Elevating Design for Seniors
Untapped Opportunities in the Built Environment
Presenters

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Elevating Design for Seniors
Untapped Opportunities in the Built Environment
Senior-Centered Design Approach
Benefits for Residents:

- Ease of **Movement** in Residences - **Clear Pathways**
- Visibility of One’s **Apartment Destinations**
- Maintain Independence
- Encourage **Moving & Living vs Sedentary Behavior**
- Reduce need for Nursing/Assisted Living move
- Sense of **Safety** and **Well Being**
- Consistent with “**Aging in Place**”
Aging in Place Design Elements within Units:

- Bath is En Suite to Bedroom
- Elongated Bedroom allows for Dressing Area by Closet
- Roll In Shower (w/removable threshold)
- Barn Door Entry to Bath & Bedroom
- Open Floor Plan aids in maneuvering
- Open Kitchen Layout eases maneuvering
- Full height Pantry
- Deep low Windowsill at Living
Type B One Bedroom Unit
585 nsf
Type A One Bedroom Unit
650 nsf
• Wheelchair Accessible Peephole

• Peephole/Door Scope is mounted at max 44-in above floor so that a seated person can use;

• Door Scope has a viewer that can see outside the door from up to 7-ft away

• Much easier for a person with limited mobility to use; instills confidence

Unit Entry Door
• Oversized Barn Doors - easy to operate, conserve space

• Direct access to En Suite Bathroom

• Large Dressing Area created in front of Closet - room for chair or bench to aid in dressing

Bedroom towards Bath

Bedroom towards Living
Ensuite Bathroom
Ensuite Bathroom, Left

Typical Unit, Right
Bathroom

- Fully accessible, **easy direct access** from Bedroom
- Shower has movable shower **chair** (not bench)
- Wide **opening** at Barn Door
- **Collapsible threshold** at Shower
Kitchen

Kitchen/Dining
15-4 x 10-3
• Corner **Sink** maximizes clear floor space & work space

• Side-mounted **Faucet** at Sink

• Adjustable **Mirror** above cooktop allows resident to see what’s cooking

• Countertop-mounted **Switches**

• Open plan allows for table within **Kitchen**
Side Mounted Faucet at Sink

Adjustable Mirror over Cooktop

Switches at face of Countertop - for Garbage Disposal & Range Hood

Open Work Surface extends around corner
Kitchen Safety
• Helps prevent stove top fires
• Safe T Element shuts off stove >662°F
• When cooled, turns back on

Safe T Element
Deep, low windowsill in Living Room - lots of natural daylight
Importance of Daylight for Senior Health

Psychological Benefits
- Provides views outside
- Enhances comfort
- Reduces stress
- Improves mood and
- Increases productivity

Physiological Well-being
- Allows focus on distant objects
- Helps maintain circadian rhythm
Replicating Daylight inside Senior Facilities
The Aging Eye

Reduction in vision is normal in the aging population

Senile Miosis
The Aging Eye

Reduction in vision is normal in the aging population

Changes to Lens
The Aging Eye

Reduction in vision is normal in the aging population

Presbyopia
The Aging Eye

There are also age-related diseases of the eye

Cataract
The Aging Eye

There are also age-related diseases of the eye

Macular Degeneration
The Aging Eye

There are also age-related diseases of the eye

Diabetic Retinopathy
Problematic Visual Tasks by the Elderly

Degradation of Visual Acuity
- Contrast Sensitivity
- Color Discrimination
- Speed of Adaptation
- Sensitivity to Light
- Increased Sensitivity to Glare

Difficulty in:
- Seeing in Dim light
- Reading Small Print
- Distinguishing Colors
- Reading Moving Information
- Visual Search
Improving Visibility for Seniors through Lighting

Increase Overall Illuminance (Footcandles)

<table>
<thead>
<tr>
<th>Area</th>
<th>Ambient</th>
<th>Task</th>
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<tr>
<td>Exterior Entrances</td>
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<td>Exterior Walkways</td>
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<td>Interior Entry (Night)</td>
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<td>Interior Entry (Day)</td>
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<td>Interior Circulation</td>
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<td>Lobby, Waiting, Lounge</td>
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<td>Activity or Common Rooms</td>
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<td>Dining</td>
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<tr>
<td>Unit Entry</td>
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<tr>
<td>Unit Living Space and Bedroom</td>
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<td>Unit Kitchen and Dining</td>
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<tr>
<td>Unit Bathroom</td>
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Improving Visibility for Seniors through Lighting

Provide Task Lighting

• Additional light required where visual tasks are performed to see fine detail or low contrast items
• At least 3 times ambient level
• Portable lamps with wide translucent shades work well for task and keep room illuminances balanced.
Improving Visibility for Seniors through Lighting

**Balance Luminance** (measure of light being reflected from the task, surrounding surfaces and luminaires)

- Provide even illumination on horizontal and vertical surfaces
- Ceilings and walls should have luminances within a 3:1 ratio.
- Avoid high contrast lighting, shadows and glare
- Consider brightness of daylight in space compared to interior levels
Improving Visibility for Seniors through Lighting

Avoid Creating Glare (Disability and Discomfort Glare)

- Reduce fixture luminance
- Raise fixture out of line of sight
- Increase illuminance in the space
- Select light materials
- Provide matte surfaces

- Shield the direct view of light sources
- Avoid clear glass or exposed bulbs
- Provide window treatments
Improving Visibility for Seniors through Lighting

**Assist with Adaptation** (time required to both light-adapt and dark-adapt)

- Balance light levels in entries and hallways with adjacent spaces
- Transition between exterior to interior is especially challenging, provide spaces with intermediate light levels to assist
- Provide areas for seniors to stop to allow time for adjustment
Improving Visibility for Seniors through Lighting

Model Facial Features

• Assists with reading facial expressions, lip reading and improves communication
• Important for safety and security
• Needed for task lighting at vanity
Improving Visibility for Seniors through Lighting

Provide Accent Lighting

- Creates intuitive way-finding
- Adds visual interest in a low contrast lighting solution
- Can identify potential hazards
Improving Visibility for Seniors through Lighting

Material Colors and Finishes

Color can affect visibility and aesthetics. Factors that contribute to color appearance include:
• Hue, Value and Saturation
• Intensity and Quality of Light,
• Color perception abilities of the observer
• Transmission and reflective properties of the object and the surfaces.

Architectural Considerations:
• Increase contrast of materials in key areas to improve visibility
• Consider light reflectance values of materials (50-70% for walls, 75-90% for ceilings)
• Use light-color finishes to increase diffuse inter-reflected light in space
• Avoid complex decorative patterns to minimize confusion
Typical Unit Lighting Example
Advanced Living Communities

Providing affordable housing and services for those aged 62 and over so they can age-in-place safely.

- Premier developer in Montgomery County
- Owns and operates four retirement communities serving nearly 500 residents
  - Derstine Run
  - Schwenckfeld Manor
  - Schwenckfeld Terrace
  - North Penn Commons
An award winning, national model for “Innovation of Design”
North Penn Commons is a vibrant community center providing housing, social services, wellness and recreational activities in one location.

Home to Four Non-Profit Organizations:

- **Advanced Living Communities**: Provides affordable housing and services for those aged 62 and over so they can age-in-place safely in attractive and well-maintained communities.

- **The PEAK Center**: Provides programs and services to support wellness and quality of life for adults, primarily those of age 55+ and promote participation in all aspects of community life.

- **North Penn YMCA**: Provides programs and activities that promote youth development, healthy living and social responsibility focusing in the areas of wellness and health enhancement, sports and recreation, aquatics, social engagement, and child care.

- **Manna on Main Street**: Provides food, fulfills social service needs and conducts community education through a food pantry and soup kitchen, emergency financial aid, counseling and referrals, education classes and community outreach.
Before & After
Shared Common Lobby

[Image of a spacious, modern lobby with comfortable seating and decorative elements.]

Advanced Living Communities
Shared Common Lobby

Advanced Living Communities
Interiors

Advanced Living Communities
Apartment Features & Amenities

- 640 square feet of living space
- Granite counter tops
- Affordable and maintenance-free
- Convenient bus transportation
Typical Apartment Unit Floor Plan
Accolades

“One door, held open by so many helping hands.”

“Already, officials are calling it a model for affordable senior housing projects in the state.”

- Philadelphia Inquirer

“It’s an example of government at its best, an example of the private sector at its best, and it’s an example of people working together at our best for the common good ...”

- Montgomery County Commissioner Josh Shapiro

“North Penn Commons was selected from about a dozen projects statewide in 2013 for $11 million in federal tax credits based on its innovative design.”

- Holly Glauser, Director of Development, Pennsylvania Housing Finance
Wynne Senior Residence

- Soft/Hard seating
- Handrails on both sides of hallways
- “Purse” shelf at mailboxes
- Vinyl flooring in hallways instead of carpet
Wynne Senior Residence

- Amenities space includes computer room, laundry and exercise room

- Lots of use of glass for visibility and openness
St. Francis Villa
Senior Housing

Extensive gardens that also helps to address the storm water management needs of the site.
St. Francis Villa Senior Housing

- Large windows, Low window sills
- Hardwood/ Laminated floors
- Nice counter space
Whitemarsh Senior Village

Use of solar panels
Mission Green

- Integrate make up air louvers into exterior design
- Solar panels
John C Anderson

Use of multiple different types of materials
John C Anderson

“green roof”, solar, use of glass to bring in the natural light
For More Information About…

Cecil Baker + Partners  http://www.cecilbakerpartners.com/


Advanced Living Communities  http://www.advancedliving.org/

Domus, Inc.  http://www.domusinc.net/