

A post-occupancy evaluation for the Harbors Special Care Dementia Unit at Buckner Villa.

The Society for the Advancement of Gerontological Environments (SAGE) has been conducting post-occupancy evaluations for more than a decade. In 2016, a post-occupancy evaluation was conducted prior to the annual Environments for Aging conference in order to present the results to conference attendees.

The post-occupancy evaluation (POE) was authorized by Charlie Wilson, Senior Vice President of Buckner Retirement Services (past president of SAGE Federation). The POE was conducted within one of Buckner Retirement Service's special care dementia units located within their Austin, TX-based continuing care retirement community (CCRC) campus. While on site the SAGE POE team was hosted by Mr. Doyle Antle, Executive Director of the Buckner Villas and Ms. Cheryl Waters, Director of Assisted Living, Memory Care and Educational Services at Buckner Villas.

Members of the SAGE POE team included Addie Abushousheh, Amy Carpenter, Migette Kaup, Melissa Pritchard, Alec Sithong, and Teresa Whittington. These individuals represented a broad cross-section of expertise in long-term care, dementia care, design for aging, nursing, and operational and organizational management related to senior housing (*See boxed insert for team member information, page 11*).

The Setting:

The Harbors were designed by the team at D2 Architecture. David Dillard, Principal at D2, was one of the lead architects. Siobhan Winfrey, project architect, met with the SAGE POE team to share planning and design decisions as well as constraints and challenges that impacted the final project outcomes.

The SAGE POE team arrived at Buckner Villas in the morning on Friday, April 8, 2016. Team members met with Cheryl Waters, Director of AL, and Ms. Ngozi Onyeneke, Manager of AL and Memory Care, and Siobhan Winfrey, project architect with D2 Architects. This session was focused on understanding the context and history of the Harbors memory care units, major factors that impacted the planning and design process, operational goals and challenges, and practices that were guided by internal programs and policies.

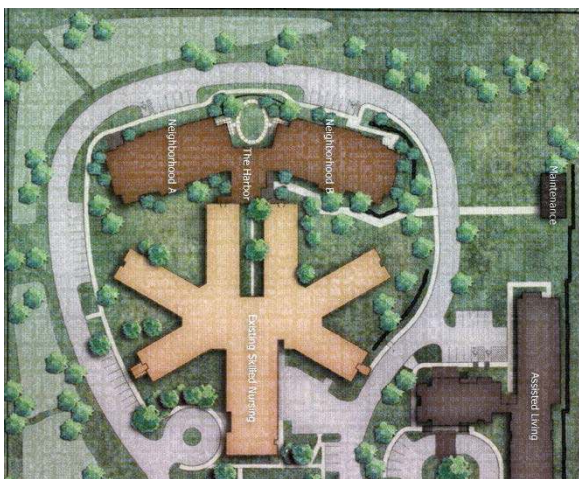


Image 1. Partial Site Plan of Buckner Villas showing location of The Harbor in relationship to the skilled care facility.

The targeted environment for this POE was The Harbors, the most recent addition to the Buckner Villas campus. The Harbors opened in 2010, the administrator and project architect noted that the original design was initiated three year prior to its construction. Planning principles for the design were based on another community's SCU strategy and likely reflect approaches that were considered contemporary at least a decade ago.

The building footprint for this addition extends directly off of the skilled nursing unit and creates two identical 20 person households. These 40 residents share an enclosed courtyard.

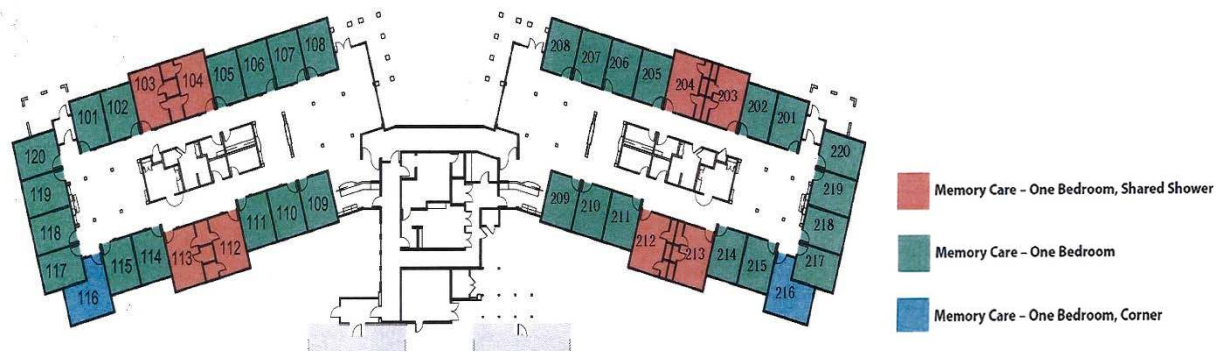


Image 2. Floor plan of The Harbor demonstrating mirrored layouts for two identical households and the connecting service corridor that is linked to the skilled care facility.

The spatial configuration for the households is arranged in a “race-track” design; resident rooms flank three sides of the household and the interior core is comprised of service spaces (bathing room, medication room, staff work room, toilet, beauty shop, utilities). Social areas located at each end of the household. All resident rooms are private. Two pairs of these rooms within each household share a shower. The occupancy of these households is classified as an I-2 (Institutional Group for occupancy used for custodial care on a 24 hour basis for more than five persons who are incapable of self-preservation). The Harbors are licensed as assisted living in the state of Texas and certified for memory care.

The focus of the POE was limited to Neighborhood A, one of the Harbor Households. This household has been renamed “Beacons Way.” Residents living in this household experience cognitive decline associated with dementia. The acuity level of residents on Beacon’s Way was not so severe that additional guests (such as the POE Team) within the household was likely to cause additional stress for residents’ daily routines.

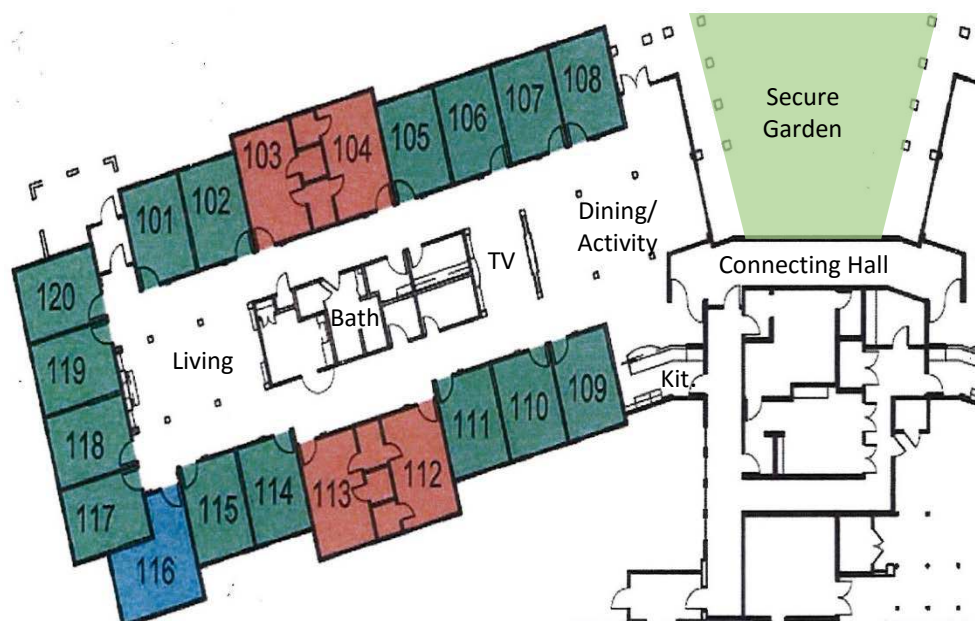


Image 3. Neighborhood A – Beacons Way provides a secured unit for up to 20 residents with cognitive decline and elopement risks. This neighborhood was also referred to as the “social” side with residents who were active and had higher acuity levels.

Documentation / Evaluation Strategies

After an initial debriefing about the household, its development and current resident and staff use patterns, the team was given a walking tour. Locations of rooms as identified on the floorplan were confirmed along with minor adjustments to the use of rooms as originally noted on the plans.

During the tour, photo-documentation of the spaces and the details of features were recorded. A rubric of design criteria were also used by team members to record observations of the presence or absence of features, details of design features, and operational issues that impacted patterns of use. These attributes included both desired goals (based on research in dementia care) (see Table 1) and architectural and interior elements that can be critical for effective use and navigation of a space (see Table 2).

Goal	<i>Definition</i>
Maximize Awareness and Orientation	<i>Ways the building and systems support knowing where you are in relation to where you want to go.</i>
Enhance Continuity of Self	<i>Ways the environment supports continued expression of personal identity: through personal possessions and a non-institutional ambiance</i>
Opportunities for Personal Control	<i>Ways the environment provides opportunities for residents to exercise personal preference, choice and independent initiative to determine what will be done, and when</i>
Facilitation of Social Contact	<i>Ways the environment supports residents to engage in a variety of meaningful social interactions</i>
Provision of Privacy	<i>Ways that input from (e.g., noise) and output to (confidential conversations) the larger environment are regulated</i>
Regulation and Quality of Stimulation	<i>Ways the environment controls for excess, negative stimulation (noise, call bells) and enhances opportunities for positive stimulation (fresh breeze, positive aromas)</i>
Support Functional Abilities	<i>Ways the environment encourages practice or continued use of everyday skills (ADLs) and avoids unnecessary dependence or disability</i>
Maximize Safety and Security	<i>Ways the environment minimizes threats to resident safety and maximizes sense of security</i>
Job Activity Support	<i>Work spaces organized to provide efficient care delivery with appropriate attention to resident needs for accessibility to staff, and visa- versa</i>
Communication	<i>Ways the environment supports efficient communication among staff, among residents, and between residents and staff</i>
Technology	<i>Extent to which new or innovative technologies are used to enhance care delivery of other goals</i>

Table 1. Goals for memory care units considered important in providing a therapeutic environment for residents and a supportive work environment for staff.

Team members drew upon their expertise, familiarity with industry best-practices and experiences with dementia care and designing for dementia care as they rated the effectiveness of the household's features. The team also considered the historical context and input and feedback from staff as well as family members who volunteered to share their insights and perspectives.

Architectural or Interior Element	<i>Considerations (Selected Examples)</i>
Lighting	<i>Lighting levels, sufficient foot-candles. Control for glare</i>
Use of Color	<i>Support for depth perception for aging eyes while maintaining residential or homelike aesthetic</i>
Floor Coverings	<i>Support for ease of mobility while creating a soft surface to reduce potential injury from fall. Aesthetic supports a residential appeal and specification is appropriate for health care setting and required maintenance and life safety.</i>
Window Treatments	<i>Ability to adjust for different daylighting conditions (controlling glare). Aesthetic supports a residential appeal and specification is appropriate for health care setting and required maintenance and life safety.</i>
Acoustical Treatments	<i>Spatial volumes and potential sound transmission between private spaces is effectively designed for to reduce negative stimulation and protect privacy.</i>
Circulation Patterns	<i>Movement through the space is supported by spatial layout and features that support autonomy in navigation and stamina (landmarks for reminders, handrails for support)</i>
Fixed Furnishings & Equipment	<i>Furnishings are supportive of frail adults. Aesthetic supports a residential appeal and specification is appropriate for health care setting and required maintenance and life safety.</i>
Moveable Furnishings & Equipment	<i>Furnishings are supportive of frail adults. Aesthetic supports a residential appeal and specification is appropriate for health care setting and required maintenance and life safety.</i>

Table 2. Elements of the physical environment that contribute to the goals for a therapeutic environment for residents and a supportive work environment for staff.

Environmental Assets

Using the criteria for goals and environmental features, the POE team identified seven distinct environmental assets for Beacons Way. These included a small-scale environment for residents to become quickly familiar, a secure courtyard, private rooms, stealth service arrangement, a residential feel, the ability to personalize, and a strong perception of safety and security by users. Specific attributes for each of these assets as well as opportunities to enhance the experience of these features are highlighted below.

A Secure Courtyard: The POE team was immediately drawn to the outdoor space that was available to residents, staff, and guests. Access and connection to the outdoors can aid in reducing agitation and other negative behaviors caused by dementing illnesses and conditions. Secure gardens can also provide for familiar activities such as raising and caring for plants which supports socialization and continuity of self. The courtyard/ secure garden for Beacons Way was a great use of a small space with a nice mix of shade and sun with many seating choices. The walking paths had a level surface and there was a handrail for residents to use to assist with mobility and ambulation. Some stand up planter boxes were provided at one end of the courtyard to support gardening activities.

The covered porch areas provided protection from the elements while also incorporating features like a ceiling fan – which was very regionally appropriate and plenty of supporting features to make sitting outside on a nice day an enjoyable experience (see Image 4). Staff reported that they often brought portable speakers out of the porch for music that was enjoyed by the residents.

Residents were observed frequenting the walking path and using the covered porch. The view from the porch is toward an internal street with a small amount of traffic that can provide passive engagement. There is also a bird feeder on the other side of the fence that is visible from the seated areas. Since the courtyard is open to both of the memory care units residents can walk over and visit the other neighborhood and still be in a secured environment with staff who know them.



Image 4. Covered porch with seating.

Opportunities to enhance the outdoor space that were noted included more attention to the center green space (See Image 5). The landscape design could have possibly incorporated a figure 8 or two loops for variety, and added more planting for sensory stimulation – like herbs that smell good as you walk by, tall grasses that move with the wind, more flowers, perhaps a small water feature?



Image 5. View of courtyard and walking path.

Another opportunity to enhance the use of this area would be to extend access without requiring a staff member open the door with the code. Protecting residents from falling, or not being observed falling, is a common concern. There are operational strategies and technologies that can be used, however, that cue staff when residents have gone outside and reminds them to check on their status.

Private Rooms: One of the most desirable features for any planned care setting is the ability to have a private room for every resident. Beacons Way provided every resident with a private bedroom with a private toilet. Most of the rooms were approximately 244 square feet in size. Two pairs of the rooms were approximately 343 square feet and had a shared shower between them (See Image 2 and Image 6). There was also a central bathing room on the unit located in proximity to the bedrooms for residents without bathing in their room, or for residents who wanted a whirlpool bath and not a shower.

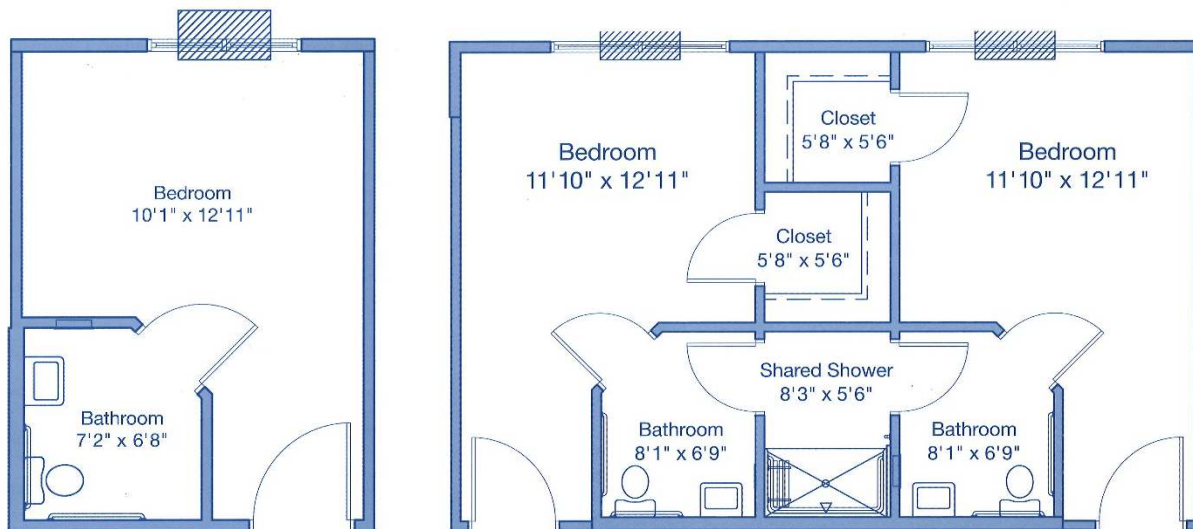


Image 6. Common room designs. Rooms with shared showers also had walk-in closets for clothing storage.

The room configuration and shape provided the benefit of at least three different options for bed placement, including an orientation that would allow the head of the bed to have direct access to the toilet. This is sometimes very helpful in supporting functional abilities and continence.

The plan shows that there are doors on the bathrooms, but as seen in Image 7, the doors have been removed to enhance resident wayfinding to the toilet. Some residents (or their family members) found the lack of privacy between the bedroom and the bathroom to be unsettling; many of the rooms had some form of light-weight curtain that could be pulled over the opening.

The room design that includes a shower between two rooms was intended as strategic and cost-effective way to provide more privacy and autonomy in bathing. Staff noted that they wished all rooms had a shower, or shared shower option.



Image 7. Curtain over door to bathroom in resident room.

Discrete Service Access: The connecting hallway from the main building to Harbors allowed for operational services and staff functions to come into the unit at the “back of the house” (See Image 3). This arrangement was considered highly effective for delivering daily services, such as meal delivery or laundry, in a discrete manner without interrupting the flow of activities in the neighborhood, or intruding upon the residential patterns of use. There are two doors that provide service entry; one that goes directly into the kitchen, and, one that is a double door entry between the service corridor and the dining area (See Images 8 & 9).



Images 8 & 9. Service entries into the unit. The door into the kitchen is a single door for food delivery. The double doors on the other side of the kitchen provide entry for large bins and equipment.

Residential Atmosphere: The general scale and décor of Beacons Way provided a strong residential appeal and essence of home imagery. Most furnishings had been carefully considered for a “home-like” look and artwork in the hallways was warm and familiar. The placement of seating along the hallway also served as a landmark for wayfinding, and a location to rest if needed for support in autonomy and ambulation (see Images 10 & 11)

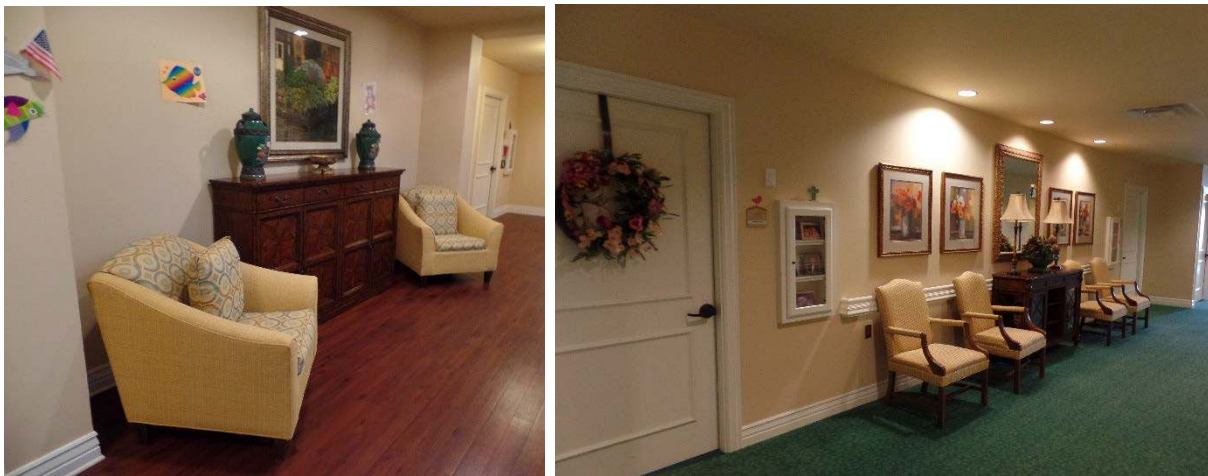


Image 10 & 11. Seating in public spaces is soft with textile choices that are supportive of a residential character. Wood case-good furnishings add visual warm (and can provide storage).

The inclusion of an open kitchen area next to the dining space was also a positive feature that contributed to a residential feel (See Image 12).



This area was also an opportunity for further program enhancement. Family members commented that their loved ones would enjoy more activities in actual food preparation.

Others commented that it would be nice to have more of the meal items actually cooked in this kitchen to enhance flavor opportunities as well as general control over the quality of food temperature and texture.

Image 12. A kitchen space is located directly adjacent to the dining area, and, the spaces are open to each other to promote connection with food. This can help with appetite and reducing un-intended weight loss.

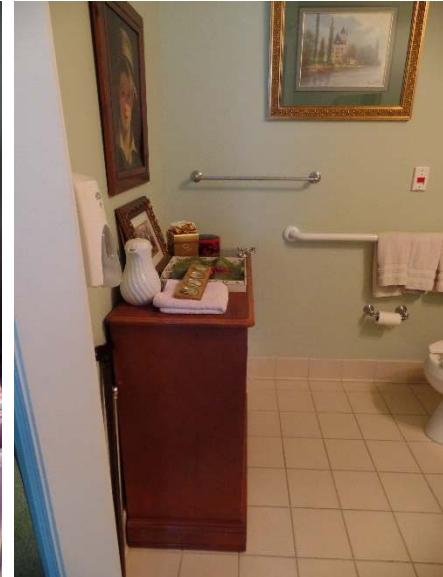
Individual Personalization: Private rooms contributed to a high level of personalization for residents. Outside each room, there was a memory box for residents to place items that were meaningful to them, and most room doors were also decorated (See Image 13).

Throughout Beacons Way, the POE team noted that resident created artwork and other personal items were present, not only on resident's bedroom doors, but out in open social areas.

Residents were encouraged to personalize their rooms with items that were meaningful to them (See Images 14 & 15). Because each room was private, residents could control the entire bedroom space (See also Image 6). This was a strong indication of home-like behaviors that contributed to continuity of self. Opportunities to personalize also provide expressions for conversations and socialization between residents and staff as well as residents and family members or other guests.



Image 13. Display cases are located outside of each resident room.



Images 14 & 15. Residents furnished their rooms, including their bathrooms, with items that were from their former homes. Décor in resident rooms was quite varied.

Safety and security: The Harbors provides a several features that contribute to safety and security. Exterior doors are coded to prevent un-attended exiting by residents. The kitchen area is open to the dining area so residents can see the activity of the kitchen and smell the food that has arrived from the central kitchen, but there is a safety gate that prevents residents from wandering behind the counter. With the amount of equipment that can produce heat or steam this is an important feature.



Image 16. Secured door to courtyard.

Family members reported a strong sense of safety and security for their loved ones. Many had moved a family member into memory care specifically because their parent had been experiencing wandering, elopement, and/or “seeking behavior” challenges that caused concern about the ability to monitor their movements. The open race-track layout provide visual access down the hallways to the activity areas. Since the unit isn’t overly large, staff can move strategically from one side to the next or up and down the corridor within a few steps and see if residents are in need. This is important for staff to recognize as part of their role as race-track designs result in natural blind-spots.

There is also a balance between protection and safety at all costs of autonomy and choice. The POE team noted that some security features, like the locked courtyard, could be managed in more progressive ways which could provide more freedoms for residents.

Opportunities to Enhance Therapeutic and Staff Work Goals:

Monitoring technology: There were concerns about the functions of the monitoring technology that had been put into place to help keep track of resident movements that might be a prelude to falls or other concerning patterns of behavior. A lack of clear understanding of the capacity or limits of the system was resulting in staff “doing more rounds.” Instead of giving up on the investment made in the technology, it might be worthwhile to contact the manufacturer for technical support and training sessions on the systems features.

Circular approach comes with tradeoffs. As previously noted, the architectural program was based on a model that pre-dated the staff who work on the unit. The open or race-track program was one of the initial solutions for memory care to address the challenges of visual wayfinding. Since these initial models were implemented, we have discovered that there are trade-offs to an open/ race-track layout. These spatial layouts require that residents give up the natural privacy gradients that are embedded in our residential settings. There is also a tendency that these layout create interiors that have a homogenous character; everything looks similar. This creates other confusing details that work counter to the open visual layout.

Sensory Stimulation is Important at Multiple Levels. The interior environment of dementia care settings must be extra sensitive to the sensory environment as effects of sensory stimulation (or deprivation) are compounded on elderly residents with cognitive loss. The circular layout of this particular plan reduced the opportunities for natural daylight to fill the space (See Image 3). In effort to offset this effect, the ceilings were raised in a couple of social areas (Living Room and Activity/ Dining Area). The effect of the raised ceiling in combination with the hard ceiling surfaces throughout the hallway created an acoustical syphon; noise from activities at the front of the unit were readily transferred towards the back of the unit. While the designers are often focused on using materials that can reflect a residential character (such as gypsum board ceilings), these features should be carefully considered in lieu of the resulting quality of the sensory experience. Lighting is also key. When there is limited access to daylighting, other artificial lighting combinations should be carefully explored so light levels can maximize a resident’s ability to see the finer details of the spaces.

Create Positive Stimulation and Meaningful Activities. Creating a beautiful interior space is certainly a desirable goal, but there also needs to be authentic residential activities incorporated into the décor’. The spaces on the Harbor were attractive, but the POE team noted that there were few opportunities to engage in the activities of daily living. It would be easy to incorporate furnishings and features that would allow residents to explore, rummage through drawers or cabinets with age-appropriate items that could stimulate memories or start a meaningful conversation with staff or family. Other types of spaces could also enhance daily activities such as a laundry space for personal clothing or even household items. The kitchen area could also be equipped with more accessible features that could be more “functional” allowing residents to participate in the preparation of food.

Don’t Overlook the Staff Support Spaces. In effort to focus on resident needs, sometimes there is a tendency to minimize the emphasis on staff areas. While many of the features for staff work can be integrated cleverly into the residential features of any household, there are still needs for some key staff work. On the Harbors, the POE team recognized that there were very limited options for staff to have a private conversation. If they need to have a private conversation, they have it in the resident’s room with the family. For shift change they either

have their conversation in the “break room” (a converted File Room that also doubles as someone’s office) or out in the open with lowered voices. This space is limited and only a couple individuals can meet at one time. At the time of the opening of the Harbors, there was also no designated soiled linen/ trash room in the design. In order to compensate for this, the staff took over a second public toilet room for the purpose. Designers should recognize that these spaces are necessary in order to manage the olfactory issues that are inherent in special care settings.

Concluding thoughts:

The POE team was very grateful to the administration of Buckner Village and the Harbor staff for inviting us to review their special care unit. There is a strong sense of community at Buckner Village and the care and attention to resident needs and quality of life is clearly evident. As with all dynamic organizations, there is always a desire to continue to explore new ways of improving and living the vision and mission. We commend the staff for their willingness to consider new ideas and implement new environmental and programmatic strategies as they continue to care for their residents with cognitive challenges. Contemporary approaches and action research strategies support a broad stakeholder engagement in planning all levels of senior care environments. The POE team was told that new projects at Buckner have a lot of input from the community. We applaud this approach as it will have many beneficial outcomes.

The SAGE - POE Team:

Addie Abushousheh, PhD, EDAC, AIA. Addie is a gerontologist, researcher, and consultant for long-term care.

Amy Carpenter, AIA, LEED ap. Amy is an architect at SFCS Architecture. Amy served as the POE Team Leader.

Migette Kaup, PhD, IDEC, IIDA, ASID, NCIDQ, EDAC. Migette is an interior design educator and gerontologist at Kansas State University.

Melissa Pritchard, AIA, LEED BD+C. Melissa is an architect with SFCS Architecture.

Alec Sithong, AIA. Alec is an architect with Stewart & Connors Architects and the Vice President of SAGE.

Teresa Whittington, RN, BSN, CDP. Teresa is a nurse, a certified dementia professional and consultant. She works for CC Young

