

**SETTLED-IN: DESIGNING FOR COMFORT
IN OLDER ADULT CONGREGATE HOUSING
IN OKLAHOMA**

By

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CHAPTER I

STATEMENT OF THE PROBLEM

Older Adults: A Special Population

When researchers describe a population as "special," what do they mean? If something is special, it is different, set apart from other things of its kind; it requires extra care and extra consideration. Older adults in assisted living, the group whose needs this project will address, are considered a "special" population. Various government and private entities have defined the term differently, but the unifying theme in their definitions is this: the quality that sets special populations apart is their vulnerability. Because the population of older adults is more vulnerable than other populations, researchers in every field take great care when researching with them.

Researchers, however, do not represent the most imminent threat to the well-being of older adults. What older adults cannot avoid - and indeed all people are victims of this ever-present menace - is bad design. As this paper will describe, one's environment is a significant influence in one's life and has the power to affect, for good or ill, one's mental and physical well-being. It follows logically that designers, especially architects, facility designers, and interior designers, the people who craft environments, should take even greater care when working with special populations. In fact, the relatively recent paradigmatic shift in the way older adults are viewed by U.S. society generally and by

designers specifically *has* gone a long way toward improving the conditions in older adult housing.

In their book, *Design for Aging: Post-Occupancy Evaluations*, Anderzhon, Fraley, and Green (2007) outline the evolution of ideas that has led to the modern concept of older adult housing. In the United States, the revolution began with the Social Security Act of 1935, which provided public funding for the care of older adults. The Social Security Act came in part as a reaction against the deplorable conditions of the poor farms and almshouses to which older adults who were unable to care for themselves were then relegated. In the same vein of civic-mindedness, the U.S. soon afterward passed the Hospital Survey and Construction Act of 1946, which dedicated federal money to the construction of new hospitals. The federal government then provided grants to hospitals for the construction of older adult care facilities, and the nursing home was born.

The Congregate Housing Services Act of 1978 marked another milestone in the history of older adult housing. This act allocated federal grant money to qualified public housing agencies and other entities, in order to provide meals and other needed supportive services. These grants were used to aid “the frail elderly, non-elderly people with disabilities, and temporarily disabled individuals to live independently and prevent premature or unnecessary institutionalization. These services may include service coordination, hot meals served in a congregate setting, personal assistance, housekeeping, transportation, preventative health/wellness programs, and personal emergency response systems” (U.S. Dept. of Housing and Urban Development, 2008). In the 1990s, these policies were further updated and expanded. Although these acts did improve conditions

for some older adults, they also resulted, like so many products of the medical industry, in a number of negative side effects.

Because the nursing home was seen as an extension of the hospital, it was run with the same economic efficiency and pervasive organization that characterized hospitals. As a result, the residents of these institutions were lost in a dehumanizing culture of dependency that ran on "a management philosophy of command and control involving all aspects of the resident's life" (Anderzhon, Fraley, & Green, 2007). It was not until the late 1980's that this paradigm began to be replaced by the more supportive and holistic concept of assisted living. Yet, in spite of this recent conceptual shift, there remains a vast, unfulfilled need for progressive and innovative design in the area of older adult housing.

This design thesis proposes a new interior design prototype for the basic building block of older adult congregate housing - the resident's room. Specifically, this design addresses the needs of an older adult in assisted living in the state of Oklahoma. A review of the relevant literature was useful in describing the characteristics of older adults, the unique needs of this special population, the ways in which design has begun to address these needs, and the potential for interior design to further support older adults in their daily lives. Special attention is given, both in this paper and in the design prototype, to the mental challenges faced by some older adults, including depression, isolation, and loss of dignity, as well as the physical challenges, including dementia and loss of mobility. In this project's proposed design solution, the older adults' resident rooms are considered to be their homes, and the design resists relocating older adults as their needs change. By extension, the assisted living facility is conceived as a neighborhood, and

community and social support are emphasized. The overarching theme of this project is the concept of comfort, and the design will be developed and evaluated using Comfort Theory (Kolcaba, 1991, 1994).

CHAPTER II

Summary of Surveyed Related Work

Challenges Faced by Older Adults

A Growing Population

In 2006, the Federal Interagency Forum on Aging-Related Statistics (Forum on Aging), a collaborative effort between the U.S. Census Bureau, the U.S. Administration on Aging, and other government agencies that collect and use data on aging, released its *Older Americans Update 2006: Key Indicators of Well-Being*. The third in a series of reports that track and summarize older adult statistics, this publication confirmed what most Americans have come to accept as a given fact: the older adult population is growing, and it is growing quickly. The Forum on Aging reported that the U.S. population of adults over sixty-five years of age increased from 12.3 million in 1950 to 35 million in 2000 (Forum on Aging, 2006).

These figures indicate that the population of older adults in the U.S. nearly tripled in just fifty years. Even more dramatic swings have taken place in individual states. In a 2004 press release, the U.S. Census Bureau (n.d.a) reported that California, which had the highest estimated number (3.8 million) of residents aged sixty-five or more, was also leading the way in older adult population growth with an estimated increase of 57,000 people from 2003 to 2004. Florida followed just behind with a total of 2.9 million older

adults, an increase of 32,000 from 2003 to 2004. Of all the United States, Florida's population has the highest percentage of older adults: 16.8% of its total state population.

As the Forum on Aging (2006) reports, the U.S. Census expects the older adult population to continue to climb. Its estimates predict that the U.S. population aged sixty-five and over will increase from 35 million in 2000 to 86.7 million in 2050. Having nearly tripled in the last half century, it will more than double in the next.

While the older population as a whole is increasing in number, individual lifespans are also increasing. The Forum on Aging (2006) describes the life expectancy of older adults: in 2004, an average woman aged sixty-five years could expect to live an additional 19.8 years, while her male counterpart could expect another 16.8 years. In 1950, a sixty-five year old woman could expect only 15 more years, and a man only 12.7. Although people are living longer, they also face greater potential for disability. Testing the ability of medical and housing services to increase supply in response to demand, this older adult population explosion has increased national awareness of older adult issues. For the purposes of this paper, selected difficulties faced by some older adults are grouped into challenges to mental well-being and challenges to physical well-being. The challenges listed were selected because (1) they are experienced by many older adults in assisted living, and (2) they have the potential to be ameliorated by interior design interventions.

Challenges to Mental Well-Being

Depression and Isolation

In their international study, Chachamovich, Fleck, Laidlaw, and Power (2008) surveyed 4,316 adults aged 60 years old or older in 20 countries around the world. Their sample was comprised predominantly of women, which is in keeping with the general population of older adults. The study examined depression, including mild non-clinical depression. Although the connection was more marked in clinical depression, even mild depression was found to have a strong association with decreased self-assessed quality of life and with increased negative attitudes toward aging.

Depression is a pressing danger to older adults in assisted living. Depression kills: research links depression to increased morbidity in older adults. In her review of the risks of heart disease, Arthur (2006) describes the relationship between depression, isolation, social support, and cardiovascular disease. She distinguishes between social integration (the presence or absence of relationships), social networks (the structure of relationships, whether small/dense or large/broad), and social support (the provisions afforded by relationships, such as “emotional concern, instrumental assistance, or information”). She cites the connection between isolation and death and describes two underlying deficits involved in loneliness: lack of emotional support (lack of intimacy) and lack of companionship (lack of a sense of belonging). High levels of loneliness and low levels of emotional support and companionship were strongly associated with increased risk of heart disease. Conversely, an increase in perceived emotional support led to a dramatic decline in heart disease risk. Arthur (2006) concludes that depression

and social isolation clearly affect both the risk of, and recovery from, heart disease in older adults.

Other research also suggests that alleviating depression can help to prolong life. One longitudinal study found that patients with depression and cancer were 45% less likely to die when their depression was treated (Gallo, Bogner, Morales, Post, Lin, and Bruce, 2007, May). Furthermore, treating depression can also improve older adults' physical functioning. A longitudinal study of 1,801 adults, aged 60 and older, with a major depressive disorder found that subjects who participated in depression interventions experienced significantly better physical functioning after one year than patients in the control group (Callahan, et al., 2005). Intervention participants in the same study were also less likely to rate their own health poorly.

It is evident that, although depression is a serious threat to the well-being of older adults, improvement of depressive symptoms is associated with improvement in other areas of older adult health. The literature reviewed below suggests that changes in one's physical environment have the potential to change one's mental well-being. This project proposes an interior design intervention, to change older adult assisted living residents' environment (or situation) to ameliorate the symptoms of situational depression.

Loss of Dignity

No less important than depression, but less easily defined, is the related emotional state of dignity. Although cultural understanding of depression has been found to vary slightly (Lawrence, et al., 2006), the very nature of dignity is profoundly affected by cultural perspective. In her *Journal of Medicine and Philosophy* article, titled "Dignity in

Long-Term Care for Older Persons: A Confucian Perspective," Dr. Julia Tao (2007) of Hong Kong compares and contrasts two views of dignity as it applies to older persons.

Dr. Tao points out that, although the concept of dignity is used extensively to develop health care policy, in particular policy that promotes the personal well-being of older adults, it remains an undefined concept with more than one interpretation.

[Certain] accounts tend to define the dignity of old people in terms of their capacity for autonomous action, decision-making, and independence. This approach [understands dignity] as the dignity of moral agents ... that is, of rational, self-conscious, and independent sources of moral authority. A less individualistic view of dignity ... does not place its accent on humans as independent moral agents. Instead, it recognizes the central importance of the membership of humans in their families. Different visions of dignity take their character from different background commitments regarding the status of individuals and their families. These diverse commitments have divergent implications for policy choice and decision making (p. 466).

Dr. Tao opposes the viewpoint of bioethicists, who have "claimed that dignity is a vacuous and useless concept which can be reduced to autonomy without any loss of meaning" (Tao, 2007, p. 466). She explains that, in Confucian thought, dignity is a universal human quality, integral to the fundamental worth of people and asks the reader, "Would something of great moral significance be lost if we were to replace respect for dignity [with] respect for autonomy?"

Even within individual cultures, dignity varies somewhat (Tao, 2007). For example, dignity can be conceived of as both an earned virtue (e.g., the dignity of particularly respected persons, whose behavior or rank affords them greater respect) and an inherent quality (e.g., the Christian concept of inalienable worth, obtained simply by being born human, created in the image of God). The idea of inherent dignity is also present in Confucian thought, particularly in the writings of Mencius, who described four sprouts of morality, planted in each human being by the heavens; the four sprouts are feelings of compassion, feelings of shame, feelings of modesty, and feelings of right and wrong (Tao, 2007).

While recognizing the undeniable importance of maintaining the dignity (whether earned or inherent) of older adults in assisted living, this project attempts to integrate both the relational view of dignity that centers on interdependence and the individualistic view that centers on autonomy.

Challenges to Physical Well-Being

Loss of Mobility

Closely linked to the idea of autonomy and independence, mobility is a key factor in the dignity of older persons. Although often taken for granted by the young, mobility is often compromised in older adults, due to physical disability. Older adults are sometimes referred to as frail. Frailty is considered highly prevalent in older adults and is thought to confer high risk for falls, disability, hospitalization, and death (Fried, 2001).

Encouraging exercise in older adults, however, may help to alleviate both the physical and mental problems currently associated with old age. For example, a five-year

longitudinal study of 1,947 adults, aged 50-94, found that increasing movement helped to relieve depression (Strawbridge, Deleger, Roberts, and Kaplan, 2002). Additionally, an expert panel from the American College of Sports Medicine and the American Heart Association recommended physical activity practices for older adults (Nelson, et al., 2007). In addition to the general exercises suggested for adults of all ages, the panel recommended that older adults engage in flexibility training to increase mobility and balance exercises to help minimize the risk of falls. Older adults should engage deliberately in training their bodies, emphasizing moderate-intensity aerobic activity, muscle-strengthening activity, reducing sedentary behavior, and risk management (Nelson, et al., 2007).

Alzheimer's Disease and Dementia

Alzheimer's Disease is a widely known threat to the physical well-being of older adults. Although this disease could be classified as a challenge to one's mental well-being as well, it is discussed here because its cause is distinctly physical. In medical nomenclature, Alzheimer's Disease is grouped with other diseases that cause similar symptoms: a breakdown of mental functioning, including impaired memory, judgment, and reasoning. Members of this group are known as dementia-causing diseases. In their book, *The 36-Hour Day*, Nancy Mace and Dr. Peter Rabins define dementia as a "medical term for a group of symptoms that include a decline in several areas of intellectual ability sufficiently severe to interfere with daily functioning in a person who is awake and alert" (Mace & Rabins, 2006, p. 282). *The 36-Hour Day* demystifies Alzheimer's Disease by explaining in layman's terms the medical and biological details of dementia and the

medical terminology associated with this group of diseases, and by offering practical suggestions to help people deal with the symptoms of dementia.

American people aged sixty-five or more years face a number of health challenges. Many are chronic conditions and many typically lead to death. The U.S. Center for Disease Control's (CDC) *National Vital Statistics Report* lists the top seven causes of death for people of all ages in the United States as (1) heart disease, (2) cancer, (3) stroke, (4) chronic respiratory disease, (5) accident, (6) diabetes, and (7) Alzheimer's Disease (Heron, et al., 2009). This document reports that the incidence of Alzheimer's Disease has greatly increased in the last twenty years. The CDC is careful to point out, however, that some of the increase may be due to improvements in diagnostic tools and greater awareness of the disease among medical professionals (Heron, 2009, p. 9).

The Forum on Aging (2006) reports that, in 2003, an average of 167.7 out of every 100,000 people aged sixty-five or more died from Alzheimer's Disease. This figure represents an increase over the previous year, in which only 158.7 per 100,000 older adults succumbed to Alzheimer's Disease. Alzheimer's Disease is a serious threat to the population of older adults in the United States and maintains a constant, ominous presence in American culture.

Since its discovery in 1906 by German physician, Alois Alzheimer, Alzheimer's Disease has become the leading cause of dementia in the United States. As Mace and Rabins (2006) point out, Alzheimer's Disease accounts for 50-60% of all cases of dementia, while its nearest runner-up, vascular disease (i.e., stroke), accounts for only 10%. An additional 10% of dementia cases are caused by a combination of Alzheimer's Disease and vascular disease (Mace & Rabins, 2006, p. 284). Therefore, Alzheimer's

Disease and vascular disease, in addition to their rankings as number 7 and number 3, respectively, on the CDC's list of the top causes of death in the U.S., also cause the vast majority (70-80%) of dementia cases.

The degeneration associated with dementias, like Alzheimer's Disease and vascular disease, affects the body as well as the mind. Alzheimer's Disease progresses gradually, slowly robbing its victims of their fine motor skills, coordination, continence, and mobility (Mace & Rabins, 2006). Vascular disease causes more "steplike" degeneration: a patient's abilities decline noticeably after each stroke, followed by a plateau period when his/her ability may not change perceptibly. This type of steplike progression is associated with what is known as vascular, or multi-infarct, dementia (Mace & Rabins, 2006, p. 286) and differs from the slow decline associated with Alzheimer's Disease. The diseases and disorders that challenge the health of older adults may be considered internal factors affecting their well-being, but older adults' lives are also affected by external factors that originate in the environment that surrounds them.

The Role of Interior Design

Older Adults Live Indoors

Depending on which study one consults, the approximate amount of time Americans spend indoors ranges from approximately 87% (Klepeis, et al., 2001) to over 95% (Ott & Roberts, 1998). However, most researchers agree that people in the U.S. spend the vast majority of their time in interior environments. Past research has examined how older adults typically spend their time.

A *Gerontologist* article describes a German study that tracked the activities that make up the daily lives of older adults over seventy years of age (Horgas, 1998). The participants' average day was found to be about sixteen hours long. The study found that its participants spent approximately 80% of their day inside their primary residence. Only 7.2% of the day was spent outdoors, and the remainder of the day was spent inside other structures (friends' residences, other buildings, vehicles).

The study also found that three hours of the participants' day were spent on self-enrichment, about three hours of the day were spent resting, about three hours watching television, about one and a half hours reading, and about two hours participating in other leisure activities. Two and a half hours were spent on personal care, and the remaining one and a half hours of the day were spent on socializing and other activities. Furthermore, the older adults spent about 64% of their time alone with their environment. In sum, the vast majority of the daily lives of the older adult participants was spent on solitary, indoor activities at their primary residence.

The quality of an interior environment can have a powerful effect on the well-being of its occupants. It is logical that the more time a person spends in a particular environment, the greater its effect on him or her will be. Therefore, since older adults spend the majority of their time in their primary residences, these environments have the greatest potential to affect the quality of their lives. This is especially true for older adults whose primary residence is an assisted living facility, considering that "the environment is a silent partner in caregiving, and environmental factors can enhance the abilities of older adults and provide a heightened sense of autonomy for residents and staff" (Noell, 1995).

Facility as Neighborhood

Since older adults' lives may be so dominantly contained within the facilities where they reside, the facility can be viewed as the residents' "neighborhood." It is their community. This metaphor is even more potent when the assisted living facility forms part of a continuing care retirement community. The concept of facility-as-neighborhood is important, because the physical environment has been linked to depression in neighborhood residents. For example, one study of 1,355 survey respondents found that residing in a neighborhood characterized by a poor quality physical environment was associated with a greater risk for depression (Galea, Ahern, Rudenstine, Wallace, and Vlahov, 2005). In the same study, residents in neighborhoods with better quality physical environments were less likely to report both recent and lifelong depression.

Aging-in Place

At the forefront of the new school of thought in older adult housing is the concept of aging-in-place. Ideally, aging-in-place precludes the move to an assisted living facility by allowing an older adult to remain independently in his own home. When a radio interviewer asked Victor Regnier to describe the ideal place where he would like to grow old and frail, he - a noted researcher and author in the field of assisted living - had a difficult time answering the question (Regnier, 2002). As Mr. Regnier points out, no one looks forward to coping with the problems of old age. He goes on to say that an ideal place for growing old must embrace the concept of environmental continuity: a place where you "stay in your apartment and let the services you need change rather than changing the environment" (Regnier, 2002, p. *xi*). Although older adults in assisted

living have already suffered the trauma of moving away from their own homes, this project proposes an interior design intervention to prevent further moves by allowing the older adult to reside in one resident room for as long as possible. This is in keeping with the heart of the aging-in-place philosophy.

The Concept of Holistic Comfort

The Meaning of Comfort

Katherine Kolcaba has made a lifelong study of the concept of comfort, through which she was able to develop a holistic Comfort Theory. Dr. Kolcaba received her Ph.D. from Case Western University and is, at the time of this writing, senior lecturer and professor in the department of nursing at the University of Akron in Ohio. In her writing on the subject, Dr. Kolcaba (1994) states that, because comfort is a whole-person phenomenon, possessing a complicated interaction of factors and possible carry-over effects between components, it is quite difficult to operationalize. Dr. Kolcaba is one of the few to tackle this difficult concept in academic writing, because, as she points out, “Although comfort is a central concept for nursing, its contextual meaning is vague, because there are many meanings of the term, some of which can apply simultaneously in a given situation” (Kolcaba, 1991). A similar phenomenon has occurred in the area of design; although interior designers who regard comfort as a central concept speak highly of it and seek to incorporate it as a necessary component of excellent design solutions, no design literature was found that specifically defined the term. Nevertheless, in the case of assisted living facilities, the realms of nursing and interior design are intricately related. Therefore, Dr. Kolcaba’s research is relevant to the current project.

An analysis of the historical uses and etymology of the word led Dr. Kolcaba to define the following three meanings of comfort: (1) *ease*, a state of enduring calm or contentment; (2) *relief*, the state of having a specific discomfort removed; and (3) *transcendence*, the state of having been strengthened or invigorated (Kolcaba, 1991, 1994). Kolkaba (1991) specifies that the first meaning of comfort, ease, does not imply relief from a previous state of discomfort, is positively related to task performance, and is a reflection of person-environment fit that can be correlated with specific environmental features. Dr. Kolkaba's assertion that comfort can exist without previous discomfort is in conflict with the writings of Dr. Satoru Kuno (1995), architecture professor at Japan's Nagoya University.

Dr. Kuno (1995) holds that comfort only exists in contrast with discomfort. For example, he describes the scenario of an air-conditioned restaurant: their exposure to the heat of the exterior environment causes the patrons' enjoyment of the cool interior environment. If it were cold outside, an air-conditioned interior would offer no comfort. In addition, Dr. Kuno states that, often, the same phenomenon causes both comfort and discomfort. He gives the example of daylighting: "Direct sunlight into a room in the morning causes not only glare but also pleasantness" (p. 387).

It is this multidimensional nature of comfort, states Dr. Kolcaba, that has long prevented researchers from thoroughly investigating the concept. In addition to enduring contentment, or ease, Dr. Kolkaba (1994) identified a second meaning of comfort that is more in keeping with Dr. Kuno's (1995) thinking: comfort as relief from previous discomfort. This meaning of comfort can signify either the means of relief – i.e. a "comfort measure," a tool or technique used for providing relief – or the state that is

achieved through the use of such means. This definition supports Dr. Kuno's assertion that comfort is fleeting, lasting only while the relief from previous discomfort is still fresh in the mind. Dr. Kuno, therefore, concludes that to intentionally design for comfort one must incorporate "sudden change and its aftereffect" (p. 388). In other words, variation is the key to comfort.

Dr. Kolcaba's (1991) third meaning of comfort, transcendence, "is distinct from the other two senses of comfort because it entails the enhancement of ordinary powers through the nurse-patient relationship" (p. 238), or, in interior design, through a good person-environment fit. Transcendence occurs when comfort allows a person to rise above his sufferings. This reinforces the idea that comfort is a holistic concept, because it involves the whole person, not merely a part. Kolcaba points out that "a sore ankle is not a sore person" (Kolcaba & Kolcaba, 1991, p. 1306), that a person may be in some discomfort and still be at ease, and that comfort measures can strengthen a person, in spite of persisting discomfort. Although he suffers in part, as a whole he experiences comfort. In Dr. Kolcaba's definition, comfort occurs in spite of discomfort, not because of it, as Dr. Kuno suggests. By synthesizing its three meanings, Dr. Kolcaba defines comfort as "the state of having met basic human needs for ease, relief and transcendence" (Kolcaba, 1991, 239).

The Context of Comfort

Dr. Kolcaba (1991, 1994) also defines four contexts in which comfort may be expressed: (1) *physical*, pertaining to bodily sensations; (2) *social*, pertaining to interpersonal, familial, and societal relationships; (3) *psychospiritual*, pertaining to self-

awareness, including self-esteem, self-concept, religion, sexuality, and life goals; and (4) *environmental*, pertaining to the “external background of human experience,” including lighting, color, acoustics, air temperature, and materiality.

Other researchers have linked the interior environment with its occupant’s self-perception. A *Journal of Interior Design* article by Eshelman and Evans (2002) discusses the effects of the interior environment on “attachment to place” and self-esteem for older adults living independently in a continuing care retirement center. Place attachment describes the emotional bond one forms with a place. Eshelman and Evans (2002) found that personalization was strongly linked with place attachment and self-esteem. The authors conclude that

what residents truly want is their own quirky, individually unique setting: their home. Interior designers working on continuing care retirement communities and other types of residential facilities should not become complacent ... designing residences to appear home-like. Instead, they should view the challenge of designing to support the expression of individual preferences as an enormously untapped area for creative exploration (Eshelman and Evans, 2002, p. 7).

A Taxonomic Structure of Comfort

By forming a grid with the three senses of comfort (ease, relief, and transcendence) and four contexts in which comfort is created (physical, social, psychospiritual, and environmental), Dr. Kolcaba (1991) creates a matrix that represents a holistic view of comfort. Each square on the grid offers an opportunity to address a

specific area of this holistic view: for example, relief in the social context might be addressed by alleviating loneliness. Dr. Kolcaba offers the following examples: “Oncology patients who are depressed but not in pain need comfort in the transcendental sense and in the psychospiritual context... On the other hand, oncology patients who are depressed and lonely need comfort in the transcendental sense and in the social context... Patients with dementia often need the sense of ease in the environmental context” (Kolcaba, 1991, p. 240). Previous researchers have adapted the Comfort Theory taxonomy to help them design a system of administration and faculty goals for improving student experiences in nursing education, demonstrating the versatility of the theory and its applicability to different goals (Goodwin, Sener, & Steiner, 2007). This project adapts Kolcaba’s grid, in order to aid in the development of survey questions. Questions were developed that probe each area of Kolcaba’s grid. The survey responses were then examined, in order to inform design proposals toward the creation of a prototype resident room for an older adult in a typical assisted living facility in Oklahoma.

CHAPTER III

Methodology: Summary of the Creative Process Plan

Areas of Exploration

Existing Design Recommendations

Previous researchers have made design recommendations based on their examination of the body of knowledge concerning older adult housing. Although these studies do not confine themselves to older adults in assisted living, many of their observations still have potential application to this project. It is anticipated that accommodating some of the recommendations for persons with dementia and mobility impairments may allow older adults to remain in one home longer and age-in-place.

Van Hoof, Kort, Duijnste, Rutten, and Hensen (2010) discuss three categories of environmental quality (air/odors, light/lighting, and acoustics), as affected by different aspects of the physical environment. For example, they point out that textiles, including carpeting, may be sources of unpleasant odor, such as that of urine or chemical cleaning agents. To combat this, they recommend the use of aromatherapy and the careful selection of easy-to-clean, odor-resistant textiles.

Two of the authors of the above article also collaborated on a paper, describing a design prototype for older adult housing (Van Hoof and Kort, 2009). This project agrees with many of the principles delineated by Mace and Rabins (2006). For example,

Van Hoof and Kort's (2009) prototype employs transparency to reduce the potential for disorientation: sliding doors between rooms can remain open, leaving views into all spaces, allowing the older adult to remain oriented in the space. However, any design proposal must not compromise the safety of facility residents. Although sliding doors are legally allowable as egress in the current project, it is possible that other egress solutions may offer an easier escape route, without compromising the transparency desired to assist with dementia issues. Careful review of all applicable codes and regulations is necessary.

Codes and Regulations

Extensive governmental regulation exists in the area of older adult housing. These laws, including national and local building and fire codes, as well as the Americans with Disabilities Act, are intended to protect the well-being of the housing occupants. In many cases, the existing research literature and the code requirements speak in unison to lead the designer to a particular solution. For example, as previously mentioned, carpeting is a potential source of unpleasant odor and maintenance difficulties (Van Hoof, et al., 2010). Meanwhile, the Americans with Disabilities Act (U.S. Access Board, 2002) requires that wheelchair accessible spaces use carpeting with a pile no higher than one-half inch. Combined, these sources suggest that the designer employ short-pile carpeting in moderation in older adult housing applications.

In the current project, the design solution suggests a facility with twelve resident rooms, which would allow the design to be classified as residential construction R-4 (International Code Council, 2009). In spite of this, the proposed design meets more

stringent standards, in to provide for possible future expansion of the facility in which the resident room design is located.

Deliverables

Overview

The deliverables for the project are intended to work together to form a detailed exploration of comfort and dignity in older adult housing. The deliverables for this project include:

- (A) an adapted taxonomic grid that specifies areas for survey questioning,
- (B) a survey instrument that probes the concepts of dignity and comfort,
- (C) analyzed survey data from older adults in assisted living,
- (D) notes and observations from five existing assisted living facilities in
Stillwater, Perkins, and Oklahoma City, Oklahoma,
- (E) proposed design solutions for a prototypical assisted living residence room for
an older adult, with emphasis on
 - (E1) the mental and physical well-being of the older adult resident, and
 - (E2) the comfort of the older adult resident,
- (F) descriptive and construction documents, detailing the design, including
 - (F1) furniture floor plans,
 - (F2) furniture and furnishings schedules,
 - (F3) lighting plans and schedules,
 - (F4) finish schedules
 - (F5) elevation and perspective drawings.

Adapted Taxonomic Grid (Deliverable A)

Because Dr. Kolcaba worked in the field of nursing, she regarded the physical environment as merely one of four factors that could affect comfort. In order to focus on interior design's potential to affect comfort, this project will adapt Dr. Kolcaba's taxonomy, by eliminating environment as a separate context of comfort and, instead, redefining the other three contexts to include the environment. The redefined "physical" context, therefore, encompasses any and all phenomena by which the environment affects physical comfort; for example, through the use of ergonomic furniture. The redefined "social" context encompasses phenomena by which the environment affects social interaction; for example, through the use of sociopetal design. The modified "psychospiritual" context encompasses phenomena by which the environment affects psychology and spirituality; for example, through dedicated space for meditation or reflection.

Survey Instrument (Deliverable B)

A survey probed participants' experiences of older adult housing in each area of Kolcaba's grid. Questions were developed that examined each grid section, in terms of the physical environment's potential effect. The survey also examined participants' concepts of dignity and comfort and their mental and physical well-being. Participants were asked to give their own definitions of comfort and dignity. Specific questions targeted lighting: daylighting and electrical lighting, as well as light trespass. Light trespass occurs when light falls where it is not intended, wanted, or needed (International Dark-Sky Association, n.d.). Specific questions addressed sociopetal and sociofugal

aspects of the space. Specific questions examined the participants' perception of how well the space supports their dignity. Specific questions examined the participants' perceptions of how well the space supports their comfort, in terms of ease, relief, and transcendence, in the physical, social, and psychospiritual contexts.

In order to further probe their experience of comfort, participants were asked to respond to a series of statements that examine specific interior elements that may affect the comfort they experience in spaces. Parallel items examined the same elements in terms of dignity. This represents a new survey methodology that has not been previously used. Further research is necessary to refine the survey. Please see Appendices for the complete questionnaire.

Analyzed Survey Data (Deliverable C)

The coded survey data were analyzed, by examining the percentages and means of responses.

Observations from Site Tours (Deliverable D)

In addition to glean existing design characteristics from survey participants, this project assessed multiple assisted living facilities in Oklahoma. With permission of the facility directors, data was collected in the form of notes, sketches, and/or photographs.

Proposed Design Prototype and Documentation (Deliverables E & F)

A resident room design prototype that optimizes comfort, dignity, and well-being was created as the main deliverable of the project. The prototype was designed to accommodate the “average” assisted living resident, but incorporated flexibility, with the intention that it may be adapted to the needs of different individuals in different locations. The design is expressed through construction documents, including furniture floor plans, furniture and fixture schedules, lighting plans, lighting schedules, material selections and finish schedules, as well as descriptive drawings, including elevations and perspectives.

Design Evaluation

The design was evaluated against the survey results and the previously developed adapted taxonomic structure, to determine whether the initial goals of the design were met: i.e., whether the prototype enhances the comfort, dignity, and well-being of its occupant. Professionals with experience designing or specifying older adult housing or working with the older adult population were invited to evaluate the design proposal, based on their professional opinion of its potential and efficacy. Four people participated: two experts in the area of gerontology, one interior designer with experience in the area of older adult housing, and one administrator of an assisted living facility.

CHAPTER IV

Results: Illustrations and Explanations

Adapted Comfort Taxonomy

| Sense/Context | Physical | Social | Psychospiritual |
|---------------|--|---|--|
| Ease | En(E-Ph) Environmental Effect on a Sense of Ease in the Physical Context | En(E-S) Environmental Effect on a Sense of Ease in the Social Context | En(E-Ps) Environmental Effect on a Sense of Ease in the Psychospiritual Context |
| Relief | En(R-Ph) Environmental Effect on a Sense of Relief in the Physical Context | En(R-S) Environmental Effect on a Sense of Relief in the Social Context | En(R-Ps) Environmental Effect on a Sense of Relief in the Psychospiritual Context |
| Transcendence | En(T-Ph) Environmental Effect on a Sense of Transcendence in the Physical Context | En(T-S) Environmental Effect on a Sense of Transcendence in the Social Context | En(T-Ps) Environmental Effect on a Sense of Transcendence in the Psychospiritual Context |

Survey Development

Section 1, Questions 1-12

Questions were developed that probed the effect of various interior design elements on the participants sense of comfort. Interior design elements were chosen for their ease of identification by laypersons and were discussed in broad terms.

Section 2, Questions 1-12

Questions were developed that probed the effect of various interior design elements on the participants sense of dignity. Interior design elements were chosen for their ease of identification by laypersons and were discussed in broad terms.

Section 3, Questions 1-3

Open-ended questions were developed that probed the participants' personal definitions of comfort and dignity. In order to avoid biasing the participants, the survey instrument did not define either comfort or dignity for the participant.

Section 4, Questions 1-24

Questions were developed that probed the participants' experience of their current assisted living facility. Questions 5 and 21 examined a Sense of Ease in the Physical Context. Questions 6 and 7 examined a Sense of Ease in the Psychospiritual Context. Questions 12 and 20 examined a Sense of Ease in the Social Context. Question 19 examined a Sense of Relief in the Psychospiritual Context. Question 22 examined a Sense of Relief in the Physical Context. Questions 23 and 24 examined a Sense of

Transcendence in the Physical Context. Although other questions were developed in the remaining categories of Kolcaba’s grid, a pilot test run with three older adults suggested that the survey instrument was too long: participants grew restless and lost concentration. The survey was shortened, in the hopes that this would improve the survey experience for older adult participants.

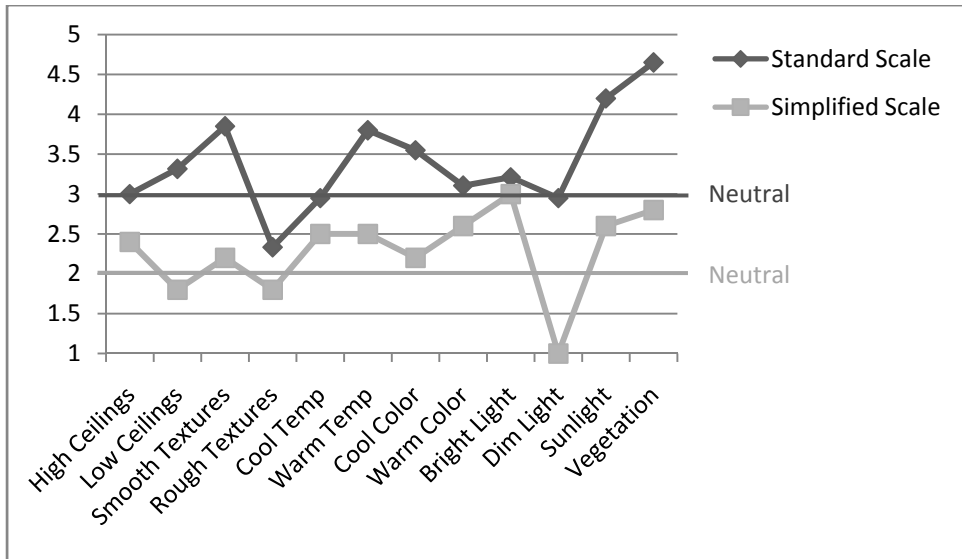
Section 5, Questions 1-5

Questions were developed that probed the participants’ basic demographic characteristics.

Survey Results

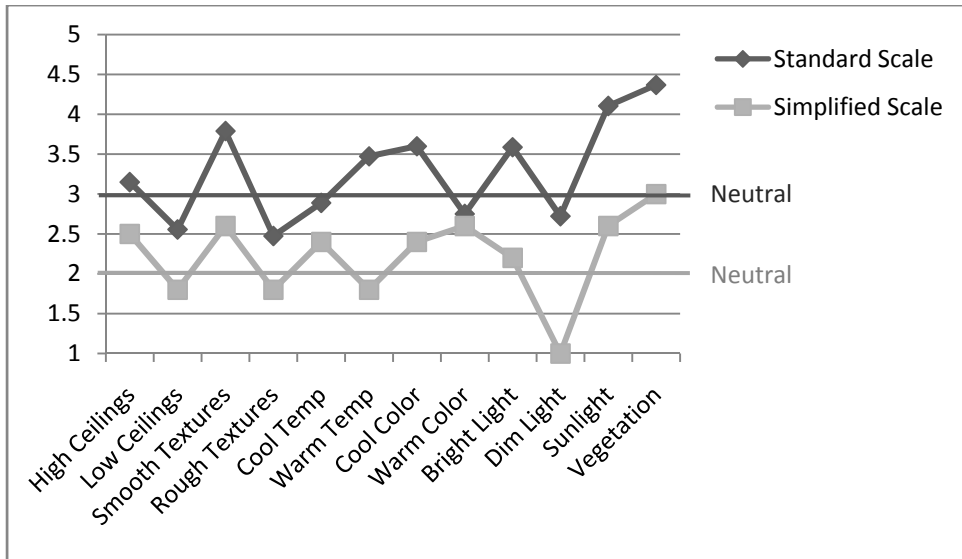
| <i>Demographics</i> | |
|---------------------|--|
| Participants | n=25 |
| Sex | 92% female, 8% male |
| Marital Status | 84% widowed, 8% married, 4% divorced, 4% never married |
| Race | 92% white, 4% Native American, 4% no response |
| Employment | 96% retired, 4% no response |
| Average Age | 86.4 years |

The survey was developed as a self-administered instrument, using a five-point, Likert-type scale with a sixth “don’t know” option. However, during the data collection process, many older adults requested the researcher to read the survey out loud and write down their verbal responses. When such a request was made, the researcher complied. Five participants had difficulty responding on a five-point scale. For these five, a simplified three-point scale was developed on-site and read to them: “disagree,” “neutral/no opinion,” and “agree” with a fourth “don’t know” option. No attempt was made to integrate data collected on a simplified three-point scale with that collected on a standard five-point scale. The five participants who completed the simplified three-point scale questions were considered separately. Because the survey field locations were at the discretion of the participating facilities, some survey participants filled out their surveys alone with the researcher in their resident rooms, while others filled out their surveys in more public spaces with the researcher and a group of their older adult peers.



Factors Contributing to Comfort (Means by Type of Feature)

Mean responses per interior design element; higher means indicate greater importance to comfort. See survey instrument in Appendicies. Results suggest that the participants considered vegetation, sunlight, and, to a lesser degree, smooth textures and warm temperatures to be important to their comfort.



Factors Contributing to Dignity (Means by Type of Feature)

Mean responses per interior design element; higher means indicate greater importance to dignity. See survey instrument in Appendicies. Results suggest that the participants considered vegetation, sunlight, and, to a lesser degree, smooth textures and cool colors to be important to their comfort.

Participant Comments

Solicited Comments: Define Comfort

- Comfort means contented and satisfied.
- Comfort is a sense of well-being. Everything is the way we like it to be.
- A sense of being at ease, in body and mind, no worry or pain and financially secure.
- Physically - finding everything you need convenient.
- A quiet comfortable place where I can relax, not be concerned whether it is decorated in the latest most fashionable contemporary décor but rather one that says, "relax and stay awhile". I would prefer bright colors and lots of sunshine and a nice view. However I am 86 years old, my severe eye sight precludes this. I have to wear dark glasses all of the time.
- places to socialize & relax
- comfort is to be comfortable - not hot or cold spots
- feeling at ease
- at ease -
- feeling at home. We've all had homes & had to give it up on account of our health, but we make the best of this.
- Comfort is where you can be yourself and be able to take care.
- feeling right
- Where I can be me.
- Relaxed & warm
- Feeling "at home" also meets your needs - physical, mental, etc.
- feeling @ peace
- Feeling of ease & contentment.
- Safe & calm - No bills
- feeling of being safe
- Comfort means being secure, surrounded by friends & family
- makes you feel good
- A place you can relax and have around you what you are familiar with and like. Not too cold or hot. Comfortable furniture. Just having familiar things around you makes you comfortable.

Solicited Comments: Define Dignity

- worthy, high-ranked & honored
- Conducting oneself in such a way that others will recognize your deep respect for good manners, self respect and other qualities of this nature.
- A person who lives and demonstrates by daily acts that (he-she) had pride and self respect. Demonstrates by dress, acts, and communication.
- Well kept, pretty
- Dignity is defined by character. Not straight laced, unbending ever but kind, not the loudest person and always the hit of the party large or small, but being genuine, dependable, a wonderful friend to have. With a good sense of humor.
- having my own space
- dignity is to be consider of all to keep temp neutral of possible
- Feel at ease - can take part in any conversation or participate in most things as a group of activities.
- Dignity is having pride, being friendly. I did a lot of cooking and made things look good. I took a lot of pride in that. Also, making yourself look good is a part of pride.
- Don't know.
- to be nice to everybody
- feel good & Happy
- a sense of being well and confidence
- Being a Lady or Gentleman @ all times
- Sense of good self esteem.
- Class
- People who treat me well.
- Dignity is a person's approach to other people, just regular living. Dignity could be a lot of things, I guess.
- You feel good about yourself, comfortable with yourself, don't feel self-conscious, you enjoy life and people.

Solicited Comments: Any Other Comments

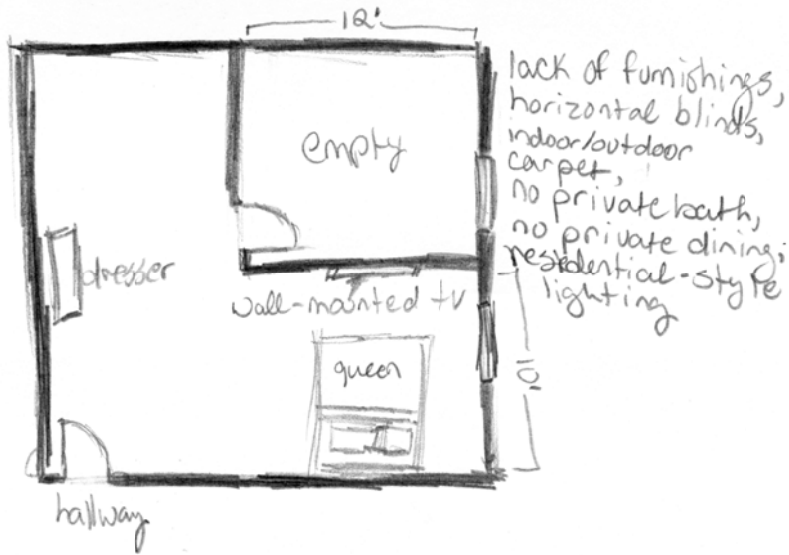
- I have no problems.
- I personally prefer soft pastel colors in my rooms and not too gaudy ones in the décor outside my living space.
- The citizens of the United States are suffering in both respects.
- At this moment I think I have everything I need. What I need my daughter gets for me.
- I am 86 years old living in the Assisted Living section of a very large "Life Care" facility serving our needs from 62 years young until death. My family lives 4000 miles away and I made the choice to live here 18 years ago. I have never regretted it. I enjoy the friendships, the privacy or activities as I choose. In my view it is ideal. Our staff is the very best!
- To appear with a group who are fancy dressed & it make me feel out of place if I'm not dressed up like them.
- When someone speaks unkind things it bothers me. I like friends, and I've got a whole bunch of them.
- Satisfied
- Rudeness, argumentative, being feel down
- People who critiize others
- None come to mind.
- loud Noise. Rude ignorant people.
- How people talk to me.
- I think the surroundings of people, furniture, conduct of all the other people in this room affect me.
- Having a pleasant atmosphere, having companionship, friends around, a nice friendly place always makes you feel good.

Unsolicited Comments

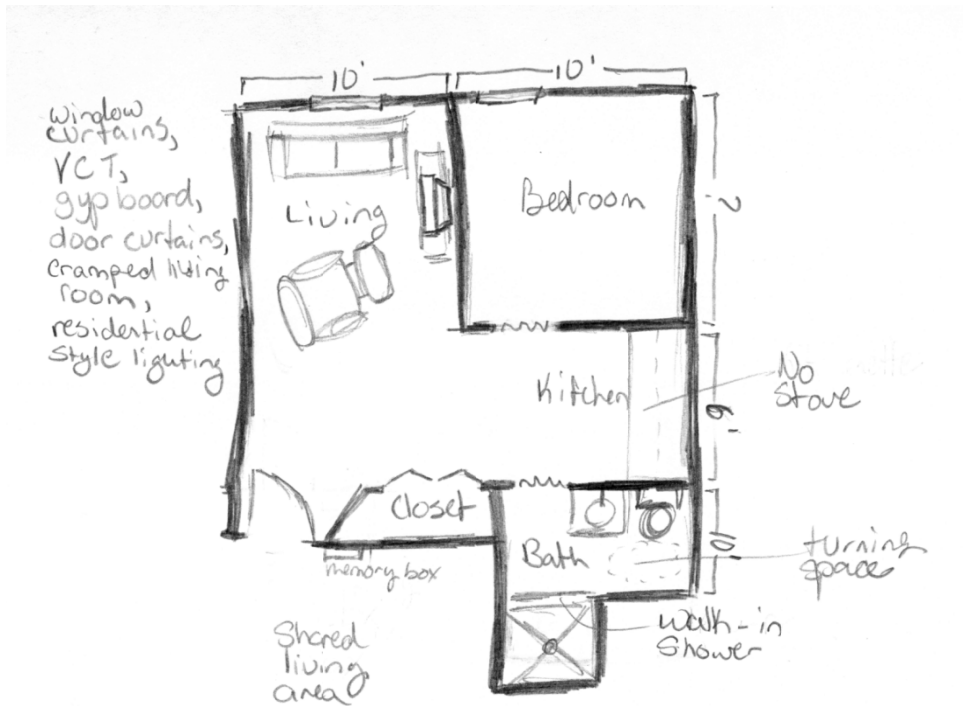
Unsolicited comments were noted, while reading survey to participants and writing down their verbal responses. Researcher wrote down respondent comments, as they occurred. Additional unsolicited comments were written by participants in survey margins or near questions to which they pertain.

- My room is okay.
- I have no pain, but do have a bad knee caused by a fall many years ago & am now using a cane.
- Too bright lighting is bad, but our lights in our rooms are too dim to read by.
- The sun wakes me up in the morning. It comes right in on my bed.
- I like flowers, but I don't have room for them.
- It's not like home, but we have to be somewhere and this is as good as any.
- The lighting needs some bulbs replaced.
- There's a big apartment building right by me & their cars go in and out at night.
- I just have a loveseat and chair. I need some folding chairs or something.
- I feel relaxed in my room, but I take Tylenol at night.
- Whether I feel relaxed depends on when I get up how I am feeling.
- When you live in a place like this, your opinion doesn't count for much.
- I have a walker, but from here to my apartment is easy.
- This place is not that night to look at, but it's not un-nice either.
- I don't think anything affects my feelings [of bodily pain].
- It was easy for me to get around, before I fell.
- It's about a close as you're going to get [to feeling like home].
- I don't do much talking.
- [My temperature preference] depends on the season. Don't like anything real warm.
- Not too much [light enters my bedroom from outside, during the night]. I keep a night light on anyway, in case I get up. It actually just makes it more secure.
- You know, that's true [that I feel more peaceful, when I enter my room(s)]. Of course, I'm peaceful, walking around in the building, too.
- I'm going to hurt, irregardless.

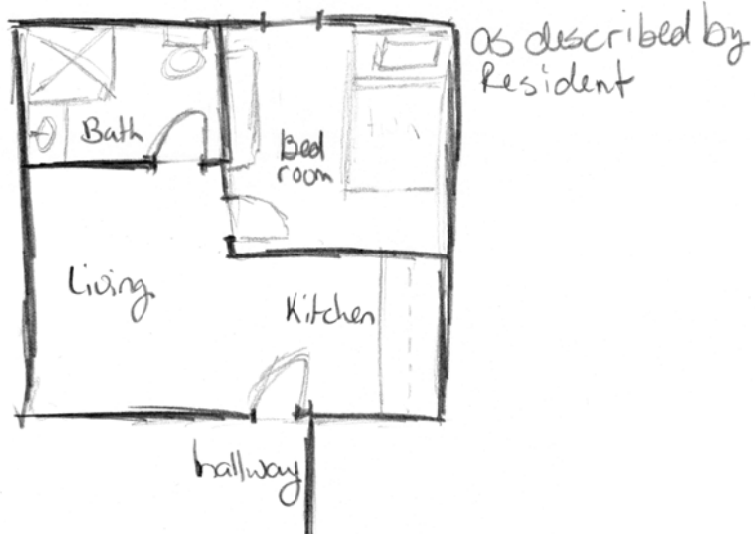
Site Tour Observations



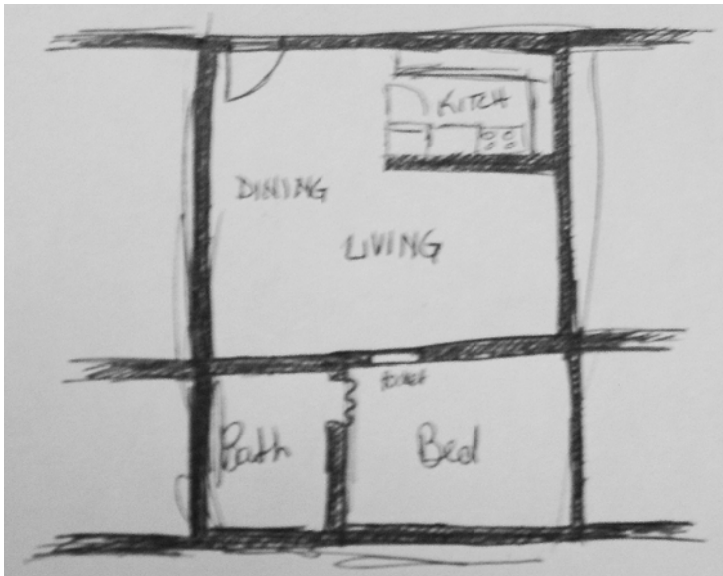
Observations from Site 1.



Observations from Site 2.



Observations from Site 3.

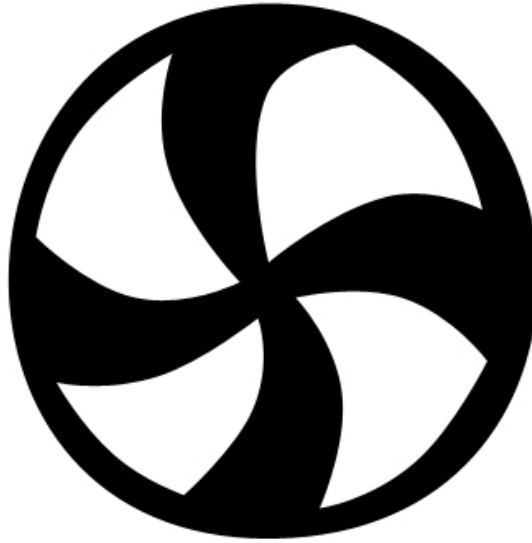


Observations from Site 4.



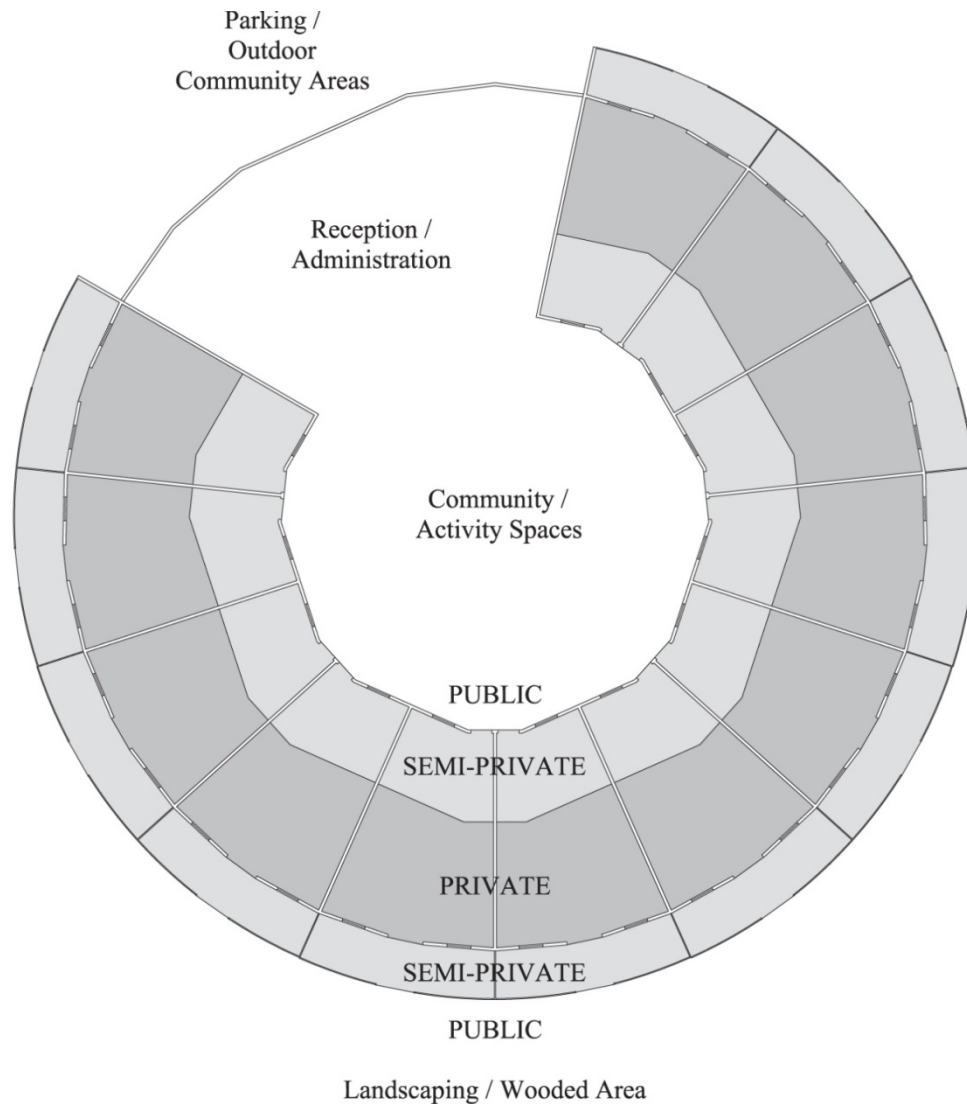
Observations from Site 5.

Design Development



Design Concept

The Native American “Four Ages” symbol signifies the unity of life: childhood, youth, middle age, and old age. Large and influential Native American population in Oklahoma – 8% statewide, versus 1% nationally (U.S. Census Bureau, n.d.b) – suggests the appropriateness of drawing on this cultural heritage for inspiration. The circle, itself, is a powerful symbol of wholeness in Native American and other cultures, worldwide. A circle motif provides a vehicle for unifying the various spaces of the facility. Circular shape of facility also reflects concept.

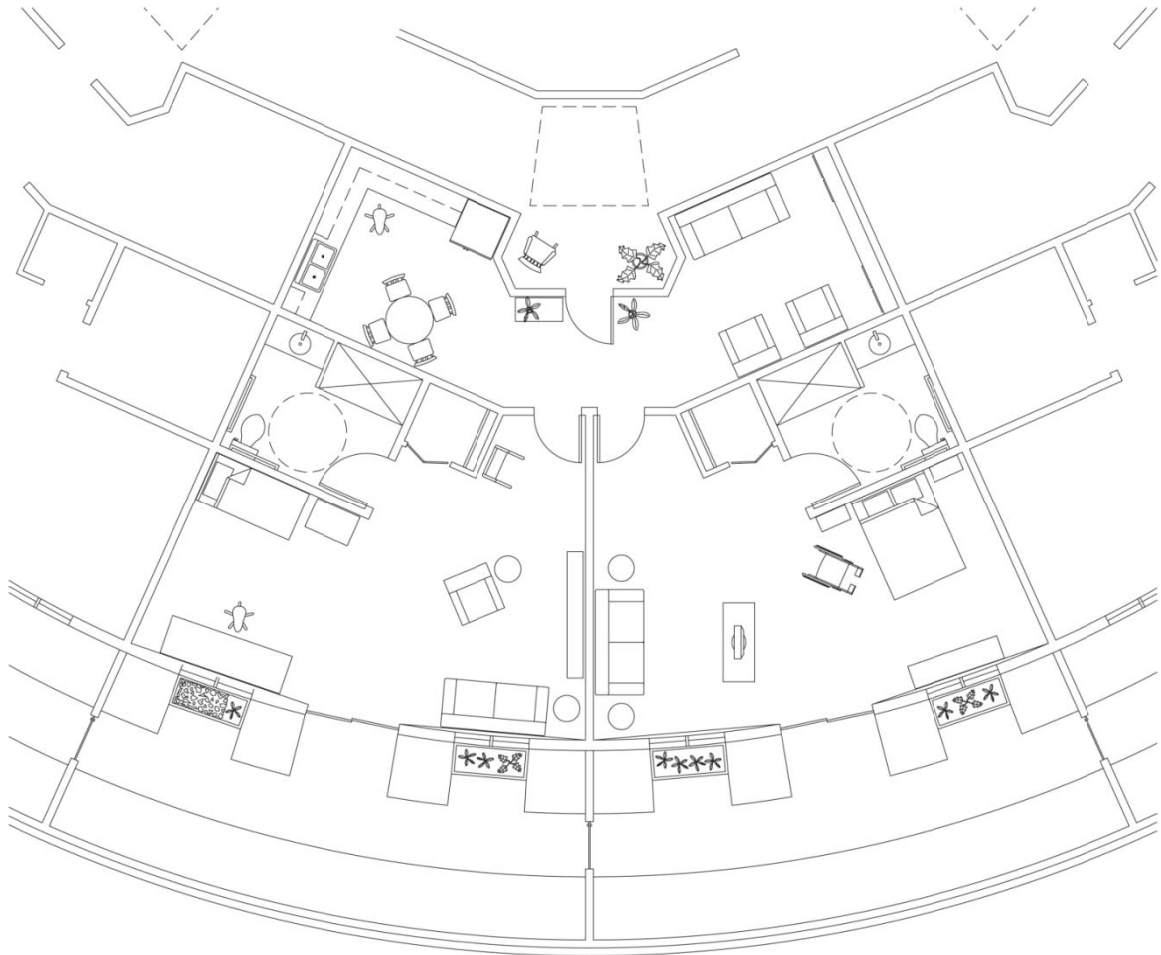


Key Conceptual Plan

Not to Scale

Wedge-shaped resident rooms form outer ring of radial facility design. Radial design allows every resident direct access to communal and administrative spaces. Spaces progress from public to private to public.

Initial Design



Furniture Floor Plan

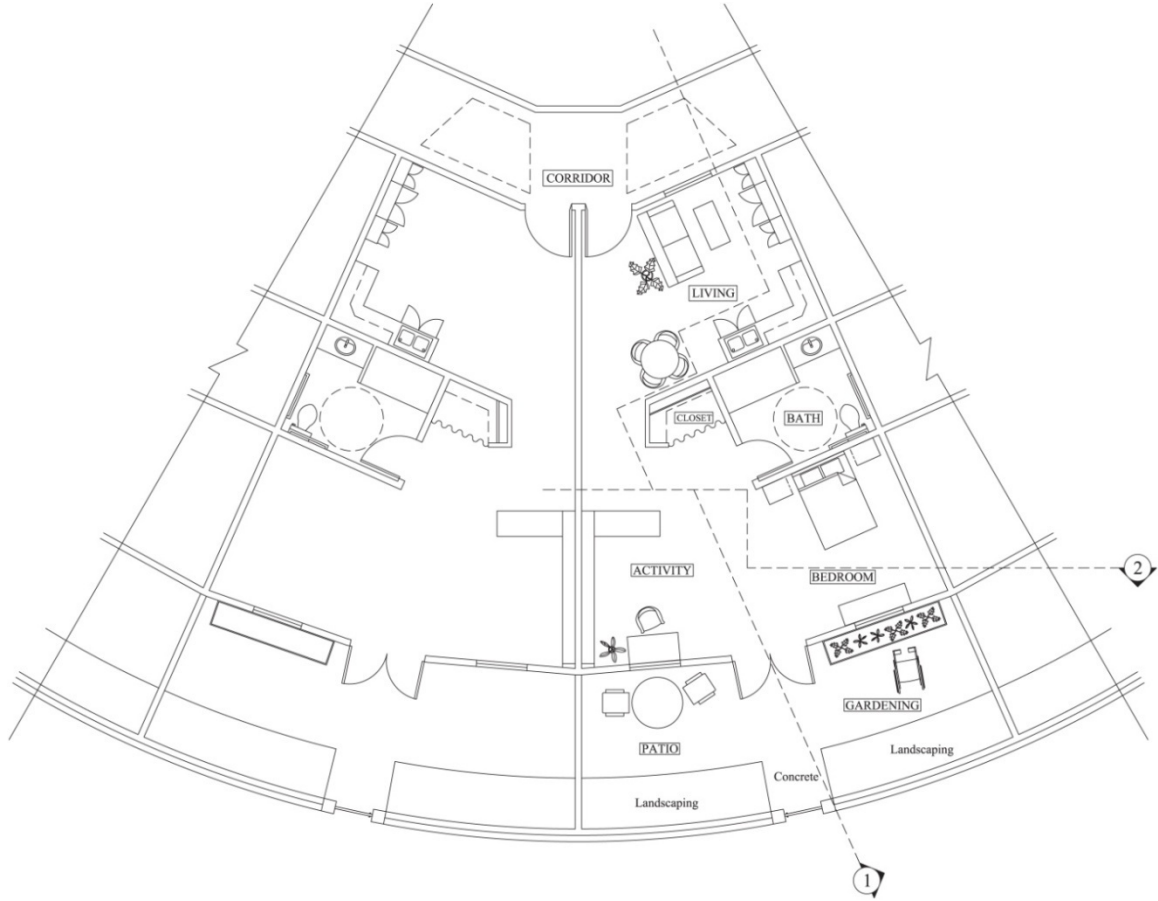
Not to Scale

Shared space allows greater floor area for each resident, without added expense for facility. Sit/stand Bambach Saddle Seat encourages physical activity through active seating. Front porch area allows residents to maintain a presence in communal spaces, without intruding into egress and circulation path. Resident may choose to tend windowboxes or allow groundskeeping to do so. Sliding glass doors admit sunlight from exterior and provide view to landscaping.

Focus Group Comments

- Most of our facility residents do not have any desire to cook any longer. Even if you ask them, they say no.
- The furniture, it's very important that it all be firm. Even if you put a soft couch, they're all going to go sit on the firm couch. And something with an arm, so that way they can help pull themselves up without having to have assistance.
- Having a round table is great, something they can all come around and be together, instead of a long table, where they can't really socialize.
- The chairs with wheels, those are not really very safe. They tend to move out from underneath them. We really discourage chairs with any type of wheels.
- The choice to add a "front porch" area is not very appropriate for the Oklahoma culture. The independence of this area does not really lend itself to the use of such a feature. That type of design may be more appropriate for facilities in the South.
- I would love this [design]. I don't want to be a burden to anyone, so I would want to really start saving for something like this. Saving would be necessary, because the furniture that you have selected are high end, so you need to acknowledge that you are designing for an upper class population.
- I really like the arrangement of the rooms in a circular form. Residents do not like hallways.
- About having the shared living and kitchen area, it would be almost impossible to find two residents who get along well enough to use that design.
- Residents who want attention from the staff will sometimes leave their doors open, so that you'll just come knock on the door and say hi.
- Although a window in the door would be a code violation, a window in the wall would be no problem at all.
- If you were to query a group [of older adults about their ability to use a stool], you would get very different responses.
- Not everyone can afford assisted living, and private spaces are very expensive. It might be that you could have some rooms that share [the living and kitchen areas] and some that are private.
- It would be better to place the closet rod at the back, to improve accessibility.
- It's important to make the custom storage unit accessible. Consider making it shorter, so that residents in a wheelchair can reach the third shelf... Raising the bottom shelf up will make it more accessible and also make it look better visually.
- Put the custom storage unit against the wall, so that it will be more stable.
- I think a porch is almost a must. I think people use their porches a lot around here... They just want to see what's going on in the world.
- In my research I found that older adults like autonomy and control. [Having their own space] gives that to them.
- Move the gates to the middle, so that gives them one gate to deal with instead of two. Everyone may not like their neighbor.

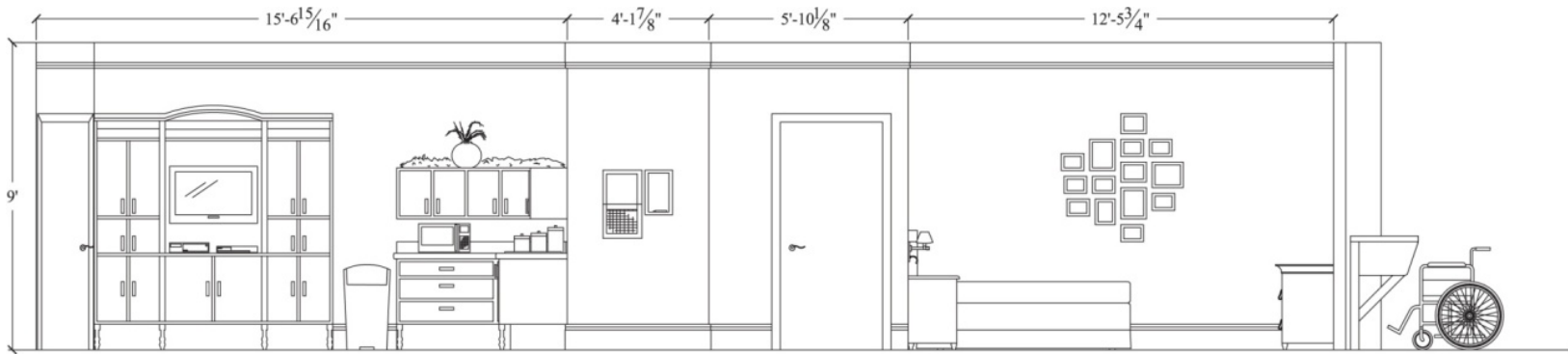
Revised Design



Furniture Floor Plan

Not to Scale

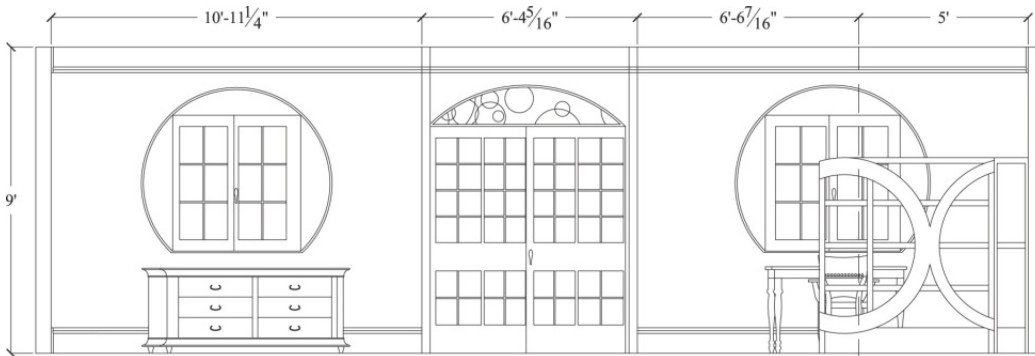
Individual residents have own living/kitchen area. Interior window acts as compromise, replacing front porch, but allowing resident to view into interior communal spaces. Patio area allows residents to sit outdoors. Arm chairs provide support for sitting and rising.



Elevation 1

Not to Scale

44



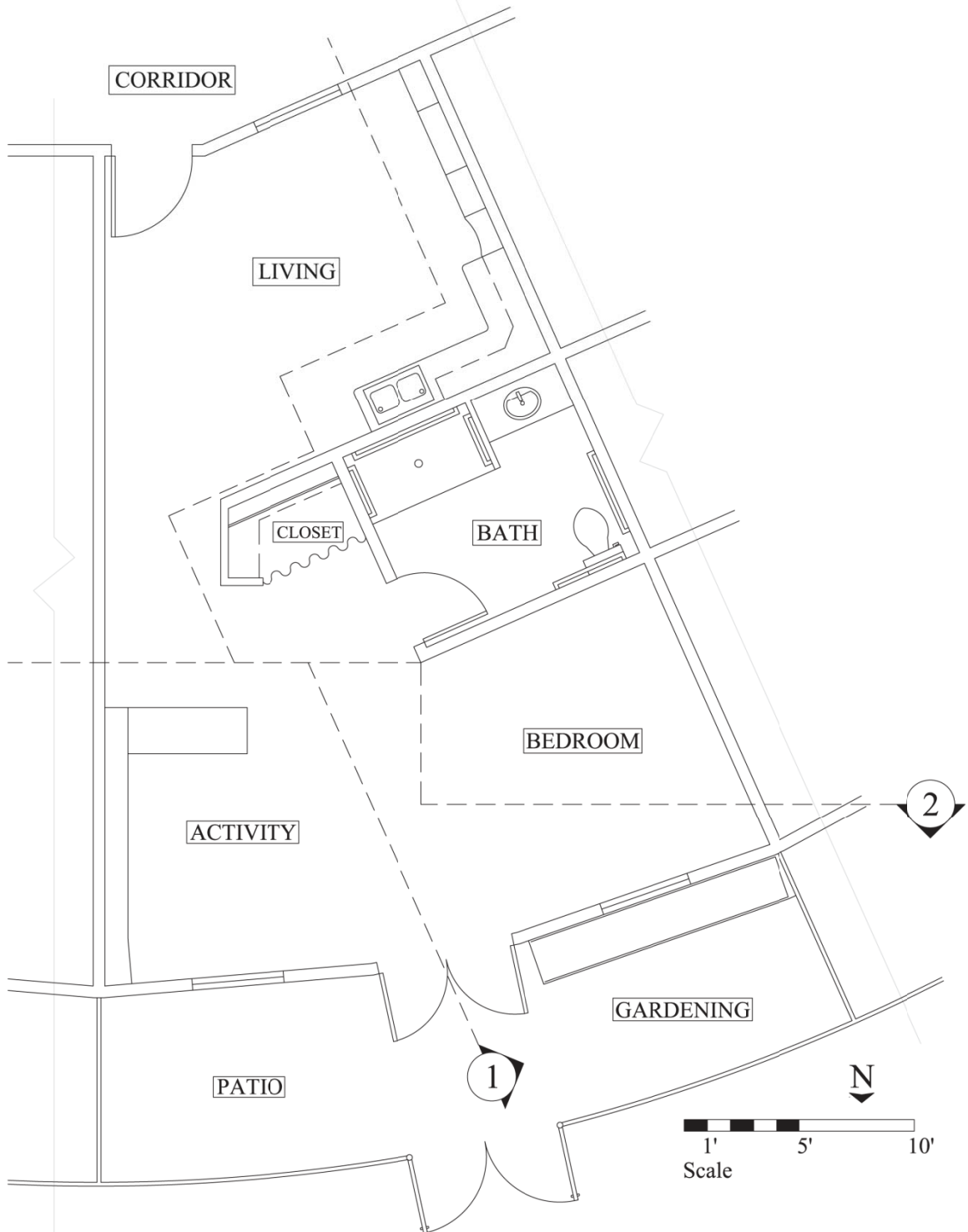
Visible from hallway
Not to Scale

Elevation 2

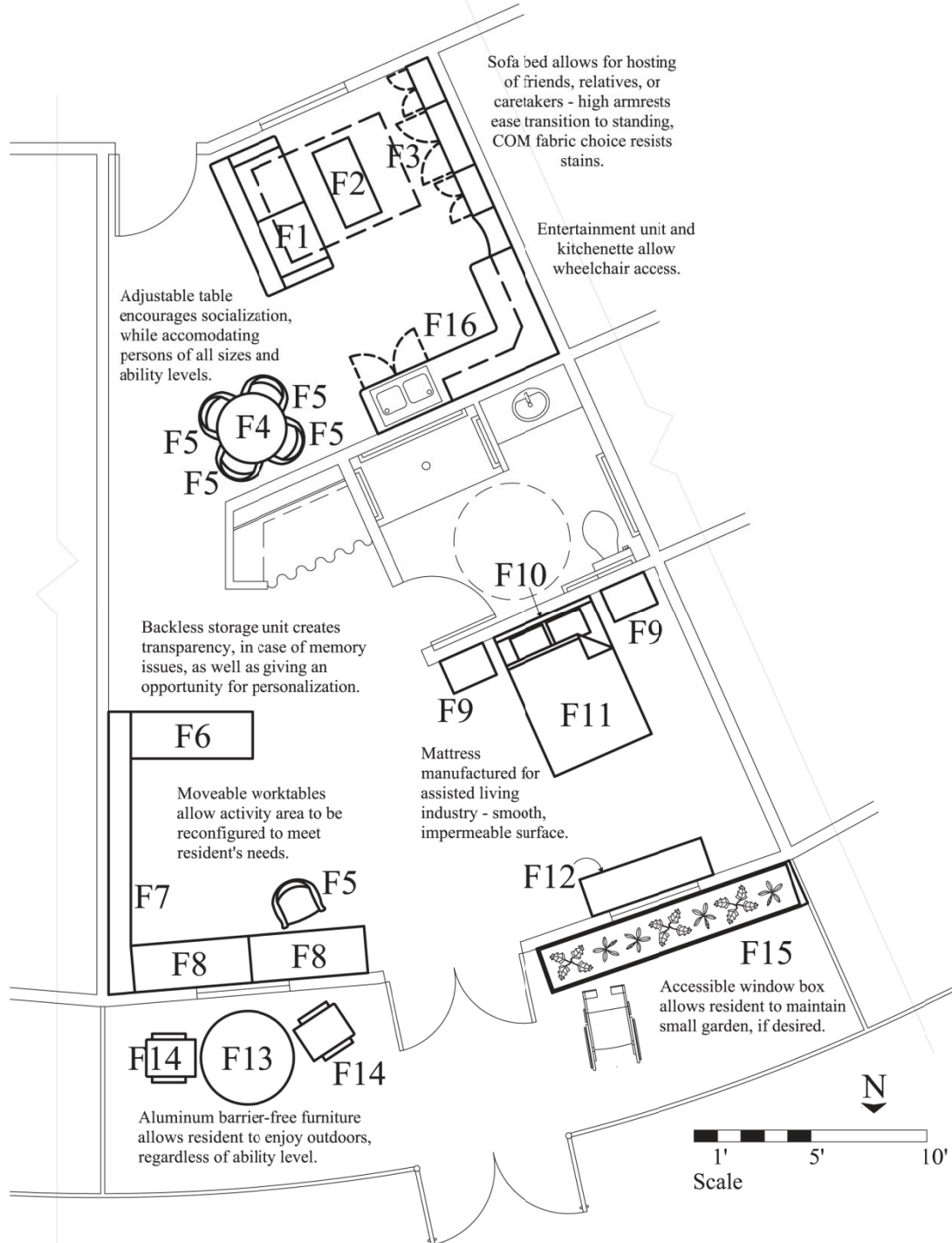
Committee Comments

- Some skilled nursing facilities have built on the round with the nursing station central and open with no walls or glass so they can see into all areas from there, which has been very successful.
- Native American teepees and other indigenous structures use round building construction.
- Why does the planter box not reach all the way to the corner?
- Why does the desk not fit into the corner of the room? Two tables would better balance the space.
- Why are the kitchenette and entertainment units not one unit? Both are built-ins of the same material. Joining them would better balance the space.
- Kitchen counter promotes activity. Counters beg to be used.
- Lower the windows to table-height, to improve accessibility.
- A retractable awning outside would allow the resident to better control the amount of light entering the room.
- Floor tiles on the exterior would improve traction and aesthetics.
- Varying ceiling height would add interest and provide a place for mechanical systems.

Final Design: Construction and Descriptive Drawings

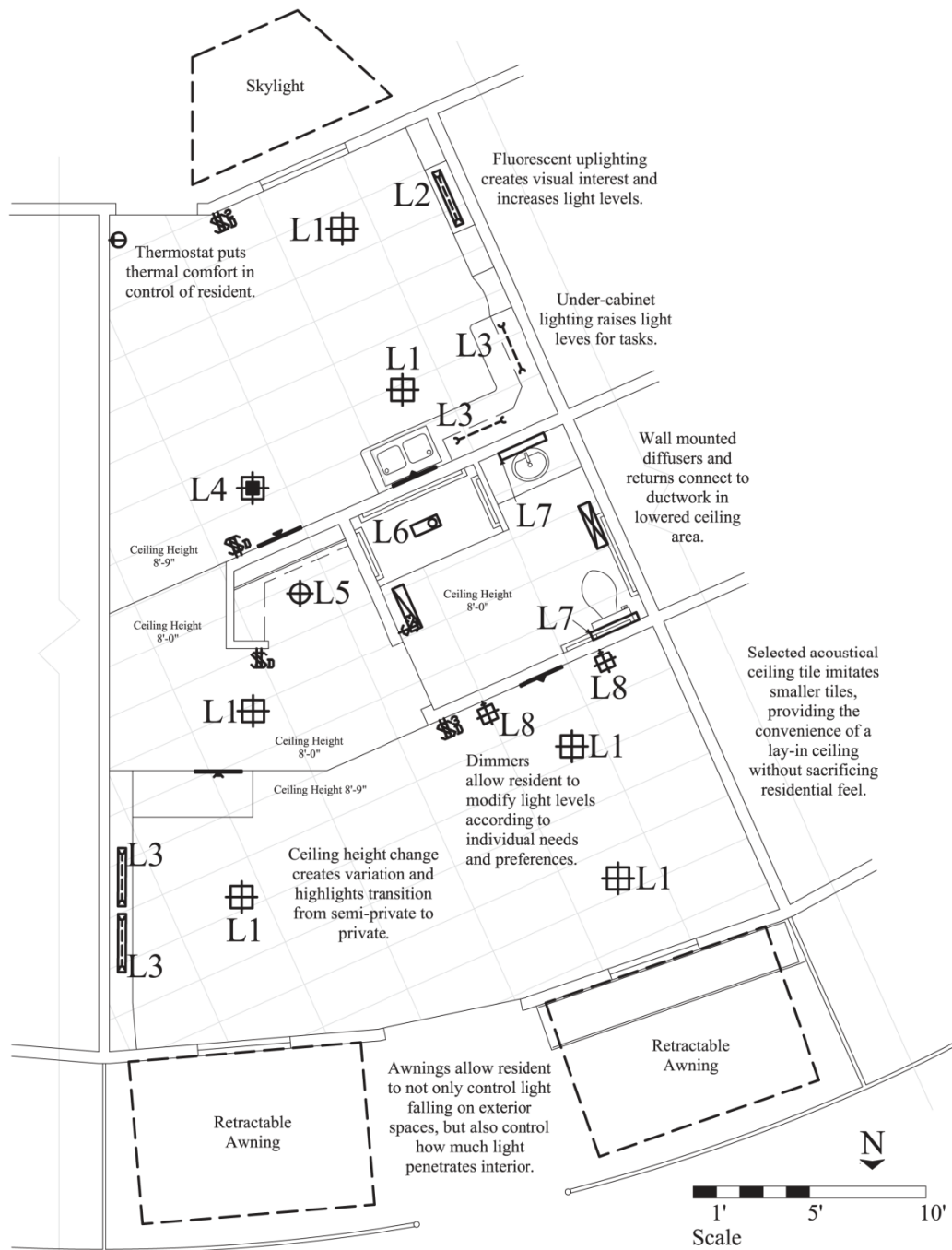


Floor Plan



Furniture Floor Plan

Accessible features support independence. Vegetation present inside the residence and visible through garden windows. Custom storage unit (F6) acts as semi-transparent partition. Resident controls transparency level by adding or removing display objects.















Modified Reflected Ceiling Plan

(See legend on page 50.) High light levels help to compensate for aging vision. All fixtures lamped with CFLs. Fluorescent lighting tends toward blue end of spectrum, which supports survey participants' desire for cooler colors in space. LED reading lamp (L8) at bedside saves energy.

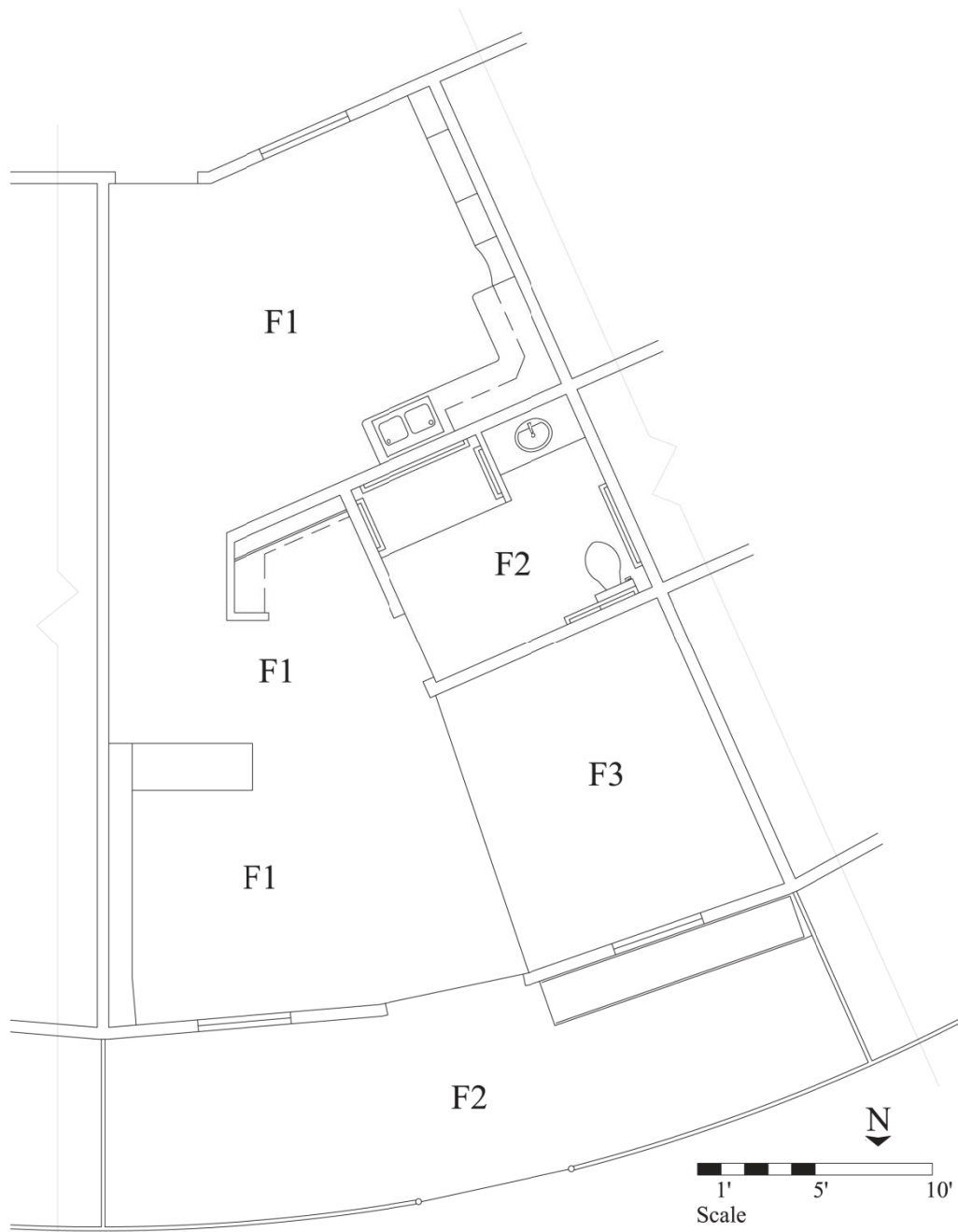


Lighting Effects Plan

(See legend on page 50.)

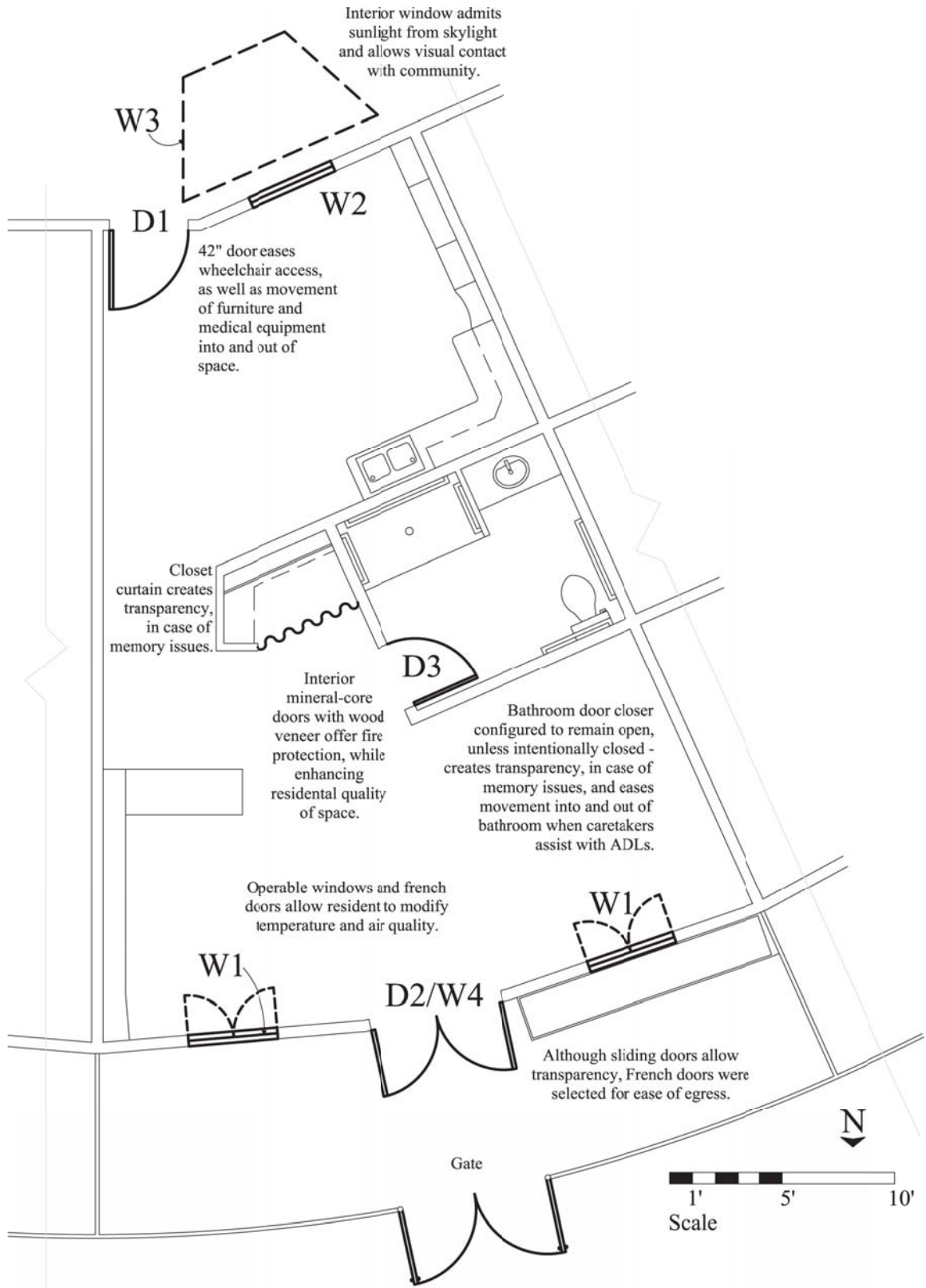
| Legend | | |
|---|-----|----------------------------|
| Symbol | Key | Description |
|  | L1 | Ceiling-mounted downlight |
|  | L2 | Built-in uplight |
|  | L3 | Under-cabinet downlight |
|  | L4 | Pendant-mounted downlight |
|  | L5 | Ceiling-mounted downlight |
|  | L6 | Integral shower light |
|  | L7 | Wall-mounted bar light |
|  | L8 | Wall-mounted reading light |
|  | | Ceiling-mounted diffuser |
|  | | Ceiling-mounted return |
|  | | Wall-mounted diffuser |
|  | | Wall-mounted return |

Modified Reflected Ceiling Plan and Lighting Effects Plan Legend

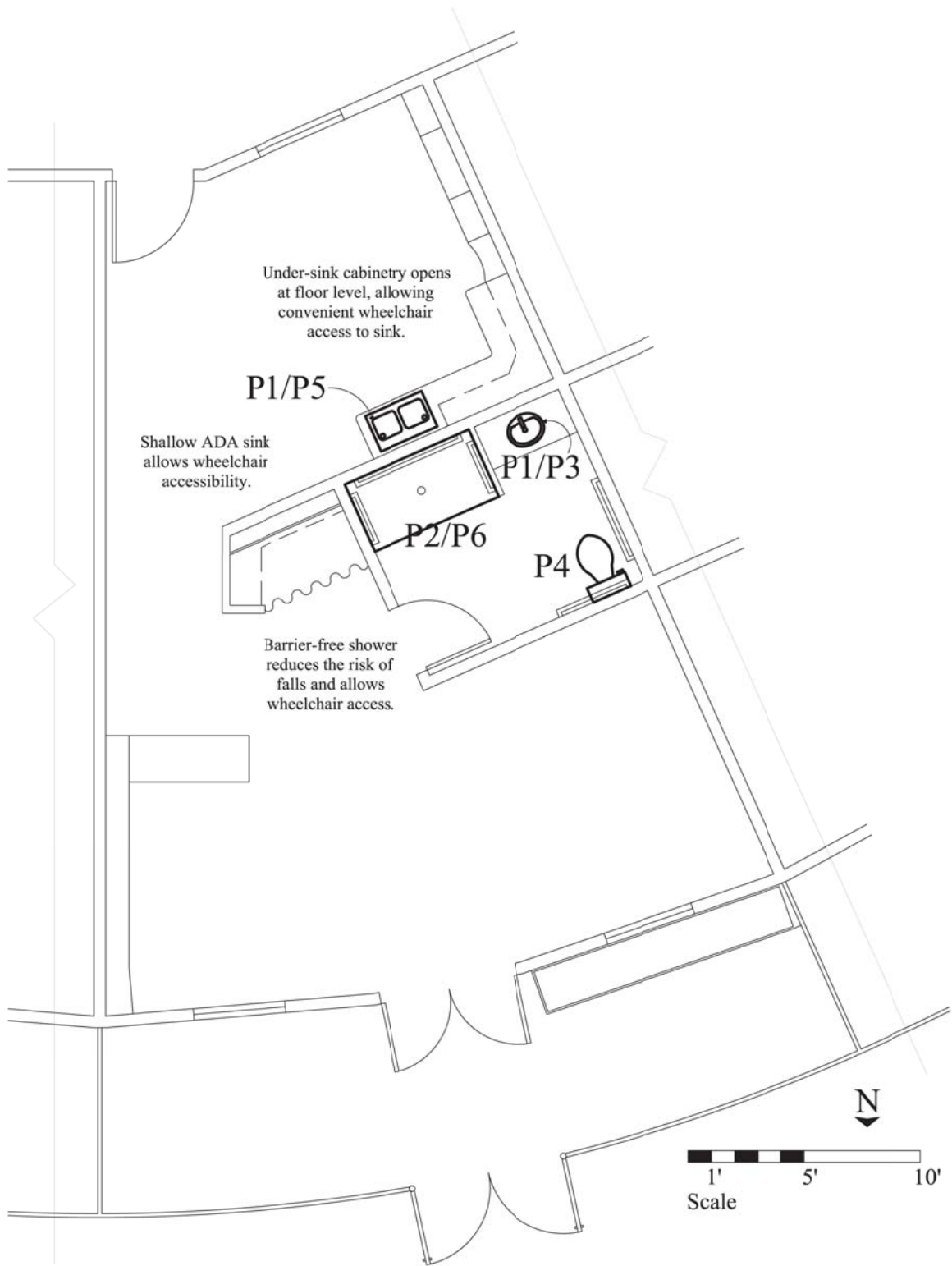


Flooring Plan

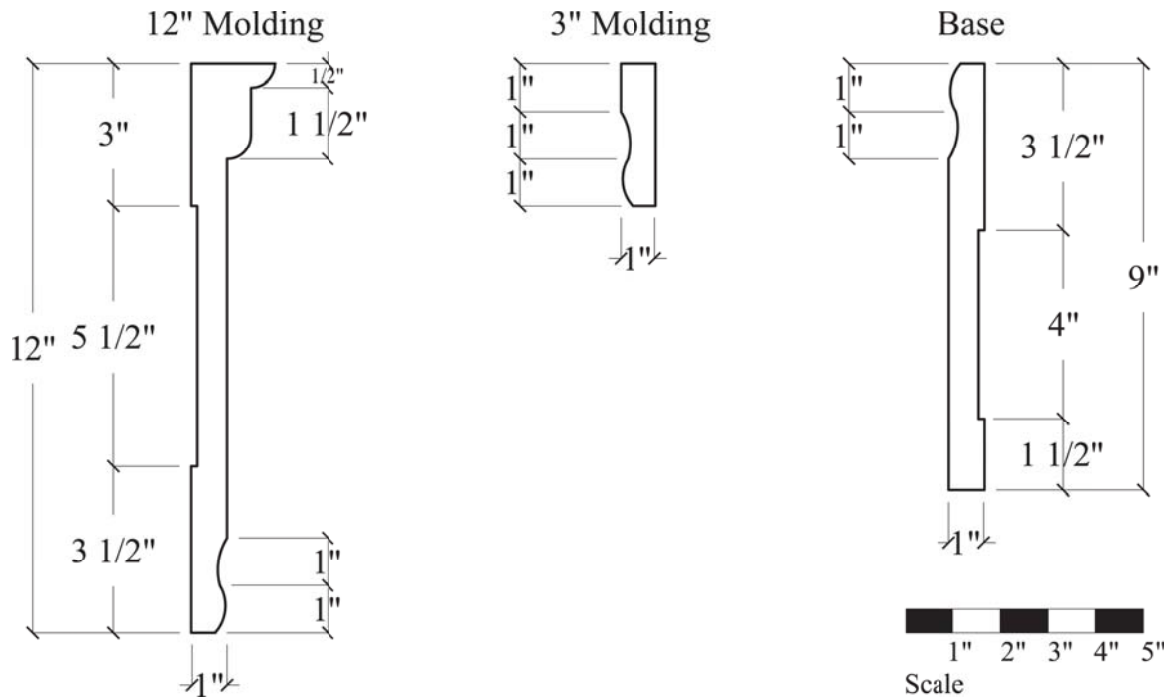
Linoleum, made from renewable resources, offers a resilient flooring material to ease physical strain. Textured tile offers non-slip surface in bathroom and outdoor areas. Carpet tile adds residential feeling, while allowing individual tiles to be replaced in the event of staining.



Door and Window Plan

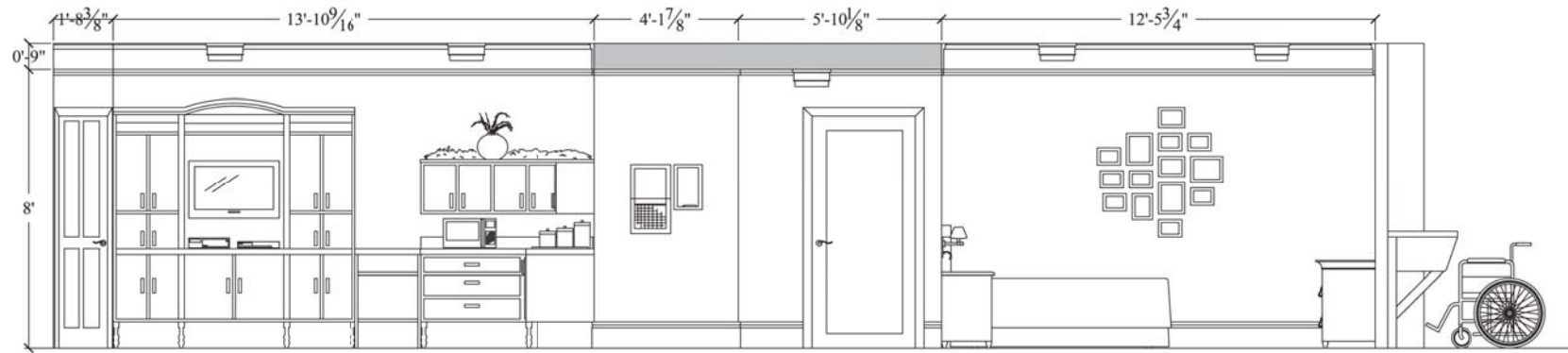


Plumbing Plan



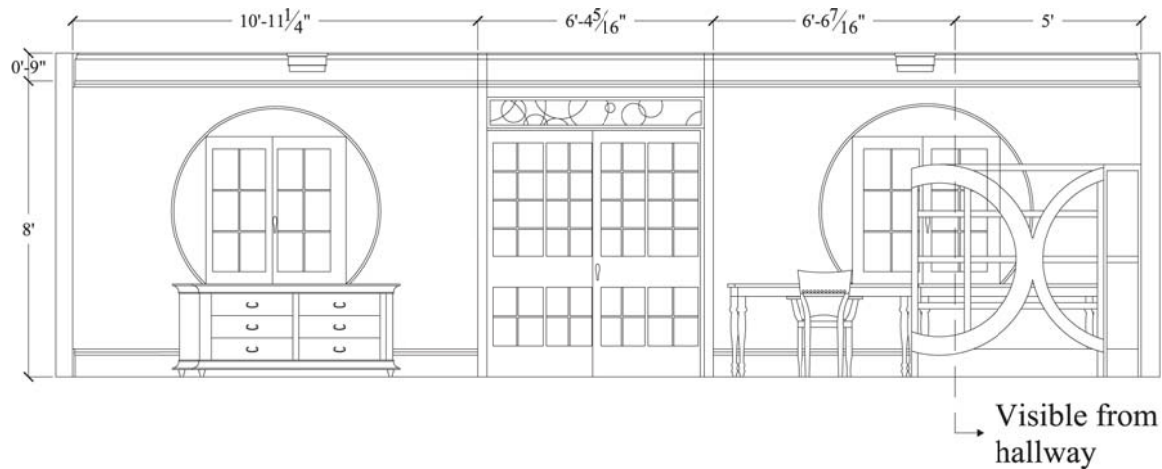
Baseboard and Molding

The curves of the custom molding reflect the undulating arms of the Four Ages symbol. Wood molding contributes to the residential feeling of the space. Nine-inch molding is used with 8'-9" ceiling in semi-private spaces, while three-inch molding is used with 8'-0" ceiling in private spaces.



Elevation 1

Residents may choose to tend raised garden planter or allow groundskeeping to do so. Survey participants reported that vegetation was important to comfort and dignity. Decorations incorporate living and silk vegetation. Survey participants reported cool colors were more supportive of their comfort and dignity. Warm colors minimized, but present to serve as agents of contrast in the space. Resident's own photos featured in "photocloud" in bedroom.



Elevation 2

Overlapping circles (built-in storage unity, maple veneer window surround, art glass window, chair back, light fixtures) symbolize the integration of many individual lives in the facility community. Traditionally styled furniture combines with more contemporary aesthetic to create a space that melds “youth, adulthood, middle, and old age.” When traveling from the semi-private living and dining areas to the private activity and sleeping areas, residents are presented with a view of overlapping circles: partial circles in the custom storage unit interact with circles on the chair back and custom window surround.



View of Bedroom from Activity Area

Schedules

| <i>Furniture and Furnishings Schedule</i> | | | | | | |
|---|--|--------------|----------------------|---------------------------|--|------------|
| Key | Name | Model | Supplier/Manuf. | Size | Material | Retail |
| F1 | Venice Full Classic Sleeper | — | Sleepers in Seatle | W 74" D 36" H 29" | COM | \$1,129.00 |
| F2 | Montserrat Landing Magazine Table | H29A4CM01A01 | Kimball Hospitality | W 42" D 20" H 16" | White Washed Maple | — |
| F3 | Custom Entertainment Unit | N/A | N/A | W 84" D 12" H 91" | ECOS Organic Matt Paint in "White" & "Slate Grey" and Maple Veneer | N/A |
| F4 | Progression Height Adjustable Table | — | Global Industrial | Dia 36" | Maple/White | \$567.00 |
| F5 | Beidermeier Arm Chair | 104-A | Seating Expert, Inc. | W 25" D 21" H 34.5" | Woodland Hershey | \$118.00 |
| F6 | Custom Storage Unit | N/A | N/A | W 74" D 24" H 69" | Maple | N/A |
| F7 | Custom Bookshelves | N/A | N/A | W 124-1/2" D 12" H 69" | N/A | N/A |
| F8 | Custom Freestanding Worktable | N/A | N/A | W 60" D 24" H 30" | White Washed Maple | N/A |
| F9 | Montserrat Landing 1-Drawer Nightstand | H29A4NS01A01 | Kimball Hospitality | W 24" D 18" H 26" | White Washed Maple | — |
| F10 | Montserrat Landing Double Headboard | H29A4DH01A01 | Kimball Hospitality | W 56" D 2-1/2" H 36" | White Washed Maple | — |

Furniture and Furnishings Schedule (Cont.)

| Key | Name | Model | Supplier/Manuf. | Size | Material | Retail |
|-----|-------------------------------------|--------------|-----------------------------|--------------------|--|----------|
| F11 | Full-size Mattress | — | Commercial Bedding | W 54" D 75" | — | — |
| F12 | Montserrat Landing 6-Drawer Dresser | H29A4DR06A01 | Kimball Hospitality | W 66" D 20" H 30" | White Washed Maple | — |
| F13 | ADA Outdoor Table | — | Medallion Furniture Factory | Dia 48" | Aluminum | \$265.00 |
| F14 | ADA Outdoor Chair | — | Medallion Furniture Factory | — | Aluminum | \$355.00 |
| F15 | Custom Raised Planter | N/A | N/A | W 114" D 24" H 40" | Pine | N/A |
| F16 | Kitchenette with Accessible Sink | N/A | N/A | W 102" D 60" H 34" | ECOS Organic Matt Paint in "White and Maple Veneer | N/A |

Plumbing Fixture Schedule

| Key | Name | Model | Supplier/Manuf. | Size | Material | Retail |
|-----|---|-----------|--------------------|---------------------------|-----------------|------------|
| P1 | Vista ADA Blade Two Handle High Arch Kitchen Faucet without Sprayer | EB761 | Elements of Design | — | Chrome | \$57.95 |
| P2 | Freewill® Barrier-Free Wheelchair Shower Module | K-12102-C | Kohler | W 69-1/4" D 37-3/8" H 84" | White | \$2,833.00 |
| P3 | Bryant Oval Self-Rimming Lavatory | K-2699-1 | Kohler | W 20" D 16-1/2" H 6" | White | \$90.50 |
| P4 | ADA Compliant Toilet | — | — | — | — | — |
| P5 | ADA Double Bowl Kitchen Sink | FPDS604NB | Franke | W 36" H 6" | Stainless Steel | \$106.50 |
| P6 | Shower Drain | K-9132 | Kohler | Dia 2" | Chrome | \$70.45 |



| <i>Door and Window Schedule</i> | | | | | | |
|---------------------------------|--|-------|-----------------------------|--------------|-------------------|--------|
| Key | Name | Model | Supplier/Manuf. | Size | Material | Retail |
| W1 | 1-Hour Fire-Rated Steel Casement Window | — | Steel Doors and Windows USA | W 48" H 48" | White Powder Coat | — |
| W2 | 1-Hour Fire-Rated Steel Window | — | Steel Doors and Windows USA | W 48" H 48" | White Powder Coat | — |
| W3 | Custom Skylight | N/A | N/A | N/A | N/A | N/A |
| W4 | Custom Art Glass Window | N/A | N/A | W 5'-8" H 8" | Stained Glass | N/A |
| D1 | "Artisan" Mineral Core 3/4 Hour Rated Four-Panel 42" Door with Wood Veneer | — | Algoma Hardwoods | 42" W 80" H | Maple | — |
| D2 | 1-Hour Fire-Rated Steel Door with Glazing | — | Steel Doors and Windows USA | W 72" H 80" | White Powder Coat | — |
| D3 | "Artisan" Mineral Core 3/4 Hour Rated One-Panel 36" Door with Wood Veneer | — | Algoma Hardwoods | 36" W 80" H | Maple | — |

| <i>Lighting Fixture Schedule</i> | | | | | | | |
|----------------------------------|-------------------------|--|------------|--------------|---|------------------------------|----------|
| Key | Supplier/Manuf. | Description | Style | Finish | Lamp | Size | Retail |
| L1 | Troy Lighting | Aqua 2-Light Flush-Mounted Ceiling Light | C1900SG | Silver Gold | GE Energy Smart Spiral Dimmable CFL 60-Watt Replacement | Dia 13" H 6" | \$350.00 |
| L2 | (Integral in F3 and F7) | Fluorescent 24" Tube Uplight | — | — | GE Ecolux Residential Light Starcoat T8 | — | — |
| L3 | — | Fluorescent Under-Cabinet Lighting | — | — | GE Ecolux Residential Light Starcoat T8 | — | — |
| L4 | Troy Lighting | Aqua 3-Light Ceiling-Mounted Chandelier | F1903SG | Silver Gold | GE Energy Smart Spiral Dimmable CFL 60-Watt Replacement | Dia 18-1/2" H 27" | \$530.00 |
| L5 | Efficient Lighting | Industrial Flush-Mounted Ceiling Light | EL-805-123 | Black | GE Energy Smart Spiral Dimmable CFL 60-Watt Replacement | Dia 10" H 5" | \$34.00 |
| L6 | Kohler | Shower Light | K-1665 | Silver | MR16 Halogen | W 17-7/8" D 10-3/4" H 7-5/8" | \$536.85 |
| L7 | Troy Lighting | Aqua 4-Light Wall-Mounted Bathroom Bar Light | B1909SG | Silver Gold | GE Energy Smart Spiral Dimmable CFL 60-Watt Replacement | W 26" D 4" H 4-1/2" | \$210.00 |
| L8 | George Kovacs | Swing Arm Wall-Mounted Dual Lamp | P478-077 | Chrome/White | GE Energy Smart Spiral Dimmable CFL 60-Watt Replacement and LED | W 10" H 16" | \$190.00 |

| <i>Finish Schedule</i> | | | | | | | | | |
|------------------------|-------|------|---------|-------|-------|------|------|---------|----------------|
| Room | Floor | Base | Molding | Walls | | | | Ceiling | Ceiling Height |
| | | | | North | South | East | West | | |
| Living Room | F1 | B1 | M1 | W1 | W1 | W1 | W1 | C1 | 8'-9" |
| Bathroom | F2 | B2 | N/A | W3 | W3 | W3 | W3 | C1 | 8'-0" |
| Closet | F1 | N/A | N/A | W1 | W1 | W1 | W1 | C1 | 8'-9" |
| Activity Space | F1 | B1 | M2 | N/A | W4 | N/A | W1 | C1 | 8'-0" |
| Bedroom | F3 | B1 | M2 | W1 | W4 | W1 | N/A | C1 | 8'-0" |

| <i>Finish Schedule Key</i> | |
|----------------------------|---|
| W1 | Smooth Gyp Board with ECOS Organic Matt Paint in "Stratford Green" |
| W2 | Smooth Gyp Board with ECOS Organic Gloss Paint in "Slate Grey" |
| W3 | Smooth Wet-Location Gyp Board with ECOS Organic Matt Paint in "Stratford Green" |
| W4 | Smooth Gyp Board with ECOS Organic Matt Paint in "Stratford Green" with Maple Veneer around Windows |
| F1 | Linoleum "Marmorette" in "Oak Brown" |
| F2 | Shaw 13.4"x13.4" Porcelain Tile "Lacava" in "Ginger" |
| F3 | Shaw 24"x24" Carpet Tile "Swizzle" in "Pin Ball" Colorway |
| C1 | Armstrong 2'x4' "Fine Fissured Second Look" Tegular Ceiling Tile with 9/16" Splines |
| B1 | Custom 9" Pine Baseboard |
| B2 | Shaw 6.7"x6.7" Porcelain Tile "Lacava" in "Rust" |
| M1 | Custom 9" Pine Molding |
| M2 | Custom 3" Pine Molding |

Control Sheets

| | |
|--|---|
| <p>Item: Sofa Bed Name: Venice Full Classic Sleeper Manufacturer: Sleepers in Seattle Model: — Size: W 74" D 36" H 29" Quantity: 1 Finish: COM Textile: Maharam “Cover” 100% Polyester; Antimicrobial stain-resistant finish; Impermeable breathable backing; 130,000+ double rubs; GreenGuard Certified; Environmentally improved manufacturing process; US Contract Net \$36.00 Options: COM Retail: \$1,129.00</p> | <h1>F1</h1> |
| <p>Website: http://www.sleepersinseattle.com/product/classic-sleepers/full/venice-full-classic-sleeper.aspx</p> | |
| <p>Notes: High armrests allow older adults to rise more easily. Bed not only allows for overnight hosting of friends and family, but also provides firmness in sofa seat. Maharam fabric resists and hides stains; naturalistic pattern evokes plantlife.</p> | |
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|--|----|
| Item: Magazine Table Name: Montserrat Landing Magazine Table Manufacturer: Kimball Hospitality Model: H29A4CM01A01 Size: W 42" D 20" H 16" Quantity: 1 Finish: White Washed Maple Textile: N/A Options: N/A Retail: — | F2 |
|--|----|

Website: <http://www.kimballhospitality.com/furniture/casegoods/montserrat/>

Notes: N/A




Magazine Table
 H29A4CM01A01
 W 42 D 20 H 16 IN
 (W 1065mm D 510mm H 405mm)



| | |
|---|----|
| Item: Custom Entertainment Unit Name: N/A Manufacturer: N/A Model: N/A Size: W 84" D 12" H 91" Quantity: 1 Finish: Maple Veneer; ECOS Organic Matt Paint in "White" and "Slate Grey" Textile: N/A Options: N/A Retail: N/A | F3 |
|---|----|

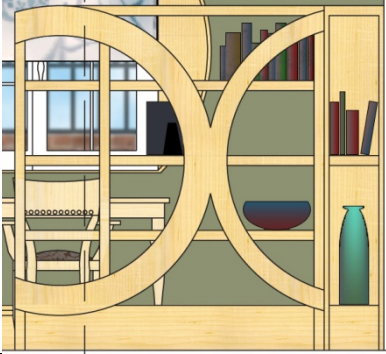
Website: N/A

Notes: Furniture-like style evokes a residential atmosphere. Maple finish and arched features tie in with Kimball furniture. Accessible shelving at 9", 34", and 47" high.



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|--|-------------|
| <p>Item: Dining Table Name: Progression Height Adjustable Table Manufacturer: Global Industrial Model: WBB235843 Size: Dia 36 H 24-38" Quantity: 1 Finish: Maple/White Textile: Table cloth by Riegel; white/ivory; pique border; 100% 2-ply cotton with four-sided hems, yarn dye construction, and a calender finish; riegellinen.com/content/dirona Options: Gas Spring-Assist Adjustment Retail: \$567.00</p> | <h1>F4</h1> |
| <p>Website: http://www.globalindustrial.com/g/office/school-furniture/wheelchair-accessible/progression-height-adjustable-therapy-tables</p> | |
| <p>Notes: Adjustable height provides wheelchair access and enhances comfort for residents of all sizes and levels of physical ability. Steel frame and metal telescoping legs with powder coat finish. Durable laminate work surface with T-mold edge banding.</p> | |
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|---|-------------|
| <p>Item: Arm Chair Name: Beidermeier Arm Chair Manufacturer: Seating Expert, Inc. Model: 104-A Size: W 25" D 21" H 34.5" SH 18" Quantity: 5 Finish: Maple Textile: (Manufacturer's) Woodland Hershey Options: Treat upholstery for stain resistance Retail: \$118.00</p> | <h1>F5</h1> |
| <p>Website: http://www.seatingexpert.com/Proddet.asp?ProdID=145 &category=2&secondary=</p> | |
| <p>Notes: Circle motif featured in chair back. Arms and firm seat help older adults to rise from sitting.</p> | |
| <div style="display: flex; align-items: center;">   </div> | |

| | |
|--|-------------|
| <p>Item: Custom Storage Unit Name: N/A Manufacturer: N/A Model: N/A Size: W 74" D 24" H 69" Quantity: 1 Finish: Maple Textile: N/A Options: N/A Retail: N/A</p> | <h1>F6</h1> |
| <p>Website: N/A</p> | |
| <p>Notes: Circle motif evokes wholeness, while acting as semi-transparent partition to enhance privacy from living and circulation areas. Serves to display and store resident's belongings. Allows for personalization through display.</p> | |
|  | |

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|---|-----------|
| Item: Custom Bookshelves Name: N/A Manufacturer: N/A Model: N/A Size: W 124-1/2" D 12" H 69" Quantity: 1 Finish: Maple Textile: N/A Options: N/A Retail: N/A | F7 |
| Website: N/A | |
| Notes: Serves as storage and display, allowing for personalization. Adjacent to activity area; could store hobby materials as well as reading materials. Accessible shelving. | |

| | |
|--|-----------|
| Item: Custom Freestanding Worktable Name: Worktable Manufacturer: N/A Model: N/A Size: W 60" D 24" H 30" Quantity: 2 Finish: White Washed Maple Textile: N/A Options: N/A Retail: N/A | F8 |
| Website: http://www.kimballhospitality.com/furniture/casegoods/montserrat/ | |
| Notes: Provides worksurface for activity area, allowing resident to pursue own hobbies and interests within the comfort of their own residence. Reduces travel to activity. May be pulled away from wall and rearranged to meet needs and preferences of resident. | |

| | |
|---|----|
| Item: Nightstand Name: Montserrat Landing 1-Drawer Nightstand Manufacturer: Kimball Hospitality Model: H29A4NS01A01 Size: W 24" D 18" H 26" Quantity: 2 Finish: White Washed Maple Textile: N/A Options: N/A Retail: — | F9 |
|---|----|

Website: <http://www.kimballhospitality.com/furniture/casegoods/montserrat/>

Notes: N/A

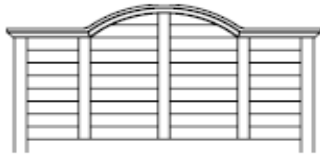


1 Drawer Nightstand
 H29A4NS01A01__
 W 24 D 18 H 26 IN
 (W 610mm D 455mm H 660mm)



| | |
|--|--------------|
| Item: Headboard Name: Montserrat Landing Double Headboard Manufacturer: Kimball Hospitality Model: H29A4DH01A01 Size: W 56" D 2-1/2" H 36" Quantity: 1 Finish: White Washed Maple Textile: N/A Options: N/A Retail: — | <h1>F10</h1> |
|--|--------------|

Website: <http://www.kimballhospitality.com/furniture/casegoods/montserrat/>

Notes: Arch evokes circle theme. Ties in with custom entertainment unit.
Horizontal lines evoke stability and sturdy construction.



Headboards (Wall Mount)
Double
 H29A4DH01A01__
 W 56 D 2 1/2 H 36 IN
 (W 1420mm D 65mm H 915mm)

| | |
|---|--------------|
| <p>Item: Full-size Mattress Name: Assisted Living Mattress Manufacturer: Commercial Bedding Model: — Size: W 54" D 75 Quantity: 1 Finish: Pleasing look and feel; anti-microbial, fluid-proof ticking; fire resistant Textile: Satin Stripe Duvet and Shams by Riegel; 300tc Satin Stripe Sheeting; 60% Cotton / 40% Polyester; Crease Resistant Finish; Color coded size labels Options: Full Retail: —</p> | <h1>F11</h1> |
| <p>Website: http://www.commercialbedding.com/</p> | |
| <p>Notes: Survey participants indicated that smooth textures were important to both comfort and dignity. Smoothness featured both in mattress itself and in selected bedclothes.</p> | |
| <div style="display: flex; justify-content: space-around;">   </div> | |


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|---|-----|
| Item: Dresser Name: Montserrat Landing 6-Drawer Dresser Manufacturer: Kimball Hospitality Model: H29A4DR06A01 Size: W 66" D 20" H 30" Quantity: 1 Finish: White Washed Maple Textile: N/A Options: N/A Retail: — | F12 |
|---|-----|



Website: <http://www.kimballhospitality.com/furniture/casegoods/montserrat/>

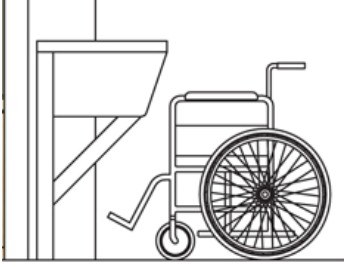
Notes: N/A

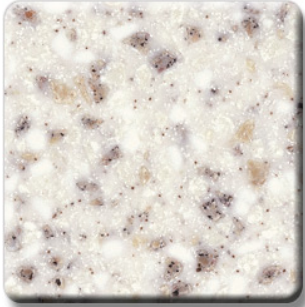
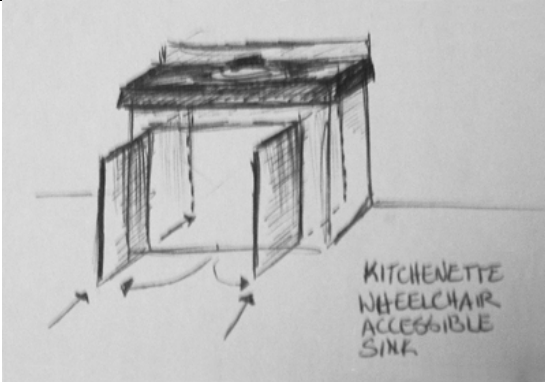



6 Drawer Dresser
 H29A4DR06A01
 W 66 D 20 H 30 IN
 (W 1675mm D 510mm H 760mm)

| | |
|---|--------------|
| <p>Item: ADA Outdoor Table Name: Adagio Dining Table Manufacturer: Medallion Furniture Factory Model: — Size: Dia 48” Quantity: 1 Finish: Aluminum Textile: N/A Options: Manufacturer to omit accessibility symbol. Retail: \$265.00</p> | <h1>F13</h1> |
| <p>Website: http://medallionfurniturefactory.com/</p> | |
| <p>Notes: Accessible table allows wheelchair access. Allows resident to enjoy the benefits of spending time outdoors while supporting independence through accessible furniture design.</p> | |
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|---|--------------|
| <p>Item: ADA Outdoor Chair Name: Adagio Adjustable Chair Manufacturer: Medallion Furniture Factory Model: — Size: — Quantity: 2 Finish: Aluminum Textile: N/A Options: Manufacturer to omit accessibility symbol. Retail: \$355.00</p> | <h1>F14</h1> |
| <p>Website: http://medallionfurniturefactory.com/</p> | |
| <p>Notes: Carefully proportioned by manufacturer to be completely accessible. Adjustability adds another layer of comfort.</p> | |
| <div style="display: flex; align-items: center;">   </div> | |

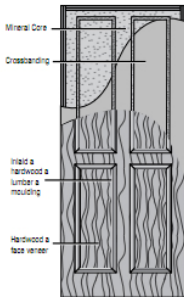
| | |
|--|--------------|
| <p>Item: Custom Raised Planter Name: N/A Manufacturer: N/A Model: N/A Size: W 114" D 24" H 40" Quantity: 1 Finish: Pine Textile: N/A Options: N/A Retail: N/A</p> | <h1>F15</h1> |
| <p>Website: N/A</p> | |
| <p>Notes: Residents may choose to tend this wheelchair accessible window box, thereby gaining beneficial physical activity and sunlight, or allow the facility groundskeepers to do so.</p> | |
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|---|---|
| <p>Item: Kitchenette with Accessible Sink Name: N/A Manufacturer: N/A Model: N/A Size: W 102" D 60" H 34" Quantity: 1 Finish: ECOS Organic Matt Paint in "White and Maple Veneer, with Wilsonart Solid Surfacing Textile: N/A Options: N/A Retail: N/A</p> | <h1>F16</h1> |
| <p>Website: http://samples.wilsonartcontract.com/p-599-durango-9174-ea.aspx</p> | |
| <p>Notes: Solid surfacing with mottled pattern resists and hides stains. Under-sink cabinet opens at floor level, allowing wheelchair access to sink.</p> | |
|  |  |


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|---|-------------|
| <p>Item: Window Name: 1-Hour Fire-Rated Steel Casement Window Manufacturer: Steel Doors and Windows USA Model: — Size: W 48" H 48" Quantity: 3 Finish: White Baked Polyester Powder Coat Textile: Exterior windows feature Roman shades; Maharam “Shadow;” 100% Trevira polyester; 60+ hours lightfastness; US Contract Net \$96.00. Interior window features Hunter Douglas Vignette FR Modern Roman Shades; hunterdouglascontract.com/windowcoverings/WindowShadings/Vignette.jsp Options: ADA blade handles Retail: —</p> | <h1>W1</h1> |
| <p>Website: http://www.steelwindowsanddoors.com/fire-rated-casement-window.html</p> | |
| <p>Notes: Casement windows to exterior allow resident to access fresh air and save cooling costs. Custom maple veneer window surround recalls circle motif. Cold rolled formed steel window. Roman shades recall plantlife through print, while maintaining privacy and allowing sunlight to enter residence when desired.</p> | |
|  | |


| | |
|---|-----------|
| Item: Custom Skylight Name: N/A Manufacturer: N/A Model: N/A Size: — Quantity: 1 Finish: — Textile: N/A Options: N/A Retail: N/A | W2 |
| Website: N/A | |
| Notes: Skylight in building hallway, outside resident rooms, allows residents to enjoy sunlight from both ends of their residence. Window on interior wall allows sunlight to filter in from building interior, not just exterior. Survey participants indicated that sunlight was important to both comfort and dignity. | |


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|---|-----------|
| Item: Entry Door Name: "Artisan" Mineral Core 3/4 Hour Rated Four-Panel 42" Door with Wood Veneer Manufacturer: Algoma Hardwoods Model: — Size: 42" W 80" H Quantity: 1 Finish: Maple Textile: N/A Options: ADA blade handle Retail: — | D1 |
| Website: http://www.algomahardwoods.com/pdf/AlgomaDoors.pdf | |
| Notes: Not only protects residents with fire-rated construction, but also provides a residential feel. | |




| | |
|---|-------------|
| <p>Item: French Door Name: 1-Hour Fire-Rated Steel Door with Glazing Manufacturer: Steel Doors and Windows USA Model: — Size: W 72" H 80" Quantity: 1 Finish: White Powder Coat Textile: Roman shades; Maharam “Shadow;” 100% Trevira polyester; 60+ hours lightfastness; US Contract Net \$96.00 Options: N/A Retail: —</p> | <h1>D2</h1> |
| <p>Website: http://www.steelwindowsanddoors.com/fire-rated-steel-windows-doors.html</p> | |
| <p>Notes: Allows easy access to outdoors and permits sunlight to enter residence. Roller shades evoke plantlife, permit light to enter residence, and maintain privacy. Custom stained glass recalls circle motif.</p> | |
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|--|-------------|
| <p>Item: Bathroom Door Name: "Artisan" Mineral Core 3/4 Hour Rated One-Panel 36" Door with Wood Veneer Manufacturer: Algoma Hardwoods Model: — Size: 36" W 80" H Quantity: 1 Finish: Maple Textile: N/A Options: N/A Retail: —</p> | <h1>D3</h1> |
| <p>Website: http://www.algomahardwoods.com/pdf/AlgomaDoors.pdf</p> | |
| <p>Notes: N/A</p> | |
|  | |

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|--|-------------|
| <p>Item: General Light Fixture Name: Aqua 2-Light Flush-Mount Ceiling Light Manufacturer: Troy Lighting Model: C1900SG Size: Dia 13" H 6" Quantity: 5 Finish: Silver Gold Textile: N/A Options: N/A Retail: \$350.00</p> | <h1>L1</h1> |
| <p>Website: http://www.lightinguniverse.com/general/troy-lighting-c1900sg-aqua-2-light-flushmount-flush-mount-ceiling-light-silver-gold_g391065.html?isku=3706207&linkloc=ProductItems</p> | |
| <p>Notes: Metalwork reflects circle motif. Lamped with energy-efficient CFL.</p> | |
|  <p>The image shows a circular flush-mount ceiling light fixture. It features a silver-gold metalwork top ring with a decorative pattern of overlapping circles. Below the ring is a frosted glass diffuser. The fixture is shown from a slightly elevated perspective against a plain white background.</p> | |

| | |
|---|-------------|
| <p>Item: Chandelier Light Fixture Name: Aqua 3-Light Chandelier Manufacturer: Troy Lighting Model: F1903SG Size: Dia 18-1/2" H 27" Quantity: 1 Finish: Silver Gold Textile: N/A Options: N/A Retail: \$530.00</p> | <h1>L4</h1> |
| <p>Website: http://www.lightinguniverse.com/general/troy-lighting-f1903sg-aqua-3-light-chandelier-silver-gold_g391103.html?isku=3706252&linkloc=ProductItems</p> | |
| <p>Notes: Metalwork reflects circle motif. Lamped with energy-efficient CFL.</p> | |
|  | |

| | |
|--|-------------|
| Item: Bathroom Light Fixture Name: Aqua 4-Light Bathroom Bar Light Manufacturer: Troy Lighting Model: B1909SG Size: W 26" D 4" H 4-1/2" Quantity: 2 Finish: Silver Gold Textile: N/A Options: N/A Retail: \$210.00 | <h1>L7</h1> |
| Website: http://www.lightinguniverse.com/bathroom-lighting/troy-lighting-b1909sg-aqua-4-light-bathroom-bar-light-silver-gold_g391066.html?linkLoc=related | |
| Notes: Metalwork reflects circle motif. Lamped with energy-efficient CFL. | |
|  | |

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This project described a proposal for a resident room for an older adult in assisted living in the state of Oklahoma. Survey results indicated that older adults believed certain interior design features were more supportive of their comfort and dignity. Depression and isolation were addressed through the inclusion of semi-private spaces and areas for entertaining and hosting. The design supports the dignity of older adult residents through the use of high ceilings, smooth textures, warm temperatures, cool colors, bright light, sunlight, and vegetation. Loss of mobility was addressed through the use of accessible design features and the inclusion of opportunities for physical exercise. Dementia issues were addressed through the use of transparency and a simple floor plan. The proposed design supports the comfort of older adult residents through the use of smooth textures, warm temperatures, cool colors, sunlight, and vegetation.

The intentional incorporation of environmental support for not only the physical and mental challenges faced by older adults in assisted living, but also the more subtle challenges to their comfort and dignity, has the potential to greatly improve the quality of life enjoyed by these individuals. This project represents a progressive and innovative design, because of its inclusion of resident surveys in the area of comfort and dignity and

the incorporation of design features intended to reflect the results of the survey. Further study is needed to discover how additional design features may impact the comfort and dignity of older adults. Additional research may explore the opinions and perceptions of older adults in other states or nations.

REFERENCES

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APPENDICES

Survey Instrument

Comfort and Dignity Survey

Please fill in the circle next to your answer.

These questions deal with inside places in general. It could be a home, a store, a restaurant, or another place. Answer based on how you feel most of the time, in places with these features.

1. Places with **high ceilings** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
2. Places with **low ceilings** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
3. Places with **smooth textures** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
4. Places with **rough textures** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
5. Places that **feel cool** in temperature give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
6. Places that **feel warm** in temperature give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
7. Places with **cool colors** (like blue and green) give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]

8. Places with **warm colors** (like red and orange) give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
9. Places with **bright lighting** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
10. Places with **dim lighting** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
11. Places with **sunlight** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
12. Places with **plants or flowers** give me a sense of comfort.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]

Please fill in the circle next to your answer.

These questions deal with inside places in general. It could be a home, a store, a restaurant, or another place. Answer based on how you feel most of the time, in places with these features.

1. Places with **high ceilings** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
2. Places with **low ceilings** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
3. Places with **smooth textures** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
4. Places with **rough textures** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
5. Places that **feel cool** in temperature give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
6. Places that **feel warm** in temperature give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]

7. Places with **cool colors** (like blue and green) give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
8. Places with **warm colors** (like red and orange) give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
9. Places with **bright lighting** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
10. Places with **dim lighting** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
11. Places with **sunlight** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
12. Places with **plants or flowers** give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]

Please take a moment to tell me what Comfort means in your own words.

Define Comfort

Please take a moment to tell me what Dignity means in your own words.

Define Dignity

Please take a moment to tell me about anything else that affects your Comfort or Dignity.

Additional Comments

Please fill in the circle next to your answer.

These questions deal with inside the place where you live now. Answer based on how you feel most of the time, in the place where you live now.

1. I have _____ room(s) of my own, at the place where I live now.
2. My spouse lives in my room(s) with me.
[Yes, No]
3. Counting my spouse, _____ people live in my room(s) with me.

4. The inside walls of my room(s) are made of...
[Concrete, "Dry Wall," Stone, Wood, Other, Don't Know]
5. It's easy for me to get around in the place where I live now.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
6. The place where I live now is nice to look at.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
7. The place where I live now feels like home.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
8. The inside lighting in the place where I live now is...
[Likert-Type Scale: Very Bright, Bright, Neither Bright nor Dim, Dim, Very Dim, Don't Know]
9. During the day, a lot of sunlight comes into the place where I live now.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
10. During the night, a lot of light comes into my bedroom from outside the place where I live now.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
11. When others visit my room(s), there is enough space for everyone to sit.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
12. When others visit my room(s), I can talk easily with them.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
13. My room(s) at the place where I live now make me feel valued.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
14. My room(s) at the place where I live now give me a sense of dignity.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
15. The seating in the place where I live now is comfortable.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
16. Overall, my room(s) at the place where I live now make me feel comfortable.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]

17. In my room(s) at the place where I live now, I feel calm.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
18. In my room(s) at the place where I live now, I feel content.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
19. When I enter my room(s) at the place where I live now, I begin to feel more peaceful.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
20. I have friends at the place where I live now.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
21. In my room(s) at the place where I live now, my body feels relaxed.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
22. In my room(s) at the place where I live now, my body feels less pain.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
23. In my room(s) at the place where I live now, my body feels strong.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]
24. When I enter my room(s) at the place where I feel now, my body begins to feel better.
[Likert-Type Scale: Strongly Disagree, Somewhat Disagree, Neutral/No Opinion, Somewhat Agree, Strongly Agree, Don't Know]

Please take a moment to tell me a little bit about you. Fill in the circle next to your answer.

1. I am...
 - Male
 - Female
2. I was born in the year 19_____.
3. I am...
 - Married
 - Divorced
 - Widowed
 - Never Married

4. I am...
- White American
 - Black American
 - Native American
 - Asian American
 - Other: _____
 - Choose Not to Answer
5. I am...
- Retired
 - Employed Part-Time
 - Employed Full-Time
 - Self-Employed Part-Time
 - Self-Employed Full-Time

Thank you for taking the time to participate in this survey!

VITA

Sylvia Nicole Chaney

Candidate for the Degree of

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Thesis: SETTLED-IN: DESIGNING FOR COMFORT IN OLDER ADULT
CONGREGATE HOUSING IN OKLAHOMA

Major Field: Design, Housing, and Merchandising; Specialization in Interior Design

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Completed the requirements for the Master of Science in Design, Housing, and Merchandising with a Specialization in Interior Design at Oklahoma State University in Stillwater, Oklahoma, in July, 2011.

Completed the requirements for the Bachelor of Arts in Interior Design at the University of Louisiana at Lafayette in Lafayette, Louisiana, in 2008.

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Assisted in the creation, distribution, and data analysis of surveys. Lead graduate student for \$13,000 grant funded by the Environmental Protection Agency.

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Title of Study: SETTLED-IN: DESIGNING FOR COMFORT IN OLDER ADULT
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Pages in Study: 95

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Scope and Method of Study:

This multi-method study explores the effect of interior design on the comfort of older adults in assisted living and proposes an interior design prototype for an assisted living resident room for an older adult in Oklahoma. The research includes a survey of older adults (n=25), which asked participants to evaluate certain interior design features in terms of their effect on the participants' comfort and dignity, as well as site tours of existing assisted living facilities in Oklahoma. A design prototype was developed based on the survey and tour results, which was refined after evaluation by a focus group of experts in the area of older adults and older adult housing.

Findings and Conclusions:

Survey results indicated that older adults believed certain interior design features were more supportive of their comfort and dignity. The proposed design supports the comfort of older adult residents through the use of smooth textures, warm temperatures, cool colors, sunlight, and vegetation. The design supports the dignity of older adult residents through the use of high ceilings, smooth textures, warm temperatures, cool colors, bright light, sunlight, and vegetation. Depression and isolation were addressed through the inclusion of semi-private spaces and areas for entertaining and hosting. Loss of mobility was addressed through the use of accessible design features and the inclusion of opportunities for physical exercise. Dementia issues were addressed through the use of transparency and a simple floor plan. The intentional incorporation of environmental support for not only the physical and mental challenges faced by older adults in assisted living, but also the more subtle challenges to their comfort and dignity, has the potential to greatly improve the quality of life enjoyed by these individuals.

ADVISER'S APPROVAL: Paulette R. Hebert, Ph.D.
