

AN ACI BOLAND ARCHITECTS PROJECT REVIEW

# RESHAPING A BEHAVIORAL HEALTH ENVIRONMENT

A BEHAVIORAL HEALTH UNIT TRANSFORMATION FOR SAINT LUKE'S HEALTH SYSTEM

BRINGS A NEW EXPERIENCE TO PATIENTS AND STAFF



SYDNEY HALL, RID, NCIDQ  
SAMUEL BECKMAN, AIA



## ABOUT THE PROJECT

**Renovation Design:** ACI Boland Architects

**MEP Consultant:** W.L. Cassell & Associates

**Construction:** David E. Ross Construction

**Location:** Smithville, MO

**Budget:** \$3 million

Opened in Fall 2018

BELOW: An open and centralized nurse station allows for an easy flow of circulation and view points.



## FOREWORD

Our team designed a forward thinking behavioral health environment that matches the vision and delivery of care of the Saint Luke's Smithville campus. One of our core beliefs is *Family First*. We apply this belief in everything we design for the patients, staff, and the community. This thought process guided decisions from beginning to end to create a safer environment for more effective patient care. We hope you enjoy reviewing the transformation of the space, including how we dealt with challenges and created the collaborative design solutions for this project.

– Samuel Beckman, AIA  
ACI Boland Principal



TOP: Newly renovated entrance onto one of the patient wings features a centralized nurse station overlooking unit activity.  
 BOTTOM: Existing entrance onto one of the patient wings previously had a patient living space while the nurse station was tucked behind it, limiting the staff's view of activity on the unit.

# SAINT LUKE'S BEHAVIORAL HEALTH UNIT RENOVATION

In today's world, mental health awareness is more prevalent than ever. Throughout the years, experience and studies have changed the way staff approaches the treatment process with their patients. With these changes comes the desire to transform these healthcare environments to accommodate the staff's needs, maintaining the highest safety measures for the patients' welfare, all while creating a space that does not conform to institutional norms. How a space is designed - from the lighting, to the paint colors, to the spatial functionality - can affect how a human behaves and performs. For a behavioral health unit, all these details and more are essential to creating a successful healing environment.

The goal for Saint Luke's Health System was to reinvent their current Behavioral Health Unit in Smithville, MO into a space that would feel more welcoming, safe, and inviting for patients and their families. The space originally served as a medical/surgical unit in the hospital. Realizing the demand for behavioral health services, it was later converted into a behavioral health unit. In 2016, Saint Luke's and ACI Boland joined together, beginning the design process to make big changes for the behavioral health department.



## EXISTING SPACE

Located in the original Spelman Memorial Hospital dating to the early 1960s, Saint Luke's acquired the hospital campus under their health system in the late 1980s to expand their resources. The 16,500 SF renovation footprint included an existing 30 patient bed unit on the second floor, split into two wings: one wing for adults and one wing for adolescents. For this renovation, the hospital made the decision to shut down their adolescent wing and expand the adult facility.

Each wing had a living space, activity/dining area, and therapy room for the patients. A central fitness room was also available to both patient wings. There were two nurse stations, one per wing with its own support staff spaces. These existing spaces were not centralized and had limited control points for security. From a staff perspective, there were minimal sight lines to the entrance, making it difficult to monitor who was coming in and out of the unit. Although security cameras were used, the desire to maximize physical sight lines and open the floor plan where possible was a high priority for Saint Luke's.

## BEHAVIORAL HEALTH DESIGN

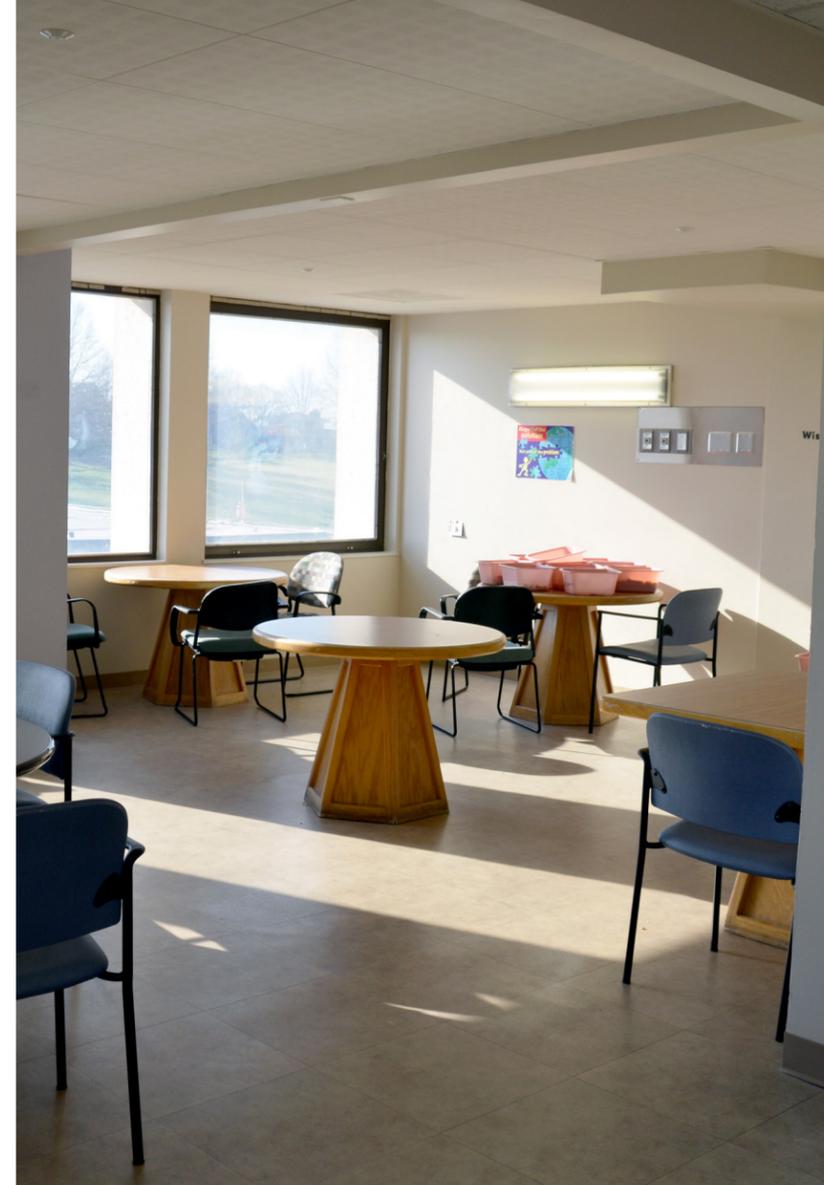
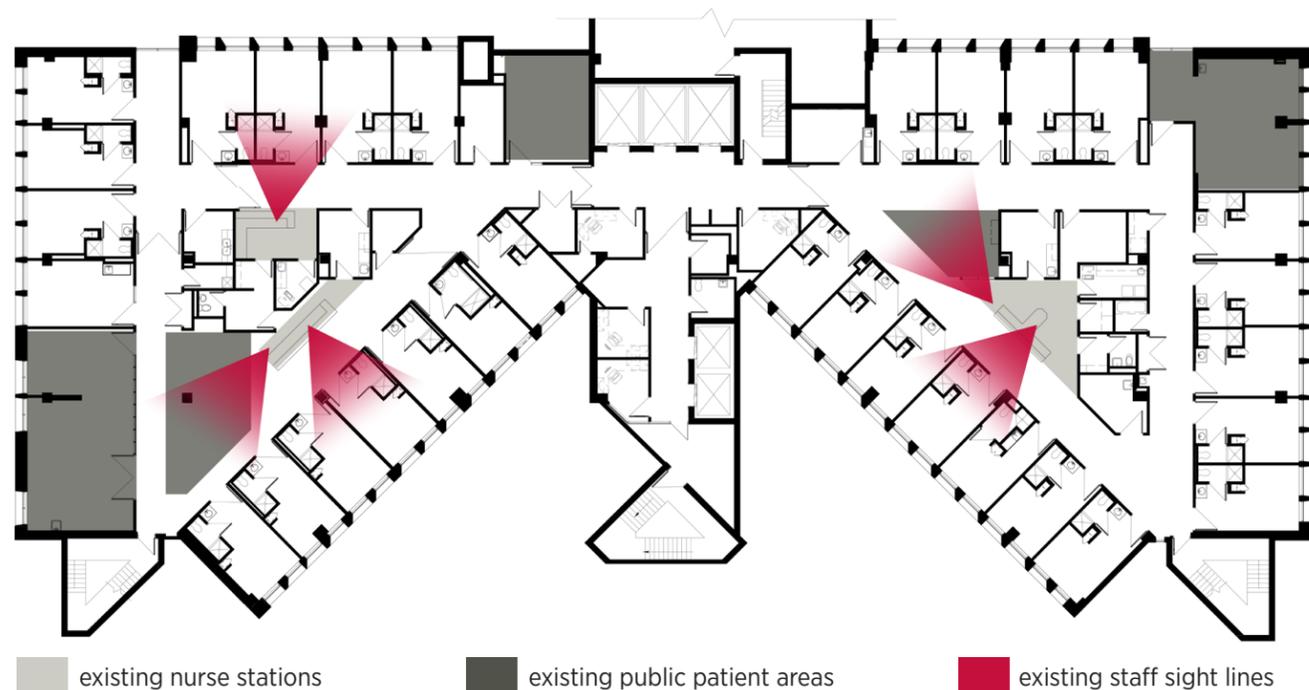
In behavioral healthcare, staff treat patients who are in compromising physical and mental states and are not able to care for themselves. Some patients could have tendencies of self-harm. To ensure the safety of all patients and staff, a behavioral healthcare facility must follow strict rules along with updated FGI guidelines to provide the safest environment possible. From the plumbing fixtures, to wall accessories, to furniture, all items in a room must be considered and monitored carefully for behavioral health.

Ligature-resistant fixtures and accessories are key when designing for behavioral health. Any point that would allow a person to tie or bind something to harm themselves cannot be allowed. If the ligature-resistant criteria is not met, items must be eliminated from the space. As guidelines became more strict, Smithville's existing patient spaces were stripped down to the bare minimum. No window treatments on the windows, no open shelving, no artwork or imagery on the walls. Anything with sharp edges or a ligature point created a safety risk.

A lack of items in a space does not always solve the problem for behavioral health. The strict design guidelines for behavioral health often made the spaces start to feel institutional and sterile. The end goal was to create space that could support the severity of patient conditions while giving them a more warm and welcoming space to retreat. How could the project use the built environment to better protect patients and to better support patient recovery/treatment?

**“THE OVERALL  
SENSE OF CALMNESS  
AND CLEAN LAYOUT  
HAS BEEN A SUCCESS  
FOR THE PATIENTS  
AS WELL AS OTHER  
STAFF MEMBERS.”**

**– ALLISON MEEK**



## OVERCOMING CHALLENGES

### SPACE PLANNING

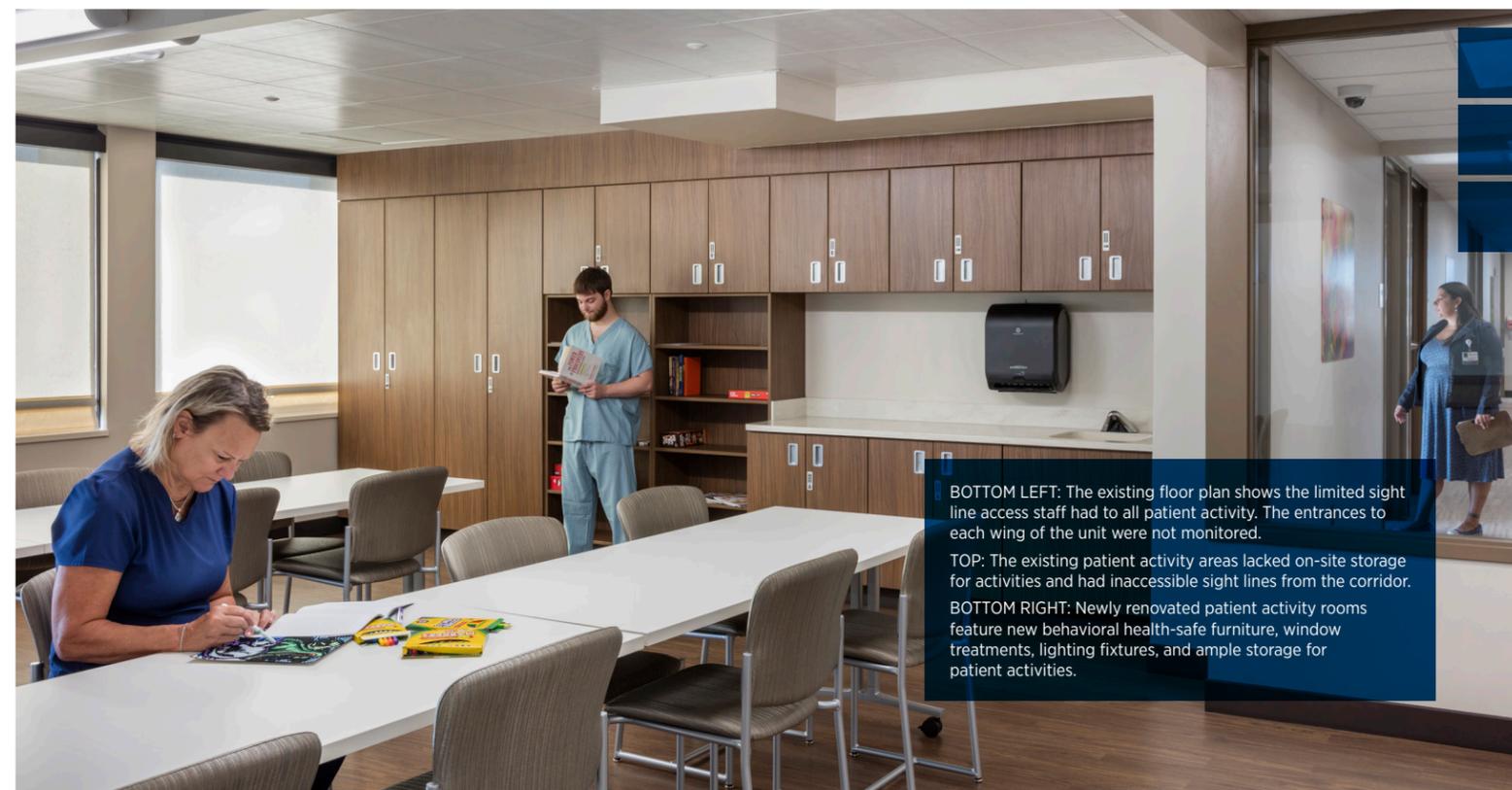
The existing “butterfly-shaped” building made sight lines a challenge for this project. Determining the spatial layout of the core staffing spaces was going to be crucial for the design and drive a lot of the security decisions as well. Staff needed to have direct sight lines to as many patients as possible to ensure the patients’ own safety and to prevent self-harm.

### EXISTING CONDITIONS

An existing radiant ceiling system drove many of the design decisions. The cost to change out a 30+ year old system and to completely update the HVAC system was not in the budget for this project. The ability to add lighting, mechanical, other electrical, or security features had limitations and required thorough evaluation. With an overall budget of \$3 million, the design team had to carefully prioritize solutions and stretched dollars where they could.

### PHASING

Like most renovation projects in the healthcare world, shutting down an entire hospital unit for periods of time is almost impossible. Operations still needed to be up and running during construction. The contractor, Ross Construction, made sure that the construction process ran smoothly for the hospital staff.



**BOTTOM LEFT:** The existing floor plan shows the limited sight line access staff had to all patient activity. The entrances to each wing of the unit were not monitored.

**TOP:** The existing patient activity areas lacked on-site storage for activities and had inaccessible sight lines from the corridor.

**BOTTOM RIGHT:** Newly renovated patient activity rooms feature new behavioral health-safe furniture, window treatments, lighting fixtures, and ample storage for patient activities.

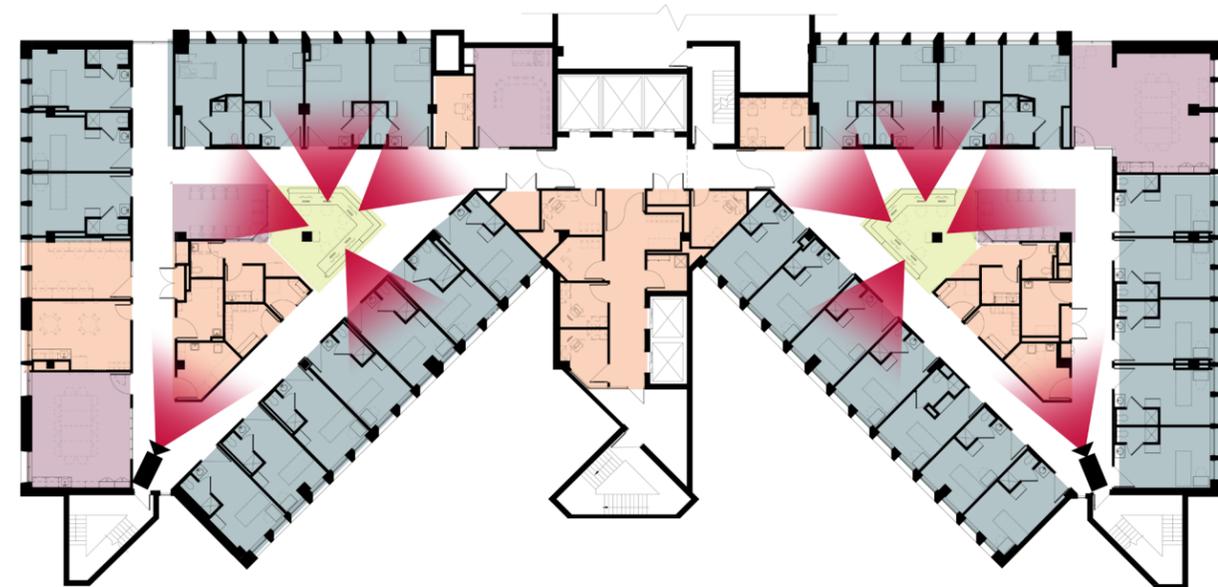
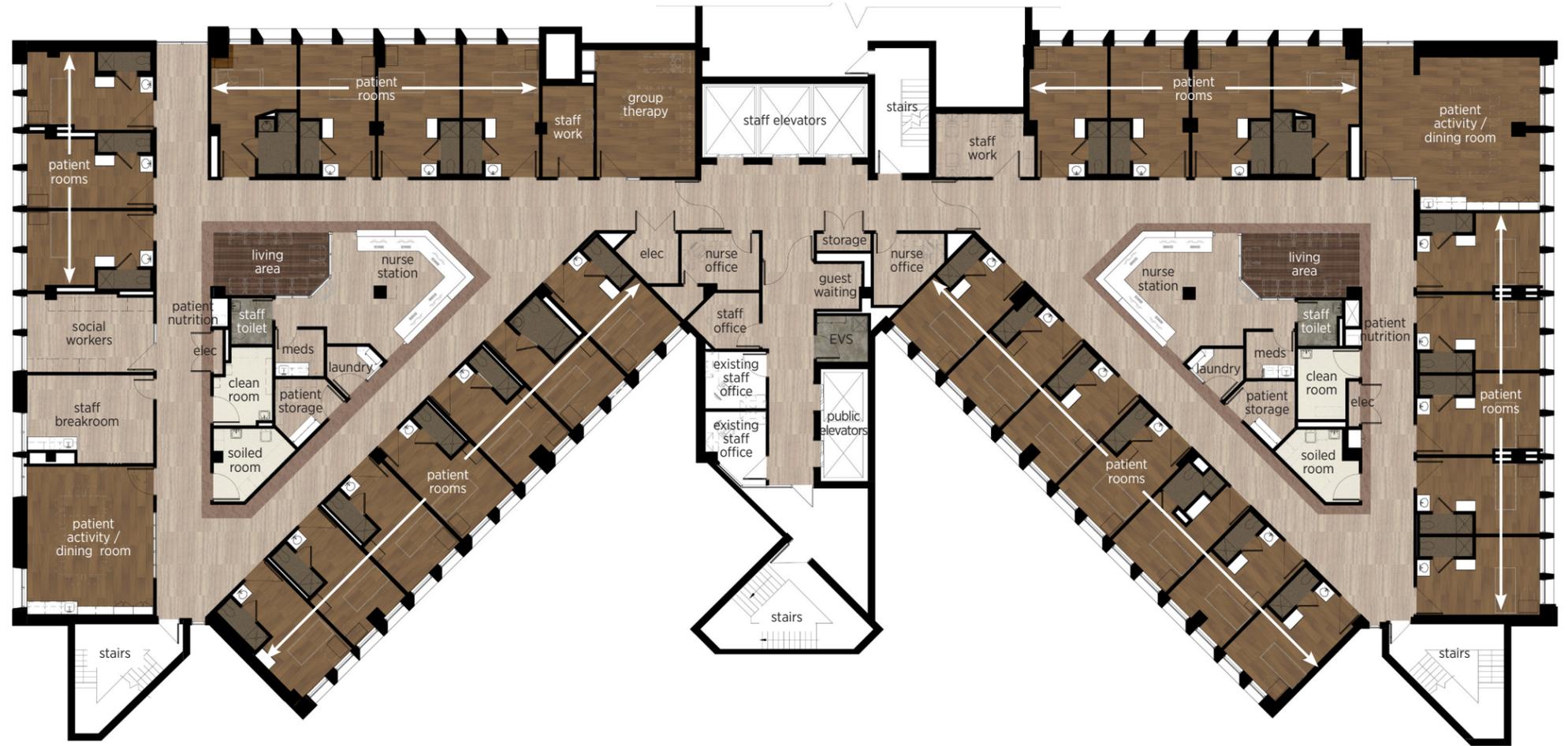
# DESIGN SOLUTIONS

ACI Boland worked very closely with the behavioral health staff to get their input. Better understanding the work flow and patient behavior firsthand helped the design team develop the best solutions for the project. Staff was also involved in giving feedback towards the design, finishes, and feel for the spaces.

## SPATIAL ORGANIZATION

Although the unconventional shape of the unit posed sight line issues, the design team created a more centralized nurse station that had direct views to the entrance of the unit while still utilizing security cameras to accommodate areas not visible from the nurse station. On the west wing, some space was carved to give the staff a break room. Before the renovation, staff had to travel out of the unit for down time. Being able to keep staff activity in close-proximity helped minimize their travel time. Keeping overall staff work spaces centralized in each wing allowed them to stay in remote areas, making their work flow more efficient as well.

The addition of other adjunct staff being located on the unit also helped with the overall work efficiency and better access to their patients.



- new nurse stations
- new staff sight lines/security
- updated staff work areas
- new public patient areas
- updated private patient rooms



## MATERIALITY

Over the last few years Saint Luke's has been steadily integrating a standard finish palette to all of their campuses to create a uniformed identity. Using some of the same finishes in the behavioral health unit immediately brightened up the space and gave a calm and warm feeling. Nurse manager Allison Meek commented on how the overall sense of calmness and clean layout has been a success for the patients as well as other staff members. In addition to finishes, new artwork made of ligature-resistant materials with various subjects of bright imagery has made a difference in the environment and overall experience for the patients. Meek expressed that the artwork has received many compliments from patients and visitors.

Adding as much transparency where possible played a big factor for the unit. The use of safety glass to open the views into the public patient spaces gave staff better sight to monitor activities and daily tasks. The addition of lighter colors allowed any natural light to bounce into the space and make the space feel brighter.

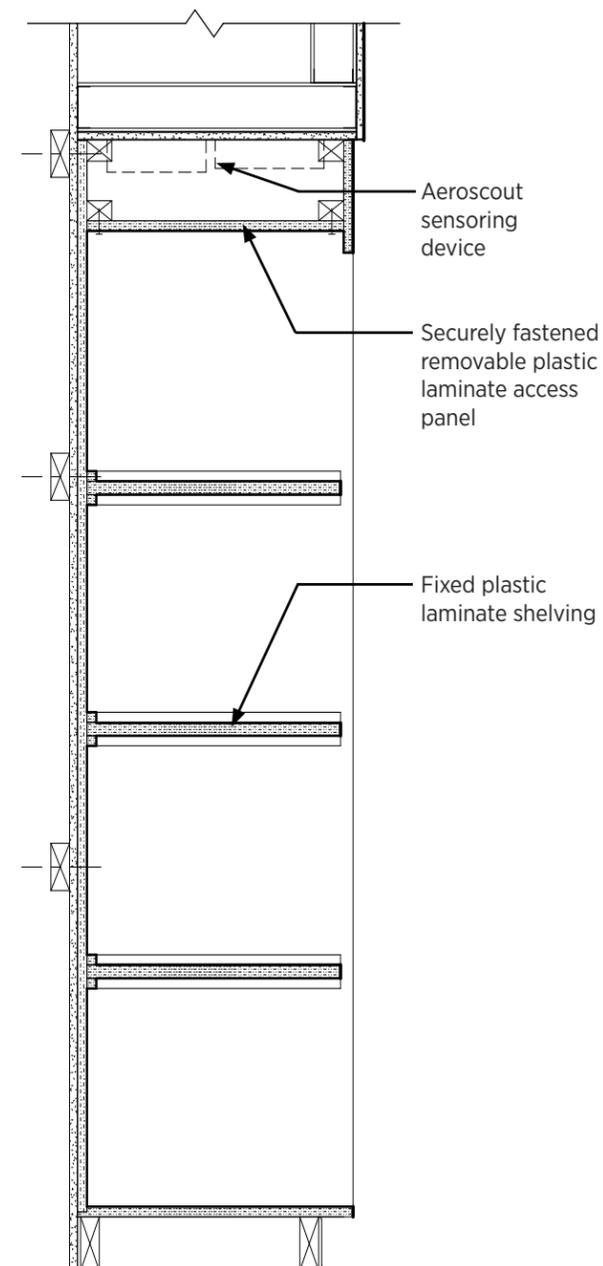
TOP: New Behavioral Health floor plan, featuring mirrored central staff zones at both wings. Floor material changes around the central staff areas were used as wayfinding and created a visual barrier for the patients.  
 BOTTOM LEFT: The new spatial layout of the unit allows staff better sight line access to all public patient areas and the entrance. Back corridors without direct sight lines are compromised with security cameras.  
 BOTTOM RIGHT: The new patient activity areas include writable surfaces for flexibility. More transparency from the corridor maximizes the staff's sight lines.

## PATIENT ROOMS

Still allowing a sense of privacy and a place of retreat, overall improvements to the patient rooms included new desks and stools, new wall-mounted dimmable light fixtures, new ligature-resistant window covering shades, new open shelved wardrobes for personal belongings, new flooring and wall paint, designated wall area for marker board paint surface for writing and drawing communication between patients and staff, and updated epoxy resinous shower rooms for durability.



## THE USE OF THE BEHAVIORAL HEALTH UNIT IS CONSTANT AND FREQUENT, AND THE NUMBER OF PATIENTS CONTINUES TO GROW.



The open shelved wardrobes were a small change for a big outcome. The health system integrated Aeroscout technology, a system that tracks staff members and their whereabouts while on the unit. This makes it easier to locate them in the event there is a safety issue and assistance is required with a patient. Because the radiant ceiling system limited mounting abilities, concealed sensors were placed in the soffits of the wardrobes to monitor the trackers worn by the staff members.

As more ligature-resistant fixtures and accessories have become available over the years to support behavioral health or high abuse spaces, the design team was able to bring some items back into the spaces that had previously been removed, such as toilet paper and paper towel holders, and padded shower doors. One of the more impactful additions was the anti-ligature window shades that were installed throughout the unit. These helped control the natural lighting while also giving the patients a sense of privacy and dignity in their rooms.

On occasion, admitted patients have medical needs while on the behavioral health unit. ADA upgrades were made to some rooms to help bring the unit up to code as well as give access to protected medical gas outlets and medical beds.

### PATIENT ACTIVITY AREAS

Overall improvements to the patient activity areas included new behavioral health tables and seating; new wall-mounted light fixtures; new wall-to-wall cabinet storage for patient activities, books, etc.; new flooring and wall finishes; wall area for marker board paint surfaces; and a television in a ligature-resistant enclosure for entertainment. Adding windows to the corridor walls brightened up these public spaces and gave better sight lines for staff to monitor their activity.

LEFT: New finishes added to the patient rooms brighten the spaces and enhance the patient's overall experience.

ABOVE: Detail section of custom patient wardrobe construction concealing Aeroscout sensor devices.



BELOW: An open living room area gives patients a space to socialize while still adjacent and visible to the nurse station.

## REFLECTION

The hospital has an average of 25 patients in the behavioral health unit at a time. During holidays, this number increases to 28-30 patients. Prior to construction, the unit was admitting and treating between 1,300-1,400 adult patients a year. Although undergoing construction in 2017 and 2018, the average number of patients increased to 1,800. The use of the behavioral health unit is constant and frequent, and the number of patients continues to grow.

Before the unit was renovated, hospital staff recognized the existing conditions were not ideal for their work environment and were not supporting the rehabilitation process for their patients. The changes made in the unit were to benefit the safety, well-being, and mood of the patients and staff.

Not every project is perfect. After occupation, ACI Boland reflected with staff at Saint Luke's to get feedback on how the unit was holding up. Most issues commented on by staff were related to the age of the existing building, such as existing walls and their

acoustic attenuation, existing radiant ceiling system, and original exterior windows. Staff expressed having a larger footprint for additional support areas like storage and staff work space as well as a larger space for visitor traffic would have been beneficial, but overall space has been performing well, and the transformation has been a positive outcome.

Saint Luke's project manager Craig Hamilton explained that this was one of the health system's first big renovations for a behavioral health unit. With the success of Smithville's renovation, they can use elements from Smithville's unit being used as the model for future behavioral health projects in the health system. ■

Special thanks to the staff at



Craig Hamilton, SLHS Project Manager  
Deb Wriedt, SLNH Behavioral Health Director  
Allison Meek, SLNH Behavioral Health Nurse Manager  
Jamie Darr, SLNH Facilities Lead