rails and benches throughout the garden and buildings so soldiers can rest while traveling through the complex.

Sundt's concrete division incorporated a labyrinth into the landscaping as an alternative way to help soldiers with brain trauma regain function. The firm also improved living quarters for the soldiers, who previously lived in communal-style facilities with no personal bathrooms or kitchens. The new barracks, which include 116 units to house 232 soldiers, feature easily accessible rooms for patients with disabilities.

One of the last stages of construction was the installation of 105 kilowatts of solar panel parking canopies. This is the only project using solar paneling in Sundt's federal division, which Bejarano says is an example of the Army's dedication to sustainable building. Solar paneling is just one of the sustainable features in the LEED Gold-certified facility; other components include high-efficiency pumps, boilers and air conditioning, as well as low-flow bathroom fixtures.

Sundt is working on additional WT complexes at Fort Sam Houston, Texas; Fort Hood, Texas; Fort Polk, La.; and Fort Sill, Okla.

Fort Bragg

B.L. Harbert broke ground on a WT complex at Fort Fragg, N.C., in March 2010 under a MATOC. It is expected to complete the unit by the end of 2011.

The 249,000 s/f LEED Silver-designed facility includes barracks, support buildings, operations

facilities and a SAFC at an estimated cost of $88 million.

Construction has not been without its challenges, especially with this year's harsh winter and heavy rain. Also, the complex is built in a historic section of Fort Bragg, so B.L. Harbert had to design a facility that would blend in with other buildings in the area. The contractor also built a three-story parking garage, the first one on base.

A coordinated team effort led to successful execution of the project, McGregor says.

In addition to this project, B.L. Harbert is working on two more structures at Fort Bragg, as well as other military medical facilities at Fort Campbell, Ky., and in Atlanta. Indeed, military construction has endured during a time when almost all other construction sectors have come to a halt. McGregor expects similar projects to be built on every base and that the sector will continue to be strong.

"The workload spiked with base realignment, but I see it going back to a regular load, which is still a good load. Military right now is strong and the numbers are constant," he says. "It may switch from points of interest to other points of interest, but the spending is still strong."

Changes on The Horizon for Walter Reed

By the end of 2011, Walter Reed Army Medical Center and the National Naval Medical Center are scheduled to merge into the Walter Reed National Military Medical Center in Bethesda, Md., which will include a Warrior Transition barracks.

GeoStructures, Inc., Purcellville, Va., won a design-build contract to perform ground improvement work in January 2010, and currently is finishing its portion of the project. Various rock elevations have proven to be a challenge, says Shana Opdyke, a LEED certified engineer who handles Mid-Atlantic sales for GeoStructures.

GeoStructures saved on fuel and materials by recycling materials from the previous building. The soil under the building pad was not suitable to build the shell foundations the way they were designed, so GeoStructures installed Rammed Aggregate Pier elements to flatten the land. To do this, GeoStructures drilled a hole, dumped stone in and then compressed it to end up with 1 foot of compacted stone under the footing.

"Usually you would build geo elements out of virgin elements straight from the quarry, but they actually crushed and framed the concrete from the building that was demolished onsite, so we were able to get that building reused and not have to bring in new stone," Opdyke says.

These units are part of a plan called the Army Warrior Care and Transition Program, originally called the Army Medical Action Plan. It was created to provide a more holistic and comprehensive support service for soldiers that helps them return to active duty or civilian life.

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Jessica Porter is staff writer of Construction Executive.