

**AGENDA**  
**DHS/DQA, Provider/Designers/Architect Meeting:**  
**Collaborating to Advance Innovative**  
**Designs to Serve Older Adults**

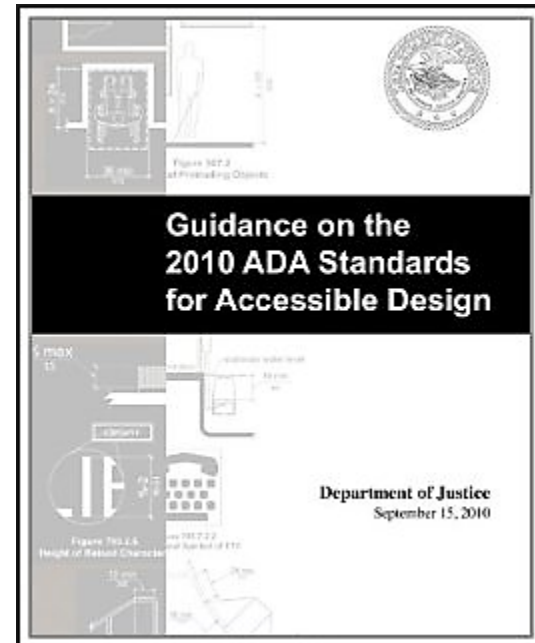
**June 27, 2017, 9:00 am to 11:00 am**

**DHS, Division of Quality Assurance**  
**1 W. Wilson St., Madison, WI., Room 456**

- I. Introductions and Purpose of Meeting-- A Collaborative Approach to Foster Innovative and Person-Centered Designs. How can we Advance Designs that Better Serve Our Residents?**
- II. Overriding Area for Consideration: Can We Utilize Equivalent Facilitation and Other Helpful Options or Strategies to Establish a Climate that Supports Innovation? -- Keep these in mind as the group briefly discusses past experiences (see below).**
- III. Background: Helpful Reports and Examples of Decisions/Projects and the Impact on Residents and Care/Services.**
  - A. Bathrooms
  - B. Non-operable Windows
  - C. Showers
  - D. Other Issues
- IV. Positive Experiences in Wisconsin and Other States where Innovations Have Been Advanced**
- V. Allowance of Risk and Acknowledgment of Shared Responsibility**
- VI. Is there a Need for Regulatory/Statutory changes or Can the Current System Support Innovation? *Returning to this issue: Can We Utilize Equivalent Facilitation and Other Helpful Options or Strategies to Establish a Climate that Supports Innovation?***
- VII. What Collaborative Steps should be Taken to Institutionalize Risk-Taking and Innovation?**
- VIII. Action Steps and Future Discussions**

<https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm>

<https://www.ada.gov/regs2010/2010ADAStandards/Guidance2010ADAstandards.htm#titleII>



### 103 Equivalent Facilitation

Nothing in these requirements prevents the use of designs, products, or technologies as alternatives to those prescribed, provided they result in substantially equivalent or greater *accessibility* and usability.

→ **Advisory 103 Equivalent Facilitation.** The responsibility for demonstrating equivalent facilitation in the event of a challenge rests with the covered entity. With the exception of transit facilities, which are covered by regulations issued by the Department of Transportation, there is no process for certifying that an alternative design provides equivalent facilitation.

↑

## Here is the text from the 2009 IBC regarding alternative materials and designs:

### SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL

104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

## Here is a paragraph regarding intent of the code:

### SECTION 101 GENERAL

101.3 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

## Here is the beginning of the accessibility chapter:

### CHAPTER 11 ACCESSIBILITY

#### SECTION 1101 GENERAL

1101.1 Scope. The provisions of this chapter shall control the design and construction of facilities for accessibility to physically disabled persons.

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1.

1	Examples of Innovations Identified: Focus on Bio-Care Bathrooms and Related																						
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Latest Draft 6/8/2017					19	20	21
3	Project Name	Parker at Monroe	Mease Manor	Biloxi Veterans Home	Levindale Hebrew Home	Saint Margaret's Home	NNVH No. NV VA Home	RI State Veterans Home	FL Ardie Copas Veteran Home	Rockhill Menonite	Glendale County NH	Waveny Mainstreet	Peabody	Duncaster	Piper Shores	CO State Vets Home	Pomperaug Woods	NY State Veterans Home Montrose	Meadows at John Knox Village	CA State Vets Hm Redding	Beth Sholom	New Bridge	
4	<b>SITE BACKGROUND</b>																						
5	Type	SNF	--	SNF	SNF	SNF	SNF	SNF	SNF	--	SNF	--	SNF	SNF	SNF	SNF	SNF	SNF	--	SNF	SNF	SNF	
6	Assisted or Assisted Memory Care OR ILU	ALMC	ALMC	--	--	--	--	AL	--	AL	--	ALMC	ALMC	ALMC	AL + ALMC	--	--	--	ILU	--	Affordable MC	--	
7	STATE (See Endnote)	NJ	FL	MS	MD	LA	NV	RI	FL	PA	NY	CT	IN	CT	ME	CO	CT	NY	MO	CA	VA	MA	
8	Approx. Date Equivalent Facilitation Granted (Approx)	2015	2015	2008	2010	2011	2016	2016	2016	2015	2013	2004	2005	2004	N/R	2001	2002	2003	2012	2010	2006	2010	
9	New/Reno/Both	New	New	New	New	Retro-fit	New	New	New	New	New	New	New	New	New	New	New + Retrofit	New	New	New	New	Retrofit	New
10																							
11	<b>TWO OR THREE FIXTURE BATHROOM</b>																						
12	Toilet+Sink Only	--	--	--	--	--	--	--	--	--	--	--	--	--	--	√	√	√	--	--	--	--	
13	Toilet, Sink, Shower		√	√	√	√	√	√	√	√	√	√	√	√	√	--	--	--	√	√	√	√	
14																							
15	<b>FUNCTION GOALS: Designed for...</b> (Percents indicate data from Statistical Snapshot or Similar Assessment Data)																						
16	Independent Users	20%	5%	15%	15%	15%	20%	20%	20%	40%	15%	30%	20%	25%	Varies	√	√	20%	√	√	18%	20%	
17	1 Person Assist Standby/No Equip	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Occas'l	√	√	√	
18	1 Person with Equipment	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Occas'l	√	√	√	
19	2 Staff Assist+ Equip	√		√	√	√	√	√	√	√	√	√	√	√	SNF	√	√	√	--	√	√	√	
20	<b>Mobility Equipment Accommodated in Toilet Area</b>																						
21	None	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
22	Walker; Tripod Cane	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
23	Wheelchair @ 50%+	Yes	20%	Yes	Yes	Yes	Yes	Yes	Yes	20%	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	
24	Oversized Wheelchair	√	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√	--	√	√	√	
25	Bariatric Wheelchair	Unk	N/A	Bariatric Rms	Unk	Unk	Bariatric Rms	Bariatric Rms	Bariatric Rms	Unk	Unk	Unk	Unk	Unk	Unk	Use Spa	Unk	Use Spa	N/A	Bariatric Rms	Use Spa		
26	Gurney/Shower Trolley	--	--	√	√	--	√	√	√	--	--	--	--	--	--	Use Spa	Use Spa	Use Spa	Use Spa	√	Use Spa	√	
27	<b>Lifts and Transfer Equipment</b>																						
28	Floor Lift: Sit to Stand	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	--	√	√	√	
29	Floor Lift: Full Body/Oversized	√	√	√	√	√	√	√	√	√	√	√	√	√	SNF	√	√	√	--	√	√	√	
30	Ceiling Transport into Toilet (T) or Toilet AND Shower (TS)	--	--	Bed-T	--	--	Bed-T & S	Bed-T & S	--	--	--	--	--	--	--	--	--	Bed-T	--	Bed-T Bariatric	--	--	

31		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
32	Project Name	Parker at Monroe	Mease Manor	Biloxi Veterans Home	Levindale Hebrew Home	Saint Margaret's Home	NNVH No. NV VA Home	RI State Veterans Home	FL Ardie Copas Veteran Home	Rockhill Mennonite	Glendale County NH	Waveny Mainstreet	Peabody	Duncaster	Piper Shores	CO State Vets Home	Pomperaug Woods	NY State Veterans Home Montrose	Meadows at John Knox Village	CA State Vets Him Redding	Beth Sholom	New Bridge
33	<b>TOILET AREA:</b>																					
34	Dual Rails (Back-wall mount; fold up/down)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes; Adjust'ble
35	Clearance for Staff Wallside Assists	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	50%	Yes
36	Rails, Wallside Clearance > 1'-6"	100%	100%	100%	100%	50%	100%	100%	100%	50%	100%	100%	No is 1'-6"	No is 1'-6"	100%	50%	50%	100%(1)	No is 1'-6"	100%	50%	100%
37	Omit Back Rail; Standing Use with Dual Rails Folded Up	√	√	√	√	√	√	√	√	√	√	√	√	√	√	?	No	√	√	√	√	√
38	Accommodated Self, 1 and 2 Person Transfers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	50%	Yes	With Some Space Difficulty			Yes	50%	50%	50%	1 Side	Yes	Yes	Yes
39	Safely Accommodate Floor Lifts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	50%	Yes	Some Diff	Some Diff	Some Diff	Yes	Some Diff		Yes	--	Yes	Yes	Yes
40																						
41	<b>SINK AREA</b>																					
42	Good Access Under Sink vs. Apron/Barrier	√	√	√	√	√	Apron	√	√	√	Apron	√	Apron	√	√	√	Apron	Apron	Apron	Apron	Apron	√
43	Bio Care Clean Storage	√	√	√	√	√	√	√	√	√	√		√		√	No	No	No	Linen	Yes	Yes	
44	Safer Soil Linen Holding	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Typ	Typ	Typ	Yes	Typ	Yes	Typ	Typ	Typ		Typ	Yes	
45	Sink Extended AND Controls in Reach	Extend	Both	Typical	Extend	Typical	Extend	Extend	Extend	Extend	Extend	Grips	Typ	Grips	Extend	Typ	Typ	Typ	Typ	Extend	Extend	Both
46	WATER MGT Toilet Area	--	--	Floor Drain	Floor Drain	--	Floor Drain	--	--	--	Floor Drain	--	--	--	--	Floor Drain	--	Floor Drain	--	--	--	--
47																						
48	<b>FIXTURE LAYOUT</b>																					
49	Toilet Across from Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	50% Diagonal	Yes	Yes	Yes	Yes
50																						
51	<b>BATHROOM ENTRY</b>																					
52	Typical 48" Swing Doors	--	--	--	--	--	--	--	--	--	--	--	--	--	--	√	√	√	√	--	--	--
53	Approx 48' Clear Entry	Yes	Yes	Yes	Yes	44"	Yes	Yes	Yes	Yes	Yes	--	--	--	--	--	--	--	--	Yes	Yes	Yes
54	Surface Sliding Doors	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	--	--	--	--	--	--	Yes	--	--
55	Bi- Pass Surface Sliding Doors or Folding Door	--	--	--	--	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Folding	--
56	"Nested" Bathrooms or Showers to Reduce Hall Length and Accommodate Surface Sliding Doors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--	Yes	Yes	No	Yes	No	No	No	Yes	No	No
57	Note was Bathroom New or Retrofit or Renovation	New	New	New	New	Retro-fit	New	New	New	New	New	New	New	New	New	New	New + Retrofit	New	New	New	Retrofit	New

58		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
59	NAME	Parker at Monroe	Mease Manor	Biloxi Veterans Home	Levindale Hebrew Home	Saint Margaret's Home	NNVH No. NV VA Home	RI State Veterans Home	FL Ardle Copas Veteran	Rockhill Mennonite	Glendale County NH	Wavely Mainstreet	Peabody	Duncaster	Piper Shores	CO State Vets Home	Pomperaug Woods	NY State Veterans Home	Montrose Meadows at John Knox Village	CA State Vets Hm Redding	Beth Sholom	New Bridge	
60	<b>SHOWER DESIGN INNOVATIONS Re: RESIDENT POSITIONING and SAFETY</b>																						
61	ADA Rectangular	--	--	√	--	√	--	--	--	--	√	√	√	√	--				√	--	√	--	
62	ADA Square	--	--	--	--	--	--	--	--	√	--	--	--	--	--				--	--	--	--	
63	2-wall or 3-wall open Euro-Shower e.g., curb- lessfloor space w/ drain.	--	--	3-wall open rectangle	--	--	--	--	--		3-wall open rectangle	--	--	3-wall open rectangle	2- wall open on radius				--	3-wall open rectangle	--	Euro: 3-wall open rectangle	
64	Zero Entry/Wheel In	Zero Entry	Zero Entry	Zero Entry	Zero Entry	Zero Entry	Zero Entry	Zero Entry	Zero Entry	Slight Curb	Slight Curb	Slight Curb	Collaps-able Dam	Zero Entry	Zero Entry	No Shower; 2 Fixture Room; Showering/bathing in "spa"				Slight Curb	Slight Curb	Slight Curb	Zero Entry
65	Floor Sloped for Sheeting Water Away from Shower Entry and into Drain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes					No	No	No	Yes
66	Sturdy Shower chair in lieu of bench	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Option	Yes	Yes	Bench+ Chair	Bench	Yes					Bench	Yes	Option	Chose Bench
67																							
68	SHOWER Planned with Features for Staff Assists	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes					No	Yes	Yes	Yes
69	Floor "Dry Dock" Footwork Zone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not Done	Yes	Some what	No	No	Yes					No	No	No	No
70	Reach sides/limbs of body without standing inside shower	Yes	Yes	Yes	Some what	Some what	Yes	Yes	Yes	Some what	Some what	Diffi-cult	No	Difficult	Yes					No	Some what	Difficult	Possible
71	Shower hose/cable easily reaches "head-toe"	Yes	Yes	Yes	Some what	Yes	Yes	Yes		Some what	Some what	Some what	Some what	Some what	Yes					No	Some what	Some what	Possible
72	Staff can wash all resident without reaching over/across	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Some-what	No	Yes	Yes	No	Some-what	Yes					No	Yes	Yes	Yes
73																							
74	ALT. SHOWER SHAPE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes					No	Yes	Yes	Euro
75	Larger than Typical ADA Diagram	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	No	No	No	Yes						Yes	Yes	Yes
76	Trapezoid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		No	No	Yes	No	No						No	No	No
77	Diagonal Wall	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	Diag Front						No	No	No
78	Shower features appear to improve water control	Yes	Yes	Yes	Yes	Yes	TBD; Yes	TBD; Yes	TBD; Yes	No	Some	Some	No	No	TBD					No	Staff POE Concerns	TBD	TBD
79																							
80	<b>SAFETY MEASURES For Water Management and for Minimizing Slip Risks Re: Water Collecting on Bathroom Floor</b>																						
81	Slight Floor Contour Slope to Shower Drain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--	--	--	--	--	Yes								--
82	Typical Center Drain	--	--	--	--	--	--	--	--	Yes	Yes	Yes	Yes	Yes	--	NA	NA	NA	NA	--	--	--	Yes
83	Drain to Back or Corner vs. Center	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes, Trench	--	Center	--	--	--	Yes						Yes, Trench	Center	
84	Evidence of Water Controlled in Shower	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Some	Some	No	No	No	Yes	NA	NA	NA	Typ Show	No	Some		
85	Shower head & water controls are mounted w/in staff/resident reach.	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes						Yes	Yes	
86	Shower Water is Well Managed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--	--	--	Good	--		--	--	--	Typ Shower	Some Difficulty	Some Difficulty	--	

87		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
88	NAME	Parker at Monroe	Mease Manor	Biloxi Veterans Home	Levindale Hebrew Home	Saint Margeret's Home	NNVH Northern Nevada	RI State Veterans Home	FL Ardie Copas Veteran Home	Rockhill Mennonite	Glendale County NH	Waveny Mainstreet	Peabody	Duncaster	Piper Shores	CO State Vets Home	Pomperaug Woods	NY State Veterans Home Montrose	Meadows at John Knox Village	CA State Vets Hm Redding	Beth Shalom	New Bridge	
89	EQUIVALENT FACILITATION	Yes	Yes	State	Yes	Yes	Yes	State	Yes	Not Done		Not Done		Not Done	--	Not Done	Yes	Yes	Yes	State Accepted for VA Home	--	--	
90	Written/Illustrated	Yes	Yes	Accept- ed for VA Home	Yes	Yes	Yes	Accepted for VA Home	Yes			--	--	--	--	--	--	--	Yes			--	--
91	Met In Person Achieved These Features	Yes	Yes		Yes		Yes		Yes		Yes	--	Yes	--	--	Yes	Yes	Yes	--			--	--
92	Granted for 100%?	Yes	Yes	90%	Yes	Yes	Yes	Yes	Yes	50%	Yes	--	Yes	--	--	50%	--	Yes	--	Yes	--	--	
93																							
94	<b>Leveraging Traditional bathrooms on campus to achieve 100% in New; e.g., used Existing "ADA Compliant" bathrooms (without dual rails) to Meet 50% ADA responsive or Banking "Faux" Walls</b>																						
95		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	N/A	N/A	Faux Walls	Yes	N/A	Yes		
96																							
97	<b>ADDED VALUE:</b>																						
98	Single Rooms	94%	100%	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	100%	100%	100%	100%	100%	Apts	100%	100%	100%	
99	Toilet Across from Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Almost	Yes	Yes	Yes	Yes	
100	Some Diagonal Bedrooms to Reduce Hall Length/ Fit Site	No	100%	50%	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	Yes	No	No	
101																							
102	<b>UNIVERSAL PRECAUTIONS ADDRESSED</b>																						
103	Alternatives to in Bathroom Bed Pan Flushers	Omit	Omit	Omit	Omit	Omit	Omit	Yes De-mountable	Omit	Omit	Omit	Omit	Omit	Omit	Omit	Omit	Omit	Omit	N/A	Omit	Omit	Omit	
104	<i>Omission based on low rates of use; use of bedpans OR not required by State or AHJ</i>	Not Req	Yes	Yes	Not Req	Not Req	Yes	Yes	Yes	Yes	Not Req	Not Req	Not Req	Not Req	Not Req	Yes		Not Req	N/A	Yes	Yes	Included in Pre-Installed system	
105	Macerator rather than rimless flush "sink" in soiled utility re: splash back		Yes?					Yes	Yes														
106																							
107	End Note: We believe there are WI projects that have included dual rails and additional space; contact Gaius Nelson, AIA, Nelson+Tremain, architect for follow-up																						
108	e.g., WI State Veteran's Home at Chippewa Falls and selected areas for Evergreen Oshkosh, WI. Follow-up coming.																						
109																							



## RESIDENTIAL HEALTH CARE INNOVATIONS EXAMPLES FROM BATHROOMS, SHOWERS and BIO-CARE

### Who's Done What and Why? *How Might this be Viable in Wisconsin?*

*The Potential for Using Equivalent Facilitation Procedures  
as Outlined in the ADA Architectural Guide (ADAAG)*

Exhibits from Peer Innovators, compiled by Lorraine G. Hiatt, Ph.D.  
May, 2017

Contributions from US Sites including Wisconsin Sponsors and Architects  
Special Thanks to the Initiative, Leadership and Collaborative Advice from  
Saint John's on the Lake, Renee Anderson, President  
John George, Administrator

6/8/2017

1

#### INTRODUCTION:

ADA: A valuable resource of guidelines for the users addressed and illustrations on accessibility for many.

#### PURPOSE:

1. Existing ADA features were **developed prior to proactive visions for aging**, focus on bio-care and "upright" toileting capability.
  2. **Elders were not part** of original nor represented in subsequent ADA Architectural Guidelines. (See Rothschild, 2012)
  3. Nursing Care and Assisted Living **caregivers** are not addressed in terms of body mechanics, space and equipment needs, despite high rates of OSHA documented injuries in bathrooms, especially transfer and slip 'n' falls.
  4. **Device improvements** for both resident/users and staff assistants, e.g.: fixed hardware and mobile equipment are neither incorporated in configurations nor illustrated in documentation.
- 
1. To offer description and illustration of missing users, e.g., aging adults and their assistants engaged in bio-care/bathroom use.
  2. To identify evidence-based design criteria, not yet addressed in ADA, which respond to functional and safety needs of these users.
  3. To illustrate design innovations of space and equipment for accessible and safe bathrooms which reinforce bathroom capability for a wide variety of users/uses not currently well-served literally applying ADAAG in nursing homes and residential health care.
  4. To describe how ADA affords tools to innovate and identify how some States have used these tools to pioneer outcomes of value.



## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### Today's ADA LAYOUTS used for OLDER PEOPLE and by CAREGIVERS

#### OMISSIONS: ACCURATE BODY MOVEMENTS OF STAFF and RESIDENTS

- The user should be able to walk or wheel to the toilet, sink and hardware and benefit from these clearances. **NOT EASILY; NOT UNIVERSALLY**
- Positioning, stance, sitting, turning, leaning and standing positions are safely accommodated. **NOT READILY**
- Features accommodate both independent and assisted entry, toilet transfer, transition to sink and exiting. **NOT READILY**
- Toilet or sink is readily visible as a cue from the entry. **YES, ADA ACCOMMODATES**
- Sink is accessible from the toilet and dignified, comfortable to use standing or seated. **NOT READILY**

6/8/2017



Two Fixture Bathroom, typical of older nursing homes. Here updated to optimize potential clearances within ADA. Parker at Piscataway, NJ.



The dimensions and fixture placement DO correspond with ADA..

3

### OVERVIEW of INFORMATION and EXAMPLES ASSEMBLED



WI State Capital  
Image Source: Library of Congress

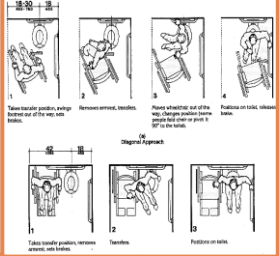
- Strengths and oversights of ADA** in terms of older users and caregiving, drawing on evidence-based research.
- Outline and illustration of **best practices for "bio-care"** and of **functional design criteria for these users** in settings such as nursing homes, assisted living and related care settings;
- Examples** of the newer hardware, features, dimensions and **justification** for incorporating configurations based on evidence based renovation and new construction of industry peers.
- What and how these design features been accepted and built elsewhere**, even though they have *not historically* been addressed in ADA specific Architectural Guidelines or illustrations.
- Responsibility for Adopting Equivalent Facilitation** and the Role of the Sponsor (e.g., Liability is Not Assumed by the Authority Having Jurisdiction or AHJ).
- Samples** of AHJ's in over sixteen states have accepted well documented submissions referencing ADA Architectural Guide's (ADAAG) **Equivalent Facilitation** clause.
- Evidence and justification** of the value of extending these accessibility improvements to **more than 50%** of these bathrooms.
- Summary of emerging outcomes** re: human function, health/safety for residents and staff and **related advantages of health economics and costs of care. Next Steps.**

**BATHROOMS for VITALITY In AGING and CAREGIVING**

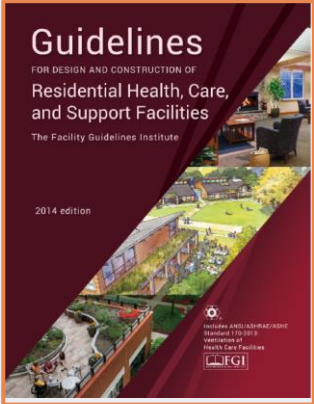
Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

**TOOLS AND RESOURCES FOR REGULATING “Authorities Having Jurisdiction (AHJ’s)” and for CARE SPONSORS BASED ON THEIR STATES’ REFERENCE TO ADA vs. Facilities Guideline’s Institute “FGI Guidelines”**

Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines (ADA)  
And American National Standard ICC/ANSI A117.1-2003 (ANSI)



Do we see this in Nursing or Assisted Living?



In one of the Exhibits for this review, a Case Study indicates WI recognizes ADA, but perhaps not FGI. WI LeadingAge providers, architects and WI AHJ/Regulators have participated in the open access Guidelines Development Process [www.FGIguidelines.org](http://www.FGIguidelines.org). Guidelines are a non-profit, non government resource.

6/8/2017 ICC=International Code Council

**ESTIMATING NURSING HOME and CBRF USERS Matching ADA Users**

**Nursing Home Residents**

- 12% Independent in Toileting
- 3% Independent in Bathing/Showering

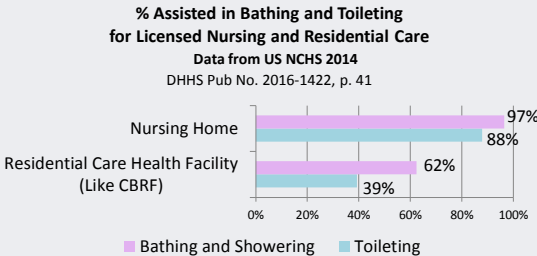
**Residential Care (CBRF)**

- 61% Toilet Independently
- 38% Bathing/Showering

**Bathrooms: Not Well Addressed**

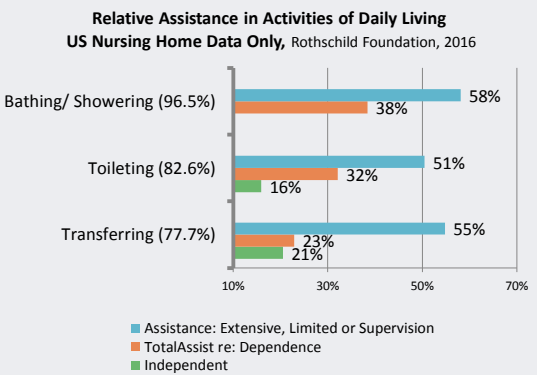
- ✓ Among highest sites of falls and musculoskeletal injuries.
- ✓ For staff, both the lifting/transfer and slip, trip, fall on wet surfaces, e.g., bathrooms are a major source of **injury** estimates of 50%-70% as well as **absences and turnover**.

**% Assisted in Bathing and Toileting for Licensed Nursing and Residential Care**  
Data from US NCHS 2014  
DHHS Pub No. 2016-1422, p. 41



Facility Type	Bathing and Showering (%)	Toileting (%)
Nursing Home	97%	88%
Residential Care Health Facility (Like CBRF)	62%	39%

**Relative Assistance in Activities of Daily Living**  
US Nursing Home Data Only, Rothschild Foundation, 2016



Activity	Assistance: Extensive, Limited or Supervision (%)	Total Assistance/Dependence (%)	Independent (%)
Bathing/Showering (96.5%)	58%	38%	0%
Toileting (82.6%)	51%	32%	16%
Transferring (77.7%)	55%	23%	21%

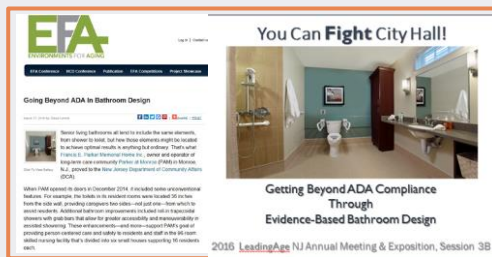
# BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

## INSPIRATION and TIMING

In April, 2017, Wisconsin LeadingAge reached out to members who had expressed a desire to incorporate bathroom design improvements in licensed nursing homes and assisted living.

1. WI has been an early innovator in long-term care design.
2. National and State presentations on bathroom improvements have been made at LeadingAge (2015 and 2016) and through organizations including Environments for Aging (EFA), American Institute of Architects (AIA) and SAGE (see bibliography).
3. National focus on quality and costs of health care suggests a fresh look at these innovations:
  - Research points to healthful, functional advances for resident users,
  - Research justifies cost-effective safety improvements for resident and staff users;
  - New products are encouraging enterprising solutions;
  - Our peers are innovating for these same users in other States.



NJ Peer Example Parker at Monroe, Spiegle Architectural Group Image Francis E. Parker ©  
Read: <http://www.efamagazine.com/trends/going-beyond-ada-bathroom-design/>

2016 LeadingAge Session Download 3B

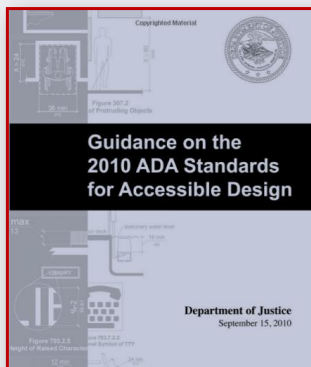
2015 NJLeadingAge Session Download  
TITLE: You Can Fight City Hall: Lazartic, Hiatt & Leone

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## Since the 2010 Edition, ADA Standards for Accessible Design have Invited Equivalent Facilitation

1. ADA used for many State and local building Requirements; some refer ADA as a Guideline.  
<http://www.adabathroom.com/ada.html>
2. Some State Health Department AHJ reviewers apply ADA in nursing home site reviews.
3. Responsibility for **demonstrating equivalent facilitation falls to the sponsor** ¶ Advisory 103.
4. There is **no formal process** provides equivalent facilitation!



### 103 Equivalent Facilitation

Nothing in these requirements prevents the use of designs, products, or technologies as alternatives to those prescribed, provided they result in substantially equivalent or greater accessibility and usability.

**Advisory 103 Equivalent Facilitation.** The responsibility for demonstrating equivalent facilitation in the event of a challenge rests with the covered entity. With the exception of transit facilities, which are covered by regulations issued by the Department of Transportation, there is no process for certifying that an alternative design provides equivalent facilitation.

**BATHROOMS for VITALITY In AGING and CAREGIVING**

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**GOING BEYOND DEPICTIONS OF SELF- and ASSISTED TRANSFERS...**

Recommendation for a Senior Accessibility Standard that incorporates unique needs of older adults and their care providers *but it needs actual innovations!*

**What's Available...**

1. Depictions of movement...
2. Small scale lab studies...
3. 2- and 3-dimensional mock-ups
4. Facility-wide innovations of 50% improvements (few published).
5. A few bolder full-facility innovations: some with modest follow-up. Very few with systematic outcome studies on resident "toilet-ability" and reduction of staff/resident injuries.

Top Left; Rothschild, 2012 proposal.

Top Right; Study of Elder Self-transfer from Wheelchairs at Facing Toilet, Xaing, 2013, p. 30 (type info included).

Below: Assisted front Transfer, Diagonal Wheelchair Placement and Dual Hinged Toilet Bars, originally per Quinn DiMenna, AIA

**VISION: CRITERIA FOR NURSING HOME and ASSISTED LIVING BATHROOM – Corresponding to the Array of Users, Functions, Assistance and Equipment\***

1. One bathroom layout for 17-18 patterns of use.\*
2. Per user criteria, 95%+ bathrooms with dual fold-up bars.
3. Features for safe assistance with clearance in either side for transfer and hygiene
4. A bathroom for "aging in place" minimizing moves for bathroom features alone.

Bathroom Users	No Device for Walking	Walker, Wheeling Walker	Standard Wheelchair	Oversized Wheelchair: Electric or Wide Manual	Mobility Cart, Typically Battery Operated	Standing Lift	Seated Lift
Individual Elder	✓	✓	✓	✓	✓		
Elder + 1 Assistant	✓	✓	✓	✓	✓		*
Elder + 2+ Assistants	✓	✓	✓	✓	✓	✓	✓

\* Estimates of users can be verified in the sponsor's "Functional Program/User and Design Criteria" (See Exhibits.)

\*\* Rationale for 2-Staff: In most jurisdictions, seated lifts require two staff during transfer for safe handling. New technology in secure/stable floor lifts may mitigate this need. (See Bibliography.)

Note: Overhead Ceiling lifts are used in some settings including new/renovated Veterans Homes. Shortcomings in seat design and "swing" need to be resolved to be of better value to frail and cognitively impaired elders and bathroom urgency. See Exhibits illustrations.

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BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

**IMPROVING SAFETY and POTENTIAL INDEPENDENCE: STAND-SIT and WEIGHT DISTRIBUTION in USE**

Studies of chair safety (sit-stand-sit) inspire toilet use features: Two hand grip, arms aligned on either side.



**Basic Goals:**

- Reduce falls; *The bathroom is the single most common site of nursing home falls.*
- Design should “coach” stable footing for transitions and weight placement:
  - Rails at about elbow height (Dekker, 2008)
  - Shoulders aligned with hips (not extended or twisted).
  - Hands and arms in best personal position for lift.
  - Weight centered and low.

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Dual rails supporting secure, 2-hand grips in safe wrist-arm-shoulder alignment are basic to stability and best practices of falls reduction.

**CHOREOGRAPHY OF “THE SCOOT,” “PIVOT” AND “SIT-TO-STAND.” And then REVERSE !**



**Staff Roles in Stand-by Assists for SELF and for RESIDENT/USER\***

- Optimize Balance and Positioning,
- Anticipating Resident Footwork Priorities During Transfer.

**STAFF BODY POSITIONING GOALS**

- Neutral spine
- Wide base of support
- Bend/lift with legs not with the back

**STAFF ROLE IN ASSISTIVE EQUIPMENT USE**

- Anticipate use, verify placement in relation to each phase of use and footwork involved.
- Anticipate the need to move around the use

[http://www.thiscaringhome.org/spec\\_concerns/vid\\_7\\_bodymechanicsdemo.php](http://www.thiscaringhome.org/spec_concerns/vid_7_bodymechanicsdemo.php) “The Golden Rules of Safe Transfer.” See Exhibits, Staff Roles, Movements and Bathroom Design Implications.

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## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

**ELDER GRAB RAIL STUDY:** *Users preferred dual folding rails over single ADA rails.*


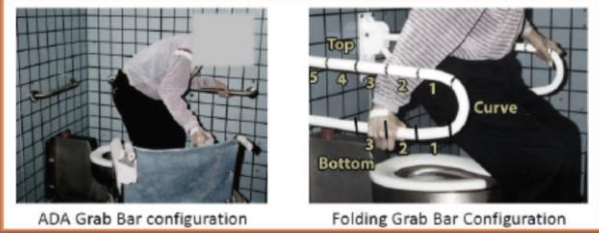
**Challenge:** Single rail at 1'-6" from center of toilet is too far for safe self use by elders.

**SELF-TRANSFER STEPS**  
**Stand to Lowering on Seat:**

1. Wheel in to room facing toilet with *space for foot work. Position hands.*
2. Pivot facing away from toilet, keeping weight low (ideally head up)
3. Lower and sit with 2-hand support.

**Sit-to-Stand**

1. Scoot forward.
2. Sit to stand from the toilet.
3. Pivot to face the toilet.
4. Stand to sit in wheelchair.

ADA Grab Bar configuration      Folding Grab Bar Configuration

Study of 29 Wheelchair using Elders in Mock-up Studies, multiple trials using ADA vs. Dual Rails, "Hinge Design" (Rails Fold Up or Down). Residents demonstrated sitting, standing and positioning of body. (Sanford & Bosch, 2012, 2013; Xaing, 2013).

**NEW HARDWARE OPTIONS/Rail Mounting:**  
 Newer "bevel" Rails offered in two heights and widths and with a rounded front edge facilitate natural sit-stand and scoot functions for people of different stature.

Above: Self Transfer: Lower and Position

Center: Prepare to Rise; Rails mounted at elbow height.  
 Left Taller; Right Smaller\* illustrating Rail Assist with "Scoot."

**\*Challenges in Applying ADA Clearances:**  
 When rails are at 1'-6" from Center Line of Toilet (CLT) typically arms are no longer under shoulders; rails are too wide (See Center Right.)



HealthCRAFT P.T. Hinged Rail  
 From: \$237.95

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BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### DETAILS BEVEL RAILS, CLEARANCES, FLOOR COVERING

**30" Rail-to-Rail, Measured Top Rail Outside Edges.**  
**33" TCL to Side Wall**  
**26" Toilet Edge to Side Wall**

**28" Between Top Rails Mounted at Elbow Height.**

**30" Center Line of Toilet (CLT) to Side Wall.**

**30" Between Top Rails Shown**

1. Bevel grab rails (left and both center) add stability over "aligned" top-bottom bars (right).
2. Gentleman's rail is omitted on the back wall based on availability of fold-up bars. Rail hung paper option (left) in addition to rail hung offering convenience to resident and to staff.

*Also shown: Easy housekeeping: smooth base toilets; sheet rubber, 7" base.*  
*Far Right; Center Right: Non-ceramic floors for increased "foot hold" and reduced fracture potential.*

Top Left: Mease Manor, Dunedin, FL, 2015, Slator+Architects;  
 Center Left Bevel Rails PT Rails, Signature and HealthCraft Products; Sonnenburg Remodelers, WI  
 Right Center: © Parker at Monroe, NJ, 2014 Spiezel Architectural Group; Bevel Rails from Signature.  
 Far Right: Epworth Villa, Omaha, NB, 2001; Plans with LG Hiatt, PhD

### OMITTING REDUNDANCY: BACK WALL RAIL ("Gentleman's Approach") when Dual Side Rails are Used

Top Right: ADA does illustrate omission of the back wall rail in bathroom configurations where two side wall rails are present.

Bottom Left: In the fold-up position, the gentleman user is upright rather than reaching forward (and stooped).

Bottom Right: "Singapore" made side rails for urinals address these same issues.

#### 604 WATER CLOSETS AND TOILET COMPARTMENTS

**604.1 General.**  
 Water closets and toilet compartments shall comply with 604.2 through 604.8.

**EXCEPTION:** Water closets and toilet compartments for children's use shall be permitted to comply with 604.9.

**604.2 Location.**  
 The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 19 inches (485 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 18 inches (465 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

(a) wheelchair accessible water closets

(b) ambulatory accessible water closets



**BATHROOMS for VITALITY In AGING and CAREGIVING**

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

**ASSISTED TRANSFERS and RATIONALE FOR DUAL FOLDING RAILS with WALLSIDE CLEARANCES GREATER THAN 16"-18" From Center Line of Toilet (CLT)**

- Top Left: 1'-6" Clearance to side wall does not accommodate staff foot work with or without lift. Post-occupancy study, Rockhill Mennonite, Sellersville, PA, SFCs.
- Top Right: Staff must lower person from less secure front position; their body serving as lift. C.N.A. Training video.
- Lower Left Lower Left: Evolution of dimensions, VA, Rothschild, 2012.
- Lower Right: Best distance from Side Wall May Vary with Fixture Choices including toilet base clearance (here recessed). Rail widths also vary by choice. ©Parker at Monroe, NJ; Mock-up Study, Spieziele Group Architects.

**MOCK-UP STUDIES of Staff Positioning Wheelchair Placement and Footwork Space: Front, Side and/or Back**

Staff placement and clearances may be a function of:

- Bathroom entry vs. toilet location
- Device used (wheelchair, lift, both)
- Strengths of resident/user
- Footwork for elder and caregiver(s)
- Hygiene and clothing adjustments needed
- Staff may actually rotate around the person during pivot.

Below Right: Behind and in the wall side in "keyhole space as resident/user pivots.

Wheelchair placement and foot work inform floor area.

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## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### ONE BATHROOM: How Dual Rails AND Configuration Accommodate Variations

- ❑ 1. **Resident self-transfer:** space provides reachable positions for wheelchair with front clear for foot room; e.g., falls safe.
- ❑ 2. **Staff stand-by and Assisted Transfer.** Fold-up/down bars are used in best positions for resident/user and staff foot work and stability; e.g., reduced injury.
- ❑ 3. **Rails and space combined allow different locations of the wheeled devices e.g., on entry/seating, using and rising to optimize foot work and pivoting.**
- ❑ 4. Staff may raise bars for safely leaning forward to provide **hygiene** assistance or adjust garments.
- ❑ 5. Space, dual bars and effective training combine to **streamline time use**— a benefit in resident/user dignity and urgency as well as valuable to overall staffing and priorities for care, both in the bathroom (handwashing) and for other valuable services.

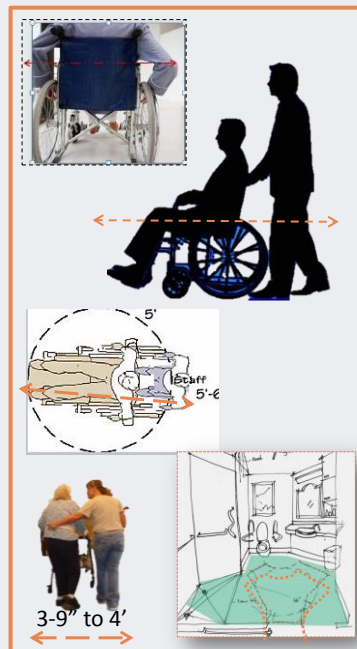


Mock-up study, ©Parker at Monroe; Spiegle Architectural Group with LG Hiatt, Ph.D., Environmental Gerontologist.

### BOTH INDIVIDUAL and ASSISTED CRITERIA

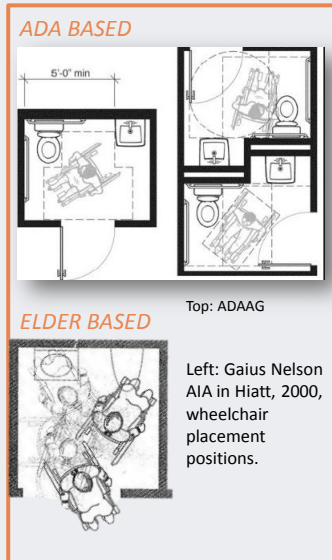
1. **MANEUVERING CRITERIA:** Resident's movements require more than 5' turning circle, and form a 3-point turn.
  - Elbow extension is common in aging wheelers.
  - 5'-6" and 3-point turns are more typical than "circles."
  - Staff floor space/clearances are accommodated in toilet, sink and showering assistance.
2. **DIRECT ENTRY TO TOILET and View of Toilet or Sink** streamlines wheelchair navigation and aids bathroom wayfinding as from bed at night.
3. **FIXTURES PLACES TO OPTIMIZE HAND WASHING and BENEFIT BEFORE/AFTER SHOWERING, Choreography"** for Resident and Staff into bathroom, to toilet, to sink.
4. **CRITERIA ARE APPLIED TO 95+ % not 50% of the Bathrooms** due to prevalence of assistance, devices and desire to "age in place." The criteria benefit both individual and assisted residents.

See also 3-fixture bathrooms: T, S, Shower.



6/8/2017 Lower Right: Ron Blitch, FAIA, Blitch Knevel Architects with LGHiatt, Ph.D. for Biloxi Veterans, 5'-6" shape modified based on mock-up to 3-Point Turn; Replicated for Levindale Small Homes, Baltimore, MD, Hord Coplan Macht.

### POSITIONING FIXTURES: Self-Transfer and the Potential for Extending this Option for More Elders (e.g., Reducing “Excess Toileting Disability.”)



#### ADVANTAGES OF FIXTURES FACING ENTRY AND ADEQUATE FLOOR SPACE

- Both ADA examples indicate the limitations of floor area available if the resident/use moved with typical arm/shoulder and wrist strength.

#### Self-propulsion in Health Care and Assisted Living:

- More likely a 3-point turn, wheelchair at a diagonal to water closet (facing the toilet; rare to back in).
- *Least likely a parallel or side transfer.* Source: *Nursing Home Renovation, Designed for Reform, 2000.*

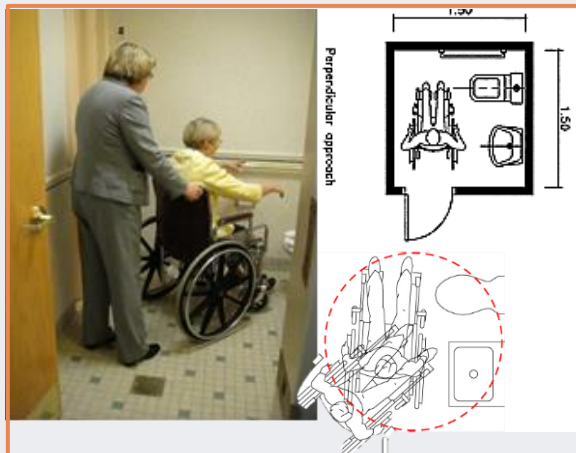
*OBSERVATION: ADA configurations and floor area criteria have not accurately addressed self transfer of older persons (body movement, strength, floor space and device sizes).*

### FIXTURE PLACEMENT: One-Staff for Resident Assisted Transfer – Challenges of Toilet at Right Angle to Entry (Perpendicular Transfer)

- Requires turn, complicates movements for both resident and staff.
- Space on wall side and rail access particularly difficult, time consuming.
- Some evidence of higher rates of resident and of staff injury.

Note: Where right angle toilets are planned...

- Additional space across from the toilet and fold down rails with additional wall side clearances *may* work in larger bathrooms.
- Door swing in or out becomes an obstacle to wheelchair rotation in the space available. See surface sliders/barn doors.



Post Occupancy study, ADA compliant 3 fixture bathroom, Parker Evergreen Way. Finding used for Parker at Monroe configuration.

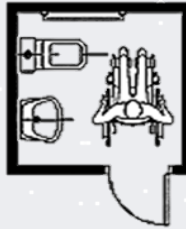
## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### FIXTURE PLACEMENT:

**2 Staff Assistants ; 2-Fixture Bathroom, Post Occupancy Study Perpendicular Fixtures.**

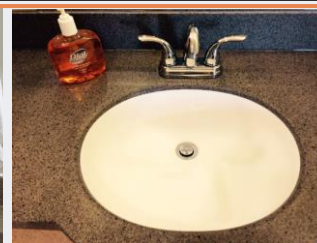
- ❑ Staff stand and bend in the process of safe transfer.
- ❑ Space should inspire the options for “neutral spine” and staff “wide base stance”. --Bacs not shown at neutral positions.
- ❑ The wheelchair positioning is key to the transfer. Placement shown in ADA AG example is not consistent with actual use.
- ❑ Note: Sink on the same wall as toilet is complicated...



Mock-up study, Armed Forces Retirement Center. Resident assistant and in-service ADL instructor are providing assistance.

### BIO-CARE and SINK AREA ENHANCEMENT: Access Value Added

- Vanities to pull under; no structure or “apron” as a barrier to sink use.
- Integrated grab rail.
- Drain to the back rather than center, pulling plumbing back and away from knees.
- Top Right: Sundry Storage per individual safety and access.
- Reachable cosmetics and grooming implements.
- Mirror to splash guard rather than space between mirror and splash guard (easy cleaning).
- “W” style grab or zig-zag verticals to reduce potential to slip down the rail (despite knurling).
- Lessons learned: avoid storage over toilet.



Sink drain to back (improve space with pipes to back).

© Parker at Monroe, NJ, Spiegle Architectural Group with LG Hiatt, Ph.D.



Waveny Care, New Canaan, CT, RLPS with LG Hiatt, Ph.D.

## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### WHAT DO STAFF DO THAT REQUIRES SPACE ON EITHER SIDE OF TOILET?

1. **Assess** user's strengths, favored side; stability.
2. **Navigate** person and any device through entry
3. **Face or Turn 90° to Face/Orient to Fixture.**
4. **Reposition**, turn, align.
5. **Relocate any device** away from footwork area.
6. **Steady** the resident from standing to seating;
7. **Align** hands/shoulders with weight centered "low"  
*Resident often uses two well placed folding grab bars.*
8. Guide a "palates" safe "squat" onto toilet.
9. Provide **hygienic** care as needed to resident and hand wash self.
10. **Reposition device or chair;**
11. Guide through a "scoot forward" to re-center weight ideally using **dual rails** to best position user's arms, shoulders and anticipate rise-to-lift.
12. Drop lid and flush (to avoid airborne splash/spray) \*
13. Guide "sit-to-stand" from **favored side.**
14. Redirect/position person and device to align with hand-washing, possible grooming and exit.



**STAFF MOVE ABOUT TO STEADY and ASSIST.** Source: Glendale, Schenectady, NY. Mock-up study yielding measurements, Angerme Architects with LG Hiatt, Ph.D. See:

[http://www.thiscaringhome.org/spec\\_concerns/vid\\_7\\_bodymechanicsdemo.php](http://www.thiscaringhome.org/spec_concerns/vid_7_bodymechanicsdemo.php)  
"The Golden Rules of Safe Transfer"

\* Equivalent facilitation is also being used for "macerators" to avoid exposure to bedpans or similar human waste.

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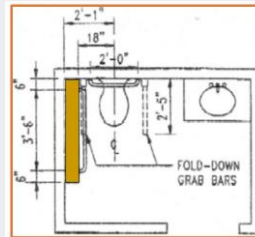
### ARRIVING AT CONSENSUS: Support and Compromise

From CMS 2010: Interpretive Guidelines of the State Operations Manual Appendix PP - Guidance to Surveyors for Long Term Care Facilities states:

- "The facility should be sensitive to the trauma a move or change of roommate causes some residents, and should attempt to be as accommodating as possible." (Interpretive Guidelines §483.15(e)(2)).
- While not all moves can be avoided, a poorly designed bathroom with limited purpose should not be the cause for such a disruption in one's life. Furthermore, a move to another bathroom may not be feasible when a more appropriate one is not available.

**Note: WI has been a long-time proponent of *reducing* relocation trauma.**

INSIGHTS NYS Veterans Home, Montrose.  
ARGUMENTS FOR 95+ % of dual hinged rails and staff space on either side *rather than 50%.*



Martin H. Cohen,  
FAIA with Perkins  
Eastman  
and LG Hiatt, 2000.

Evidence based finding: these "banked" ADA walls were never used.



## BATHROOMS for VITALITY In AGING and CAREGIVING

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### SURFACE SLIDING DOORS: Wide and Clear Entry/Exit for Independence, Assists and Device Use

**SURFACE SLIDING OR "BARN DOORS"** have been used in nursing homes since the 1980's. They are common in Veterans Homes and newer small house designs.\*

#### THE INNOVATION OUTCOMES IDENTIFIED:

- Wider entries streamline access of resident and staff, accommodate larger wheelchairs and floor or ceiling lifts and overcome door swing impediments. Hardware is provided on both sides.
- Surface sliders can be safely pried open should someone fall against it.
- Surface sliders are cleaner, less likely to trap dust, etc. than are "pocket" style doors.

#### Installation Details:

- Top Right: Flush mounted to minimize damage and allow furnishing options.
- Popularity has resulted in improved suspension hardware, superior to earlier folding doors.

**Construction Consideration.** Historically, plumbing was "back-to-back"; however, this often complicated maintenance. The overall design of *nested* bathrooms saves construction cost (corridor length due to the vestibule). Nested showers do achieve plumbing advantages.



Left: Door widths of 42+'' clear allow staff to push from behind and moved past and around the wheelchair for positioning the next transfer procedures. AFRH, Post Occupancy Study.  
Right: Village Shalom, Kansas City, KS, Nelson+Tremain, 1998



\*Variations of surface sliders include bi-pass or "slide-by" doors in renovations and configurations where a wider opening is desired but insufficient wall space is available for stacking when open. Saint Margaret's, New Orleans, 2015, Blich+Knevel.

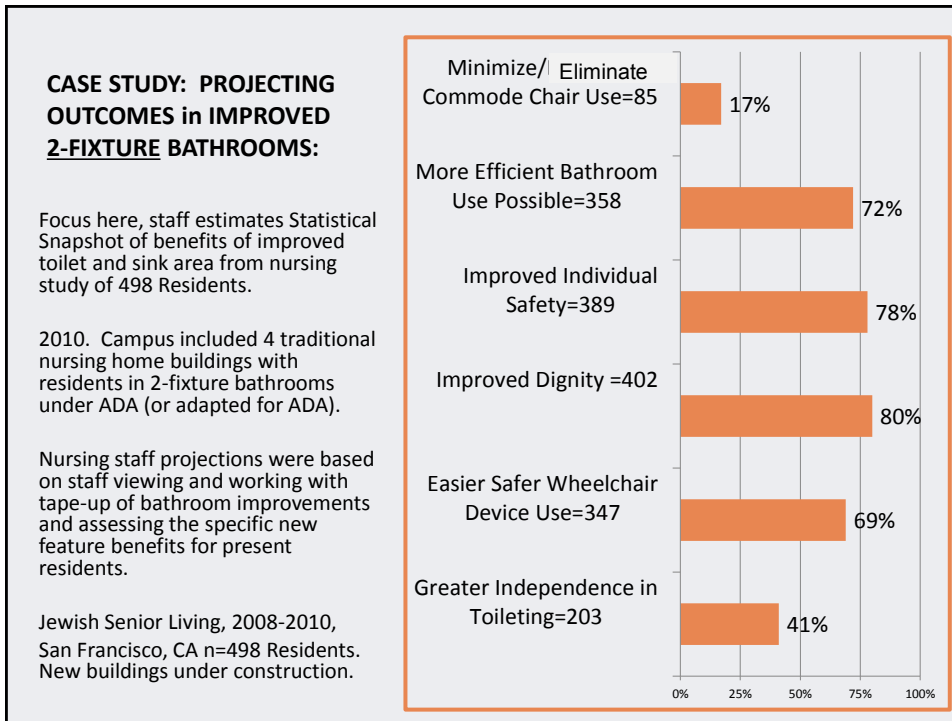
### ONE BATHROOM CONFIGURATION, ACCOMMODATING MULTIPLE COMBINATIONS OF INDEPENDENCE/ASSISTANCE, DEVICE USES AND TRANSFER METHODS.



©Parker at Monroe, Monroe, NJ; Spiegle Architectural Group with LG Hiatt, Ph.D.

## BATHROOMS for VITALITY In AGING and CAREGIVING

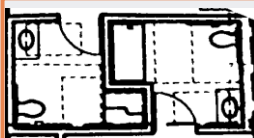
Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)




## SHOWERS: OPTIMIZING SAFETY FOR RESIDENTS/USERS AND STAFF



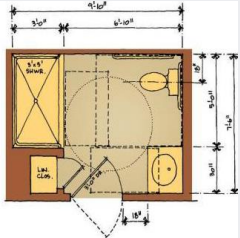
### SHOWER CONFIGURATIONS



**Nested Showers ADA Square and Rectangular**

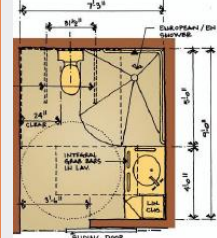


**4 EXAMPLES CONSISTENT WITH ADA**



9'-6" X 7'-6" = 71 NSF

**ZERO ENTRY SHOWER**  
(EUA/ Rothschild, 2012)



Above 7'-3" X 9'-0" 65 NSF

**Shower Configurations approved under ADA include:**  
 Far Left Above: Square and rectangular shower.  
 Far Left Both: "Nested" Showers to reduce overall GSF.  
 Center Left, Right and Far Right: Shower Controls Consistent with ADA.  
**Developments Proposed and in Selective Use**  
 Far Right: Zero Entry Shower. (Note space re: dual rails).  
**Lessons Learned:** Difficulty in water management of collapsible "dam." Far Right: Shower Controls at back of bathroom; mock-up led to extra vertical at exit. Note sites permitted to omit bench by including shower chairs for each shower (See Exhibits); here NJ, IN, PA.

6/8/2017

Left Top: Parker Evergreen Way, Piscataway, NJ  
 Left Below: Mease Manor, Slaton+Architect with LG Hiatt, Ph.D.;  
 Left Center: Peabody, No. Manchester, IN; RLP with LG Hiatt, Ph.D. ;  
 Far Right and Right Center, Andrew Alden, FAIA, EUA/Rothschild, 2012

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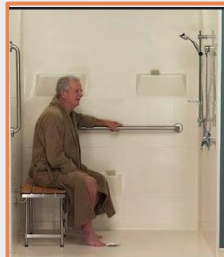
### SHOWER: Evidence Based Improvements for Independent AND Assisted Older Adults\*

**FOR SHOWERING**


- Shower wand/head is often **too far** from seated user;
- Benches are not designed for variations in positioning. Lack of 2-sided arm supports and the option to also lean forward to rails would improve needs to steady one's self
- Wall side seating independent or assisted showering of the full body. Movements are often de-stabilizing as limbs and thighs, etc. are cleansed.
- Showering is not passive and requires moving the torso, limbs, neck and head**
- ✓ Improvements: configurations accommodating movements and or *rotating* the person showered in a sturdy wheeled shower chair with armrests.
- ✓ Controls at the front entry are located for independent and staff assisted users to improve water/temperature control.

**FOR WATER MANAGEMENT**

- Spraying from distances increases risk of wet "dry dock."
- Cable/hose is often too short to reach around entire body, especially in the ADA depicted seating positions. Drain is at the center, under the stepping area.
- ✓ Pressure valve (water source) is can be installed lower, adding cable access and use.
- ✓ Draining at the back wall or back corner would be an improvement. Examples follow.



**Stock Pre-fab Shower.**  
Designed to ADAAG dimensions.



**GOAL: WET AREA**  
**GOAL: DRY DOCK**

Configurations that define a wet/moist vs. "dry dock" area add safe footing. This has been done without adding curbs or similar barriers to the wheeled chair.

\* All suggestions above were proposed by caregiving and maintenance staff in post-occupancy or mock-up studies.

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## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

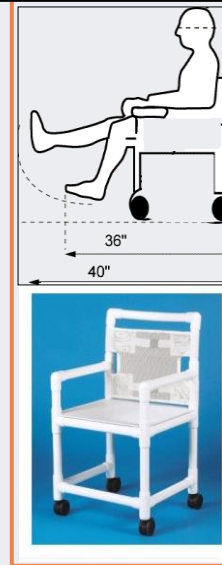
### SHOWER IMPROVEMENTS, ACCEPTED IN LA, NJ, RI, FL

#### NEEDS

- In licensed nursing 95% of the residents are likely assisted with showering/bathing.
- For assisted living, showering is one of the most frequently required 1 to 1 ADL assist.
- "Standing balance, coordination and stability improve with 2-hand grip and feet in comfortable position. (Dekker, 2007; Bernardi, 2004; Morgan, 2010).

#### LESSONS LEARNED:

- ✓ Sturdy positionable shower chair with arm rests
- ✓ Rotate the resident in the shower.
- ✓ Focus staff foot work in the "dry dock."
- ✓ Residents may elect to may face out, in or toward one side.
- ✓ Wall mounted horizontal and vertical bars add safety for "presenting" body parts for bio-care.
- ✓ Zero entry showers may afford ease of access, but can add to water management problems (from shower to bathroom floor).



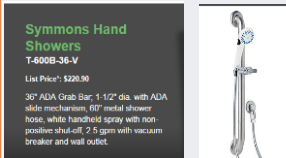
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### USER ACCESS and WATER MANAGEMENT:



**Sample Sources:** Alsons, Moen, Delta, Symmons, Speakman. Products must be reviewed and selected per functionality/structural considerations for each site.



#### 2.4-2.2.9 Grab Bars

\*2.4-2.2.9.1 Grab bars shall comply with all local, state, and federal requirements.

\*2.4-2.2.9.2 Grab bars shall be installed in all resident toilet rooms, showers, and bathing facilities.

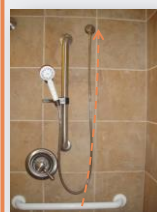
(1) Space for transfers. If residents will require a physical lift by two staff members, toilets used by residents shall have a minimum of 2 feet 6 inches (78.2 centimeters) from the centerline of the toilet bowl to the wall.

(2) Alternative grab bar configurations

(a) When residents can undertake independent transfers, alternative grab bar configurations shall be permitted.

(b) Evaluation of the care population shall be considered in determining alternative grab bar configurations that meet specific resident needs.

\*2.4-2.2.9.3 For wall-mounted grab bars, a minimum clearance of 1.5 inches (3.81 centimeters) from walls shall be provided.



Water Source  
"Vacuum Breaker"



#### Left, Above: Typical Mounting at Back

**Wall As for Independent User.** Source: Rockville Mennonite, Sellersville, PA; *No identified process for Equivalent Facilitation, 2008-9 in PA, SFCS.*

#### LESSONS LEARNED POE:

- Cable/cord/hose is too short...
- Water control is out of assistant's reach unless he/she enters shower.
- Handheld shower often dropped by assistant OR resident/user

#### SOLUTIONS (Left, Below).

- Low installation of vacuum breaker (water source).
- Controls reachable by resident/user and staff.

#### Left, Below: Improved Vacuum Breaker (Water Source) Hardware Mounting:

Controls based on resident use, (toward back) not at front for resident/staff use. Source: Parker at Monroe, NJ, Spiezle Architecture Group w/LG Hiatt, Ph.D.; included in Eq. Facilitation.

**BOTH:** Vertical and horizontal bars are blocked and designed as ADA supports, including the shower wand hardware.

## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### EVOLUTION OF THE FUNCTIONAL SHAPE OF SHOWERS: Improving Configuration and Water Management: Angle Wall and Trapezoid Configurations

**WHAT:** Shapes of showers have been changing to:

**Provide these Functions:**

- A wide "assistance" "dry dock" zone for staff foot work (or resident exiting).
- Narrower area toward back offering grab bars for steadying or "leaning forward" (dignified hygiene of private body areas).
- Space to rotate the sturdy wheeled shower chair from left to right while capturing and directing water to drain away from either user.
- The angled walls forming a trapezoid shape and drain at back or back corner help sheet and collect water away resident or staff.
- Floor may be gently sloped across the bathroom to further contribute to water management.  
*These choices have product implications; pre-fab showers have not yet been designed to match the criteria.*
- Deeper 4.5'-5' depth to accommodate person in chair and body mechanics of assistant(s).
- "Dry dock" foot work area is identified for staff assists assistance which may be accomplished with continuous sheet rubber or similar floor covering.
- Controls at the front.

**RESULTS SOUGHT:** MANAGING WATER, IMPROVING STAFF SAFE Footing and Upper Body Movements.

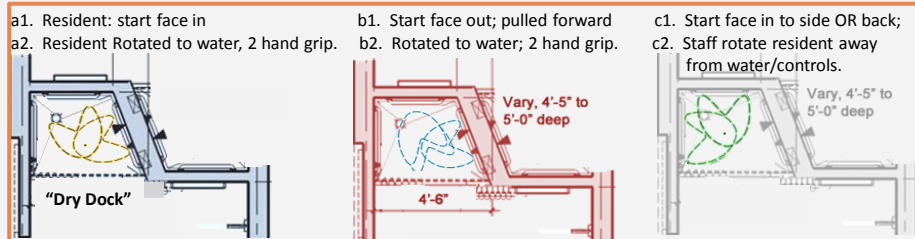


Image Source: Mock-up Studies, ©Parker at Monroe, Piscataway, NY; Spiezel Architectural Group with LG Hiatt, Ph.D.

#### Case Example: Improvements from Mock-up Studies of Use:

Based on this mock-up, staff foot work was observed. The goal was to "make it easy" to distinguish the floor in terms of a wet vs. "dry dock" work area at the entry.

Following a series of observations of different uses/users and staff, this shower depth was increased to more effectively delineate a wet vs "dry dock" work area at the entry; controls were moved to the front; soap, grab rail positions, towel rack and shower curtain design were improved.



**FOR STAFF:** Dry dock, easy footwork, streamlined access to the resident/user who is secure/stable at all time and in position for 2-hand grip as needed.

#### 1. Transfer Procedures

- Assistant accompanies resident (transfers from walker, wheelchair or standing to toilet then shower chair. Resident on toilet for staff to manage chair/walker and shower chair)
- Assistant transfers resident in shower chair and directly into toilet and then to shower; or
- Floor or overhead lifts use to toilet then to shower chair.

**2. Safe Body Mechanics:** Neutral Back, Minimal Twisting, Bending, Entering Wet Area or Lifting.

**RESIDENT SEATED SHOWERS:** Transfer, 2-hand grip and resident-preferred focal points.

#### A. Back Resident In (using chair armrests).

- Respond to water temperature sensitivities: start with limbs;
- Rotate toward water controls to complete torso, upper body and head/face.
- Water off; dry feet, limbs in shower, complete body in dry dock area of floor.

#### B. Shower Participation/ Dignity

- In at an angle: resident manages privates (with wash cloth) while staff attend to back.
- Chair repositioned toward water for completion of front and limbs.

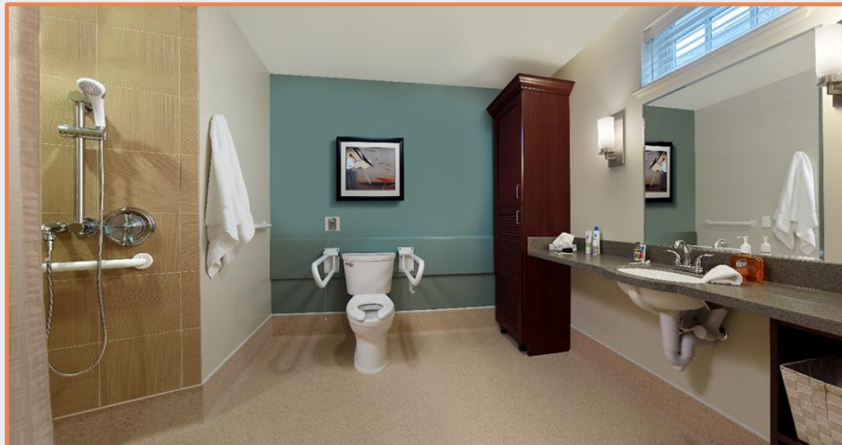
#### C. Simplify View/Grasping for Orient Cognitively Impaired Individual:

- In facing staff on wall with no water control or source, away from shower cable.
- Minimize risks and miscues.

## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

ONE BATHROOM CONFIGURATION, ACCOMMODATING MULTIPLE COMBINATIONS OF INDEPENDENCE/ASSISTANCE, DEVICE USES AND TRANSFER METHODS.



©Parker at Monroe, Monroe, NJ; Spiegle Architectural Group with LG Hiatt, Ph.D.



**BIO-CARE:** Accommodating Clean & Soiled Linen and Supplies and Precautions.

### LINEN/Clean Supply (STAFF USE)

- Clean linen, separate from soiled in bathroom cupboard (upper cabinets).
  - Gloves in brackets under sink.

### SOILED LINEN (lower cabinet)

- Soiled cloth in covered, plastic lined containers, moved to soiled linen room.
- Ventilation at open bottom, door undercut.
- Soiled paper (disposable briefs) in container under counter if needed (shown top left mock-up).

**RESIDENT USE:** Grooming in accessible basket per care plan.

- Tall basket placed on where most convenient during use.
- Grooming chemicals can be kept in cabinet which can be locked.



©Parker at Monroe, Monroe, NJ; Spiegle Architectural Group with LG Hiatt, Ph.D.

## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

<p><b>Functional Criteria:</b></p> <p><b>Ability to Accommodate Human Variations</b></p> <ol style="list-style-type: none"> <li>1. Upper body/shoulder and arm use;</li> <li>2. Strength: shoulders, weight bearing; wrist</li> <li>3. 2-Hands on support rail(s),</li> <li>4. Hip/torso safety in rotation</li> <li>5. Foot work and weight distribution</li> <li>6. Balanced for lowering and rising.</li> <li>7. Confidence in bathroom use with/without assists.</li> <li>8. Ease of staff movements around residents.</li> </ol> <p>Possible special dimensions but similar criteria for bariatric care. See bibliography.</p> <p>6/8/2017</p>	<p><b>Increased/Improve:</b></p> <ol style="list-style-type: none"> <li>1. Safety and comfort; "toilet ability"</li> <li>2. Toilet ability; e.g., toilet use vs. incontinence products alone</li> <li>3. Stable transitions onto and off of the toilet</li> <li>4. Features usable despite variations in:             <ul style="list-style-type: none"> <li>• upper body/shoulder and arm/wrist strength,</li> <li>• hip/torso rotation; and in</li> <li>• footwork/weight distribution and balance.</li> </ul> </li> <li>5. Increased shower safety</li> <li>6. Improved compliance with hand washing</li> <li>7. Enhanced resident dignity</li> <li>8. Improved environment with flushed waste vs. use of incontinence products</li> <li>9. <b>Decrease</b> <ul style="list-style-type: none"> <li>• Episodes of incontinence; skin breakdown.</li> <li>• Toileting "disability."</li> <li>• Falls, injury in falls</li> <li>• "Jiggering" wheelchair into positions</li> <li>• In one study, laundry costs reduced 40% with single room toilets as discussed.</li> </ul> </li> </ol> <p style="text-align: right;">39</p>
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## PROVIDER EQUIVALENT FACILITATION SUBMISSION OUTLINES\* AND AJH'S RESPONSE

PROVIDER AND AHJ CORRESPONDENCE  
*SEE SEPARATE EXHIBIT ON SPONSOR'S  
DOCUMENTATION*

Equivalent facilitation, to date, is granted to single sponsors/sites. Each submission is prepared for that sponsor, it's population, it's design features and state language/process.



BATHROOMS for VITALITY In AGING and CAREGIVING  
Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

**EXAMPLE: Louisiana Process for Equivalent Facilitation and Endorsement to Proceed: Step #1, Plans Submitted, Reviewed and State Requests Information...**

Rec'd 6-Jun-11

**STATE OF LOUISIANA**  
Department of Public Safety and Corrections  
Office of State Fire Marshal Code Enforcement and Building Safety  
8181 Independence Boulevard  
Baton Rouge, Louisiana 70806  
(225) 382-4222

**INFORMATION REQUEST  
NOT - FOR - PERMITTING**

RONALD B. BLITCH  
BLITCH BROWNING ARCHITECTS, INC.  
757 ST CHARLES AVE  
NEW ORLEANS, LA 70113

RE: P039817  
ST. MARGARET'S AT MERCY -  
REPLACEMENT FACILITY  
3525 BIENVILLE STREET  
NEW ORLEANS, 70119

REPA 101, 208  
NURSING HOME

Dear Applicant:

Additional information is required to permit a proper review. The project referenced above is being held pending submission of the following information:

- RE 40-1374 and/or RS 40-178A, A. Additional drawings and/or specifications are required:
  - RE 18.1.4 Minimum construction shall be Type II (II). Parish street assembly design by an approved independent testing laboratory such as Underwriters Laboratories or Factory Mutual. Materials, ducts, tight fittings, etc. shall comply with the assembly design.
  - RE 18.2.2 If the relative-rated building assemblies shall be of a design that has been tested and listed by an approved testing laboratory for the intended application. (NFPA 2013-12 does not permit variations from test assemblies).
    - IDENTIFY the listed assemblies that are properly tested by Underwriters Laboratories (UL), Factory Mutual (FM), or other approved testing laboratories, in writing to this reviewer PRIOR TO CONSTRUCTION (include the project ID# number assigned to this review that is referenced at the beginning of the review. Please be advised that a failure to provide the information is a fire safety matter and can constitute delays at that inspection and may adversely impact subsequent necessary (PROVIDE A LIST OF THE FIRE RATED ROOF / CEILING ASSEMBLY, ONE HOUR FIRE RATED GLOVE CLOTHING ASSEMBLY, ONE HOUR FIRE RATED BEAMS, AND ONE HOUR FIRE RATED COLUMNS).
    - RE 40-1374 (Effective 8/25/95) Provide access for persons with disabilities in accordance with ADA-AG Accessibility Guidelines - September 1994. This does not include a check for compliance with the Federal Americans with Disabilities (Civil Rights) Act of 1990. Compliance with state regulations and requirements shall be in accordance with federal law. Particular deficiencies and paragraph references are noted as follows:

Jun 2, 2011  
P039817 - PAGE 1

**2. NOTE: Please ENCLOSE A COPY OF THIS LETTER WITH FUTURE SUBMITTALS OR OTHER CORRESPONDENCE pertaining to this project.**

Due to the lack of information, the referenced project has NOT been reviewed. Please direct the requested information to my attention. Processing will continue upon receipt of the information requested above. Enclose a copy of this letter with future submittals and/or other correspondence pertaining to this project.

This project will be returned as "NOT IN COMPLIANCE" if the requested information is not received by this office within 21 days of the date of this letter, thereby requiring a RESUBMITTAL of the entire project along with a new completed application and appropriate review fee.

CONSTRUCTION IS NOT AUTHORIZED until a satisfactory review has been performed and a formal review letter has been issued by this office.

REVIEWED BY:  
GORDON CAMERON  
ARCHITECT

CC:  
St. Margaret's Daughters Home  
Healthcare District\* 2259254270  
State Plumbing Board Of Louisiana\*  
Bisola Dianne  
New Orleans Fire Department\*

See Next Page. After Detailed Functional Description of Users (Residents and Staff), feature itemization with references, illustrations and references were submitted, the project design proceeded through Equivalent Facilitation.

6/8/201741

**EXAMPLE OF STATE RESPONSE, Louisiana**

**DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONS**  
Public Safety Services  
July 25, 2011

BORRY JINDAL  
Governor

Ronald B. Blitch, FAIA, FACHA  
Blitch Knevel Architects, Inc.  
757 St. Charles Avenue  
New Orleans, LA 70119

RE: P039817, Appeal 6810  
St. Margaret's at Mercy - Replacement Facility  
3525 Bienville St.  
New Orleans, LA 70119

**Code Reference:**  
The American's with Disabilities Act Accessibility Guidelines (ADAAG), September 1994 edition

Dear Mr. Blitch:

This office is in receipt of your July 6, 2011, appeal concerning accessible bathroom features required for persons with disabilities at the referenced facility, and after review, makes the following observations and determination.

Pursuant to LA R.S. 40:1731, et seq., new facilities shall be made accessible to disabled individuals, in accordance with the Americans with Disabilities Act, Accessibility Guidelines (ADA-AG) Section 4.1.3 Accessible Buildings: New Construction. ADA-AG Section 4.16.4 requires toilet room grab bars to comply with 4.26 and Figure 29, ADA-AG Section 4.23 requires shower stalls to comply with 4.21 and Figure 35, and ADA-AG Section 4.16C and 4.17.2 requires accessible toilets to be installed in compliance with Figures 28 & 29.

You have attached a letter from Environmental Gerontologist Consultant, Dr. Lorraine G. Hiatt, Ph.D. in which alternative design conditions are proposed for the above mentioned bathroom conditions. Research documentation provider supports the proposed alternative results for bathroom users, shower users, and those assisting such users are furnished. You request a variance to the code requirement for standard ADAAG grab bars and mounting locations, standard ADAAG toilet locations, and standard ADAAG shower configuration at each resident bathroom. The supplemental information provided is regarded as your own statement as to the facts and conclusions contained therein.

This office is required by LA R.S. 40:1737 to consult with the Office of Rehabilitation Services, regarding interpretive issues or appeals pertaining to accessibility for persons with disabilities. After consultation with Mr. John Schweitzer, Rehabilitation Technology Program Coordinator with the Office of Rehabilitation Services, this office grants the requested appeal, subject to the following stipulations:

"In Yours Working?"  
Smoke Detectors Show Listed  
OFFICE OF THE STATE FIRE MARSHAL  
8181 INDEPENDENCE BOULEVARD, BATON ROUGE, LA 70806  
(225) 935-4811 1-800-556-5426


Ronald B. Blitch, FAIA, FACHA  
July 25, 2011  
Page 2

- If a complaint is received by an individual with disabilities, claiming discrimination in hiring or pertaining to difficulty accessing the facility, this office reserves the right to investigate the complaint and, if justified, require the facility to comply with the accessibility requirements enforced by this office.
- Adequate staff shall be on hand at all times to assist the residents with using the shower and toilet in each resident bathroom.

Please note that this document addresses the requirements to comply with state regulations and does not guarantee or attempt to circumvent compliance with federal law.

Please be advised that the above determination is the opinion of this office based on a review of your request for appeal and the requirements of the adopted codes and regulations, and shall not be arbitrarily applied to other projects. This determination shall remain valid as long as the provisions of this determination are provided and maintained.

Please enclose a copy of this letter with any future correspondence pertaining to this project. If you have further questions or need additional clarification, please feel free to contact this office.

Sincerely,  
  
H. Blitch Browning  
State Fire Marshal

HBB/GBC/em

c: St. Margaret's Daughters Home  
Don Zeringue  
John Schweitzer  
New Orleans District Office  
Gordon Cameron

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6/8/201742

## EXAMPLE OF EQUIVALENT FACILITATION INTRODUCTORY STATEMENT: Toilet Use Area

**“THE DESIGN FEATURES INCORPORATED IN THE SUBMITTED {SITE NAME, LOCATION} BATHROOMS/ SHOWERS RESPOND TO FUNCTIONAL PROGRAM PER FACILITY GUIDELINES INSTITUTE ([WWW.FGI-GUIDELINES.COM](http://WWW.FGI-GUIDELINES.COM)) SEE ALSO WI SUPPORTING DOCUMENTATION REQUEST.**

**Actual user profiles have been addressed for the nine (9) documented styles of nursing home bathroom use and toilet transfer (Table No.).**

Improvements proposed and illustrated in the attached documentation are consistent with best practices in nursing home AND assisted living care:

- 1. The size and shape of the bathroom have been designed to accommodate patterns of actual use, devices used and the safety of both individual and caregiver.**
- 2. The toilet area responds to the users and patterns of use:**
  - Access on both sides of the toilet has been increased.
  - Floor space has been created to allow **5'-6"** turning circle responding to the sweep of newer wheelchairs and space needs of 1-2 caregivers expediting movements from entry to seating; accommodating users elbows and footwork/positioning and safe handling for 1-2 staff assistant(s). A protocol of these steps is included.
  - The entryway has been improved to allow staff to assist or push a resident in a wheelchair into the bathroom, close the door for privacy as required, and move around either side of the wheelchair, consistent with the remaining strength of the individual.

NOTE: The back-wall “gentleman’s” rail is omitted due to superior location and increased options for hinged grab rails installed in the back wall and placed into the secure fold up position.

*Source: LG Hiatt, Ph.D. Example tailored to specifics; used for PA, NV, FL, MS, LA,*

## EXAMPLE OF EQUIVALENT FACILITATION DETAILS SUBMITTED: Showers

**THE DESIGN FEATURES INCORPORATED IN THE SUBMITTED {SITE NAME, LOCATIONS} BATHROOMS/ SHOWERS RESPOND TO FUNCTIONAL PROGRAM PER FACILITY GUIDELINES INSTITUTE [WWW.FGI-GUIDELINES.COM](http://WWW.FGI-GUIDELINES.COM)**

“Improvements proposed and illustrated in the attached documentation are consistent with best practices in nursing home AND assisted living care (e.g., Include USER FUNCTIONAL DATA Resident/Staff Assisted Transfers and staff assistance during showering). Include: feature description/citation, annotated floor plan and interior walls/equipment documentation.

**Specific Features in Our Design Proposed . Example:** A safer shower size and configuration that responds to assisted and/or independent use, affording superior features responding to elders needs/capabilities not clearly incorporated in ADA Architectural Guides. The shower incorporates newer, safety equipment and installation/locations and clearances:

- Shower is sized and configured for staff-assisted showering around all sides of the body and for cleansing limbs within the shower space and configuration.
- Resident is typically seated in a sturdy shower chair, with armrests; additional installed rails are incorporated, both horizontal and vertical to facilitate the process of showering and mitigate resident/users dignity, comfort and stability. The depth of the shower allows a The shower chair and arm rests are superior to a fixed bench.
- The floor is gently sloped, with drain located on the back/corner to mitigate and manage water flow into the toilet/sink areas of the bathroom and away from the footwork area used by staff.
- The shape of the shower responds to positioning of the shower chair such that resident has secure options for grabbing during any required lifting of limbs or leaning of torso.
- The shape also provides a “dry dock” area for staff footwork.
- These features allow the individual to be toweled immediately after shower, including feet and footwork area of the floor to minimize staff or resident footwork and transfers on moist/wet floors.
- Water and resident safety are further improved by locating hand-held shower and controls to the front, accessible for either resident or staff use..
- The shower does support an independent user, sitting or standing, though standing use is rare.



**BATHROOMS for VITALITY In AGING and CAREGIVING**

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

**Included in Equivalent Facilitation: Evidence from Mock-up Studies. *State Officials have been invited after initial study/improvements.***

**USER DEFINITION (Top Right)**

1. Array of users and assistants
2. Devices proposed and anticipated for use (actual and projected sizes).
3. Proportions of users of each type.


**2-Dimensional Mock-up (Center):** Observe and document the users anticipated (assistance, devices) according to a "protocol" of bathroom functions (Below).  
**STAFF MUST TEST ANY FEATURES BEFORE RESIDENTS USE.**

**STEPS FOR TYPICAL USER, CHOICES NARRATED BY EXPERIENCED ASSISTANT AND USER COMMENTARY DURING MOCK-UP STUDY (Sometimes Recorded with Permissions of All Involved).**

1. Enter/entrance
2. Conversation about the "route" and rationale.
3. Actual movement: Toilet Access, Transfer, Use, Hygiene, Supply Use and Disposal according to safe movement guidelines.
4. Transfer to Hand wash; personal supplies, mirror, related location/security.
5. Pre-shower, garment management, supplies organization; transfer in positioning; water control/temperature
6. Shower all body (details per shower style and features such as shower chair or bench, rails locations; hand held, security features and drain.
7. Drying, Floor Check, Exit Shower
8. Continue Grooming (at sink);
9. Exit
10. Clean-up including maintenance and housekeeping input.


Bathroom Users	No Device for Walking	Walker, Wheeling Walker	Standard wheelchair	Specialty wheelchair	Shower chair	Shower bench	Shower lift	Escalator	Seated Lift
Individual Elder	✓								
Elder + 1 Assistant					✓				
Elder + 2 Assistants	✓	✓	✓	✓	✓	✓	✓	✓	✓

*Check off users studied in the mock up*




**INNOVATIONS from MOCK-UP STUDIES**

1. Value of the Option of Trapezoid Shape vs. Angle and Open Shower Layouts re: Water Management.
2. Value of resident/users' choice re: facing front, side, back and assistance from front "dry dock."
3. Need for Greater Shower Cable Length;
4. Value of Back vs. Center Drain and
5. Value of Sturdy, Position-able Shower Chair; Depth Shower Chair and Resident Foot Extension
6. Staff Motions, Access to Equipment
7. Depth Also Sheets Water Away from Resident/Staff
8. Value of Moving Controls to Entry Edge.
9. Vertical rails for resident or staff use, blocked vertical for hand held shower (accommodating standing users).
10. Details: Shower Curtain and "Stacking." Hand held clips.



**Left:** Mock-ups for Northern Nevada Veterans Home, Sparks, NV, VanWoert/Bigotti with SFCS, Inc., LG Hiatt, Ph.D. State Official observing from above! Residents, staff and local veterans participated in studies.

**Center Top:** Levindale Hebrew Home, Baltimore, MD, HCM Architects with LG Hiatt, Ph.D. Environmental Gerontology

**Center:** Parker at Monroe: Controls front, drain back, improved depth, drain location and water management.

**Below Right:** Variation on Open Shower, 2-D Mock-up Planning WI Veterans Home, King, WI Epstein Uhen Architects.

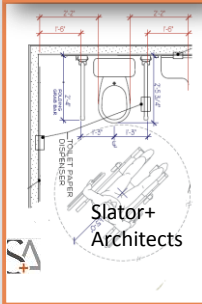
**Below Far Right:** Self-showering difficulties in wand placement, cable and length. POE Peabody, North Manchester, IN.

## BATHROOMS for VITALITY In AGING and CAREGIVING

Consistent with Equivalent Facilitation Americans with Disabilities Act Architectural Guidelines (ADAAG)

### CASE EXAMPLES OF LEADERSHIP,

### COLLABORATION: Mease Manor Memory Care



#### MEASE MANOR MEMORY CARE (Assisted) , DUNEDIN FL:

- Leadership Team: Studied/questioned peer innovations and examples, provided by LG Hiatt, Ph.D. Environmental Gerontologist from US examples with Jack L. Bowersox, AIA.
- President/CEO commissioned staff/design consultant team with Ron Blitch, FAIA, NCARB who had successfully designed elder bathroom improvements and received Equivalent Facilitation.
- Sponsor participated in mock-up study; a package/slides were submitted to the AHJ. **Initial AHJ\* reviewers rejected based on lack of local precedent FL documentation.** Mease leadership identified/moved on to an appeals process.

**ROLES: C-SUITE:** Jack Norton, President/CEO (Ret): Outlined local and state process following a participatory planning process and retained nationally recognized, former FL AHJ Skip Gregory, AIA, code consultant as part of presentation team.

- **MEASE MANOR BOARD:** Apprised of above, recommended contacts, participated in work sessions, approved funding; vetted submissions. Board members attended appeals. **Resident Board Member** gathered peers for Appeal Meeting.

- **ARCHITECTS:** Slator+ Architects enthusiastically co-contributed to Equivalent Facilitation documents; took initiative in researching additional details re: rails; detailed documents/illustrations in formats for communication to Appeals.

- **Luanne Reese Chief Resource Officer:** Addressed and researched details; worked on sources, samples, best pricing, installation alternatives.

**OUTCOME:** Design received unanimous approval and the endorsement to proceed. Meeting minutes: "I don't know why we're not doing this elsewhere! –Board of Appeals Member, Dunedin, FL.

**Note:** This project required BOTH hand drawing and then Revit® tools to achieve its results.

### COST ARGUMENTS

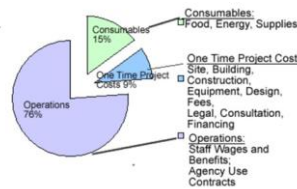
An Environment is present 24 hours a day....

Why has the bathroom become a "Patient," competing with residents for meaningful staff time?

- Environmental design is a one-time capital cost, about 9-12% of life cycle costs (30 years).
- Staffing is an ongoing lifecycle costs of nursing homes and assisted living—estimated at 65%-78% of residential care and nursing home costs, respectively.
- Unnecessary bathroom "gymnastics" take time from other person-focused values of care.

#### Life Cycle Costs of Nursing Homes

Assumes a 30 Year Life Cycle



#### NURSING HOME STUDIES

##### Costs of an Injury

(Average cost of injury with one month of lost workdays.)

##### Direct Costs:

Medical- \$7,000  
 Indemnity- \$11,108  
 Allocated Loss of Expenses- \$1,411

##### Indirect Costs:

Replacement Costs- \$7,350  
 (\$24.50 per hour of productivity loss)  
 (Overtime & Agency Fees)  
 Benefit Continuation- \$635.48  
 Incident Investigation- Salary of six individuals per hour to investigate a claim.  
 Internal Financial Management- Salaries of six individuals per hour.

## THE NEED: EXAMPLES FROM PROVIDERS AT REAL SITES

### ***“Institutionalize ‘improvisation\*’.”***

1. We need to encourage thoughtful innovations, founded on evidence-based design.
2. We need to conduct and share post- occupancy research and critically evaluate/peer review these innovations for continued improvement.
3. More than prototypes alone, we need courageous, well-informed examples for a cross-section of real users in actual settings who are “coached to capability by design.”
4. We need sponsors to be engaged and designers to both “draw out” and take advantage of computer aided design.
5. We need to encourage peers, working through ADA Equivalent Facilitation and FGI tools to build upon each others findings and share the outcomes.

*ADA was developed on the basis of creative improvements Korean War Veterans. Time to update those sources.*



Peer Power Compels

*\*Quip by NY State Attorney's Office Member after an early presentation on bathroom innovations, NY State Veterans Home, Montrose, 1999. Respectfully suggested to advance the vision from Rothschild, 2012.*

### FOR ADDITIONAL INFORMATION

Lorraine G. Hiatt, Ph.D.  
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Planning, Research and Design  
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- BIBLIOGRAPHY
- LIST OF INNOVATIONS TO DATE BY STATE

This presentation is being updated for publication, 2017. Contact for most current version.

We thank those on whose effort and innovation this presentation was developed. Please credit their contributions. Ronald Blitch FAIA, NCARB; SFCS, Slator+Associates, Nelson+Tremain; Hord|Coplan|Macht; Perkins Eastman, Epstein Uhen Architects; Dr. Margaret Calkins, Quinn DiMenna, AIA; VanWoert Bigotti; RLPS, RLF AE, Spieziele Architecture Group; Angerame Architects and Skip Gregory, AIA. (See complete list on Innovations to Date by State).

- Thank you Wisconsin LeadingAge, John Sauer, Director, for the opportunity to outline this information and explore the potential elder care and design implications for residents and staff of licensed nursing homes and assisted living (e.g., in WI “RCAC” and “CBRF”).
- Thank you Saint John's on the Lake for deep interest in this topic and opportunities to understand the issues inspired by the leadership, experience, time and energy of President/CEO Renee Anderson, with John George, Administrator; and the many staff/residents and board members participating and encouraging this effort.
- Thank you Kay Lund, WI Department of Veterans Affairs, Bureau of Budget and Facilities, coordinator for Community living Center, King, WI including detailed staff and resident input on program, design and bathroom details and your architects at EUA who navigated your design initiatives. We acknowledge the role of the FVA and Dennis Hancher, AIA (Ret.) in the VA's advancing criteria for dual rails, space and innovative showers in their Community Living Centers.
- Thank you Parker, Inc. (formerly Francis E. Parker Home), Roberto Muniz, President and your architectural team and staff for adopting this issue and disseminating important changes.
- We remember you David Green for being a pioneer for WI in both functional access, mock-up development and regulatory innovations and you Martin H. Cohen, FAIA for the early regulatory innovations in NY State (with thriving colleagues at FGI, Tom Jung).
- Saint John's on the Lake and WI State Veterans Home have both contributed insights on resident bathroom use including data on mobility, transfer and bathroom use. Both sites have invested in mock-up studies of a cross-section of users (residents and staff).

This is *not* a specific request re: one layout or design, but rather an opportunity to share the evidence-based findings. 5/30/2017

**Description of Project**

Eppstein Uhen Architects (EUA) completed a master plan for the repositioning of the Marquardt Village campus in 2014, identifying the need for a more cohesive community organized around a household concept to connect Marquardt’s collection of detached buildings and care programs.

Phase 1 (complete) consisted of renovating two independent living buildings.

Phase 2 (complete) consisted of adding assisted living (44 residents) with a specialty in memory care & a new amenity based town center.

Phase 3 (ongoing) will add a parking structure

Phase 4 (future date – TBD) will add independent living apartments

Phase 5 (future date – TBD) will provide a new skilled nursing environment.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

The topics below impacted the completed assisted living and will impact the future new skilled nursing.

Topic: Non-operable windows

In memory support environments, openable windows present a hazard by allowing a possible way for cognitively impaired residents to leave the building without supervision (elopement). In addition, residents do not have the cognitive capability to understand the connection between opening a window and the resulting indoor comfort level. Residents will open a window in the winter and wonder why the room is very cold or open the window in the summer and wonder why the room is very hot.

Topic: Swing up grab bars & toilet placement

The product provides a supportive environment for residents and allow them to do for themselves for as long as possible. In addition the bars allow easy assistance from staff, since the bars can be moved out of the way. The swing up grab bars are used in conjunction with a toilet placement that exceeds 18 inches away from the wall. The extra space beside the toilet allows for two staff members to assist a resident (one on each side) and will reduce the occurrence of staff back strains. The use of floor based resident lifts requires additional maneuvering space in the bathroom and is eased by placement of the toilet >18” away from the wall.

**What is the basis of DQA’s denial (ADA/NFPA) section or other regulation or statute?**

Topic: Non-operable windows

DHS 83.6(1) states “The window shall be openable from the inside without the use of tools or keys. The openable area of the window shall be not less than 4% of the floor area of the room.”

Topic: Swing up grab bars & toilet placement

ADA rules / ANSI 117

**Has DQA approved similar projects?**

Topic: Non-operable windows

1. Laurel Grove Assisted Living, Manitowoc, WI
2. Pine Valley Assisted Living, Richland Center, WI

Topic: Swing up grab bars & toilet placement

In years past, DQA has approved the use of swing up grab bars in conjunction with a non-standard ADA toilet placement on several projects. The projects that come to mind:

1. Sharon S. Richardson Hospice in Sheboygan, WI
2. AngelsGrace Hospice in Oconomowoc, WI
3. Clearview Skilled Nursing in Juneau, WI

**What corrective actions might be identified to allow these types of products to be approved?**

Topic: Non-operable windows:

Change the requirements in DHS 83 when dealing with a dementia specific population.

Topic swing up grab bars:

The regulations allow equivalent facilitation as shown by the sections highlighted below. It is within the power of the authority adopting the standards to authorize an equivalency. Power is given to the State of Wisconsin to approve changes in the physical setting to significantly impact the experience of both residents in older adult communities and staff members in older adult communities.

Ansi 117.1 Language (skilled nursing environments)

**103 Compliance Alternatives**

Nothing in this standard is intended to prevent the use of designs, products, or technologies as alternatives to those prescribed by this standard, provided they result in equivalent or greater accessibility and such equivalency is approved by the administrative authority adopting this standard.

ADA Language (skilled nursing & assisted living environments)

**103 Equivalent Facilitation**

Nothing in these requirements prevents the use of designs, products, or technologies as alternatives to those prescribed, provided they result in substantially equivalent or greater *accessibility* and usability.

## Woodside Senior Communities

### **Description of Project**

In 2015 Woodside Senior Communities performed a \$15 Million project to replace/renovate short term care rehabilitation unit, therapy gym, create a 20 unit memory care assisted living facility, renovate SNF memory care unit and perform other targeted renovations. Hoffman was the design/builder on this project.

### **Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

The components questioned and denied by DQA involve the issue of fold down grab bars which were designed and DQA approved for both new rehabilitation unit and for SNF memory care unit renovation. The other associated issue was the 18 inch requirement between toilet and wall which is also an antiquated rule.

The fold down grab bars are a superior product for resident care, safety and independence over the antiquated wall mounted grab bar by side of and back of toilet. These bars allow improved support for resident, the ability to fold up bars out of way in circumstances where not desirable for patient care and safety and are easier to use for resident, thus improving independence. The fold down grab bars and space exceeding 18 inches is also much more conducive to the staff providing patient care including use of lifts which are utilized more frequently on the high acuity patients we serve today.

### **What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

I believe the issue was ADA rules and possibly CMS not having a definition of the new products in regulations. The 50% rule came into play on the issue, therefore we had to revamp enough bathrooms to meet this criteria. I would defer to Hoffman staff as they would have more detailed notes on the specific regulatory issues in play.

### **Has DQA approved similar projects?**

Yes, our SNF memory care unit was previously renovated and all the rooms have the same fold down grab bars which were later denied in the 2015 renovated portion of the unit. In addition, I believe the Bethel rehab unit which was recently constructed in the Oshkosh market contain fold down grab bars as well. Hoffman could verify this as they performed the design/build.

### **What corrective actions might be identified to allow these types of products to be approved?**

1. I am under understanding that Federal law (ADA, CMS) is often used as basis for DQA denials. However, until these rules catch up with current times DQA should approve waivers in such situations where superior new products are brought to market and

maintain/improve safety standards for both residents and work force. Wireless call systems are another area where SNF's cannot utilize a superior product due to antiquated rules.

2. DQA should be held accountable to honor their approvals for projects. In our case, they approved the projects during plan review and then changed their position during walk through.



May 1, 2017

John Sauer  
President/CEO  
Leading Age Wisconsin  
204 South Hamilton Street  
Madison WI 53703

Hello John,

It was a pleasure to speak with you on the phone and again, thank you for the opportunity to help in this cause. It's our pleasure to present **10** projects' narratives for your use in discussions with WI DQA.

As mentioned, we've included the article, O'Connell, Kim. (2017, February) **Access for All. AIA Architect, AIA Feature** 56-58. **See Appendix A.** The article was referenced during the recent annual Wisconsin Code Refresher Course held in Madison WI February 25-27. Ms. Kimberly Paarlberg, Senior Staff Architect, accessibility inspector and plans examiner at the ICC (International Code Council) mentioned the article during her presentation/training to continue to inspire architects, clients and authorities to push the envelope of accessibility requirements.

In a nutshell, the article provides a brief history of ADA/Accessibility and highlights a recent senior living 2016 Rehabilitation Facility project located in Grand Rapids Michigan where the **owner/architect team designed specific non-compliant accessible features, namely fold-down grab bars, their height and their spacing. The project was granted a variance by the Michigan Barrier Free Design Board.** The article serves as a documented case and lends credence to your endeavor, on a national scale. It goes without saying but 'precedence' is huge when proposing code and department operational changes. Every petition submittal encourages studies, articles and precedence. We've subsequently reached out to Kim for other national precedence and will forward her response (see additional email). She also mentioned a recent law suit against the government because an elderly person was injured and trapped when they fell between the toilet, side wall and a fold down grab bar.

Please keep us posted on your efforts and thank you for championing this wonderful cause!

Warmest regards,  
Mark

**Mark J. Robbins** NCARB AIA LEED AP BD+C  
Senior Project Architect  
Hoffman Planning, Design & Construction, Inc.

## **Woodside Senior Communities CBRF & SNF**

**Green Bay WI  
2015 (12841)**

### **Description of Project**

In 2015 Woodside Senior Communities performed a \$15 Million project to replace/renovate short term care rehabilitation unit, therapy gym, create a 20-unit memory care assisted living facility, renovate SNF memory care unit and perform other targeted renovations. Hoffman was the design/builder on this project.

### **Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

The components questioned and denied by DQA involve the issue of fold down grab bars which were designed and DQA approved for both new rehabilitation unit and for SNF memory care unit renovation. The other associated issue was the 18 inch requirement between toilet and wall which is also an antiquated rule.

The fold down grab bars are a superior product for resident care, safety and independence over the antiquated wall mounted grab bar by side of and back of toilet. These bars allow improved support for resident, the ability to fold up bars out of way in circumstances where not desirable for patient care and safety and are easier to use for resident, thus improving independence. The fold down grab bars and space exceeding 18 inches is also much more conducive to the staff providing patient care including use of lifts which are utilized more frequently on the high acuity patients we serve today.

### **What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

I believe the issue was ADA rules and possibly CMS not having a definition of the new products in regulations. The 50% rule came into play on the issue, therefore we had to revamp enough bathrooms to meet this criteria.

### **Has DQA approved similar projects?**

Yes, our SNF memory care unit was previously renovated and all the rooms have the same fold down grab bars which were later denied in the 2015 renovated portion of the unit.

### **What corrective actions might be identified to allow these types of products to be approved?**

1. I am under understanding that Federal law (ADA, CMS) is often used as basis for DQA denials. However, until these rules catch up with current times DQA should approve waivers in such situations where superior new products are brought to market and maintain/improve safety standards for both residents and work force. Wireless call systems are another area where SNF's cannot utilize a superior product due to antiquated rules.
2. DQA should be held accountable to honor their approvals for projects. In our case, they approved the projects during plan review and then changed their position during walk through.

██████████ Oshkosh  
██████████ Homes SNF  
██████████ Rehabilitation SNF  
Oshkosh WI  
2010 (07664)

**Description of Project**

Seeking to expand the services offered at their original campus and remain a leader in senior living care, ██████████ Oshkosh (in Wisconsin) collaborated with Hoffman on the planning, design, and construction of their 77-acre campus, ██████████. The campus features ██████████ Rehabilitation Suites, a state-of-the-art skilled nursing facility for short-term rehabilitation, and two ██████████ Homes—the first facilities of their kind in Wisconsin. The ██████████ Rehabilitation Suites and ██████████ Homes, ██████████ was the first new skilled nursing facility in the state to open under the Property Incentive Program created by the Wisconsin Department of Health Services, which is geared toward new skilled nursing construction that is innovative in design, has 50 beds or fewer, and promotes resident-centered care. The rehabilitation center and the two ██████████ Homes equaled 53,400 sf.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

Fold down grab bars not in question and accepted in both facility types. *See Appendix D.*

**What is the basis of DQA’s denial (ADA/NFPA) section or other regulation or statute?**

Not applicable

**Has DQA approved similar projects?**

**What corrective actions might be identified to allow these types of products to be approved?**

██████████ Place CBRF  
██████████  
Middleton WI  
2007 (04511)

**Description of Project**

Originally founded over 115 years ago by two sisters, ██████████ has withstood the test of time by changing with the growing needs of Dane County, WI. In the late 1990's, this benevolent organization underwent a radical repositioning and, rather than renovate their existing, outdated building on a restricted site, they moved to a new campus where they built ██████████ Place, a facility that provides services for independent living, assisted and skilled nursing needs. The organization saw there was a need to serve residents with high dementia/Alzheimer's disease, and created a smaller space that would offer programming specific to their specialized needs. The ██████████ is a stand-alone building, but it has a services connection to ██████████ Place. Attributes of this 20-unit Community Based Residential Facility (CBRF) include an enclosed courtyard, wandering pathways within the building, a warm and inviting residential feel, flexible spaces for different activities, and a central staff area.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

In assisted living facilities, the nursing staff often needs to assist the residents in getting onto the water closet. In many cases, assisting a resident requires two individuals to properly support the weight of the individual being transferred onto the water closet. We shall provide a "swing up" wall mounted grab bars that will allow the resident to access the toilet on their own similar to the code required grab bars or when in the up position will allow the staff safer access to assisting the resident onto the water closet.

**What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

Xxxxxxxx

**Has DQA approved similar projects?**

xxxxxxx

**What corrective actions might be identified to allow these types of products to be approved?**

Xxxxx

██████████ SNF  
West Bend WI  
2003 (03459)

**Description of Project**

In ██████████ continuing care retirement community (CCRC) is home to over 1100 residents and 700 staff. In 2001, they began a strategic planning process that resulted in an innovative repositioning that would better meet market demand, allow for future growth, and address the needs of five organizational target market areas - residents, family, staff, volunteers, and the community at large. The campus master plan included a feasibility study and the reduction of skilled care beds from 415 to 229. The vacated space was used for assisted living units and to create a new entrance that encourages community involvement by providing outreach services in an inviting “Main Street Mall” environment. Outreach services include a medical clinic with nine exam rooms, expanded pharmacy and rehabilitation services, deli, dentist, eye center, gift shop, beauty shop, and travel agency. Construction for this project was divided into two phases allowing resident reservations of Phase I’s 40 units before commencing the next phase. The remaining 14 units were constructed in Phase II. The project area was 95,000 sq. ft. and was completed in 2003.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

The following Questions and Responses were supplied on the eventually approved petition for Variance:

Q. State the code section being petitioned AND the specific condition or issue you are requesting to be covered under this petition for variance.

R. Commerce Chapter 69 ADA Accessibility Guidelines 4.16.4 Grab Bars - wall mounted grab bars verses ‘flip down’ grab bars. Improve function of disabled person transfers in an assisted living arrangement.

Q. Reason why compliance with the code cannot be attained without the variance.

R. This is a preferred mechanism utilized in the method of transfers for the caregivers at Cedar Campuses. This design allows better access for caregivers and is still available to the unassisted residents. This design has also reduced the



frequency of back injuries and has decreased down time of caregivers as provided by the owner.

Q. State your proposed means and rationale of providing equivalent degree of health, safety, or welfare as addressed by the code section petitioned.

R. Per 'Comm. 69.14 Equivalent facilitation' we are proposing the use of an alternate design and are requesting a variance. The residents are elderly and frail with walkers and wheelchairs. In lieu of the ADA wall mounted grab bar configuration we are proposing using back wall mounted flip down grab bars. These will make transfers much easier and with the added space provided at either side of the toilet caregivers are provided more space for assisting residents. In addition, this design has reduced caregiver back injuries. The grab bars may be flipped up or down, as the situation requires.

Q. List attachments to be considered as part of the petitioner's statements (i.e., model code sections, test reports, research articles, expert opinion, previously approved variances, pictures, plans, sketches, etc.).

R. Exhibit 'A' (24 pages) - 'Best Practices in the Design of Toileting and bathing Facilities for Assisted Transfers'.

For reference, we've included the Conclusions and Recommendations part of this report. **See Appendix B.** Full report available upon request.

**What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

None

**Has DQA approved similar projects?**

Was not aware at that time in history if they had approved other fold down grab bars for senior living facilities.

**What corrective actions might be identified to allow these types of products to be approved?**

Not applicable.

████████ Retirement Services SNF

Stoughton WI  
2014 (14927)

**Description of Project**

SNF consisted of skilled nursing room renovations of the existing resident room Toilet Rooms on two floors equaling 17,000 & 18,000 sf. Single (outboard side) fold down grab bars in addition to an existing wall mounted grab bar was allowed.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

DQA accepted non-conforming accessibility elements – single grab bar on side wall with a single fold down grab bar. *See Appendix C* for details.

**What is the basis of DQA’s denial (ADA/NFPA) section or other regulation or statute?**

Not applicable.

**Has DQA approved similar projects?**

Not that we are aware of.

**What corrective actions might be identified to allow these types of products to be approved?**

Not applicable.

**██████████ Pavilion SNF**  
**Arlington Heights, Illinois**  
**2012 (09726)**

**Description of Project**

LLC retained Hoffman to help position ██████████ to respond to ongoing trends and changing market demands. The resulting project consisted of repositioning the existing ██████████ Pavilion’s 252-bed SNF to 240 beds via a reconfigured floor plan and addition which contain 162 private rooms and 78 resident transitional care rooms. The addition also contains expanded resident wellness and therapy programming. The expansion, renovations and transitional care additions total 151,000 sq.ft.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

**What is the basis of DQA’s denial (ADA/NFPA) section or other regulation or statute?**

Not applicable as the Illinois Department of Public Health accepted fold down grab bars at all resident rooms, and no wall mounted grab bars were required. *See Appendix E.*

**Has DQA (IDPH) approved similar projects?**

Not to our knowledge but we would presume so.

**What corrective actions might be identified to allow these types of products to be approved?**

Not applicable

**Congregation [REDACTED] SNF**

**Wichita, Kansas**

**2013 (14936)**

**Description of Project**

A multi phased and project consisting of skilled nursing, assisted living and main street/offices additions. The skilled nursing facility is 15,817 sf.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

**What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

Not applicable as the Kansas Department of Health accepted fold down grab bars at 50% of resident rooms, with wall mounted grab bars else where. *See Appendix E*. Note resident rooms with fold down and wall mounted grab bars adjacent to one another.

**Has DQA (KDPH) approved similar projects?**

Not to our knowledge but presumed so.

**What corrective actions might be identified to allow these types of products to be approved?**

Not applicable

**[REDACTED] Pavilion SNF**  
**Ottawa, Illinois**  
**2010 (07684)**

**Description of Project**

Hoffman was engaged with [REDACTED] on an effort focusing on renovation and replacement to downsize and upgrade The Pavilion skilled nursing care (new 90 bed SNF); addition of The [REDACTED] assisted living with flexible services to cater to independent needs of residents at the campus; benchmark financial review for long term feasibility; realignment of campus to fit the market. The project consisted of 81,000 sf.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

Not applicable

**What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

*See Appendix G.*

**Has DQA (IDPH) approved similar projects?**

Not to our knowledge but presumed so.

**What corrective actions might be identified to allow these types of products to be approved?**

Not applicable

**OLVM**  
**Huntington Indiana SNF**  
**2016 (15114)**

**Description of Project**

Following a comprehensive evaluation of their mission and vision for their future, the [REDACTED] sisters began the process of divesting themselves of their property to free the younger sisters to focus on their ministry rather than on eldercare and property management. The sisters are adding a new, 40-unit licensed assisted living facility onto their [REDACTED] Building. This, along with 10.6 acres of land, will be owned and operated by [REDACTED] Communities of Fort Wayne to provide care for the sisters and laity. The sisters are creating a land parcel for their cemetery which will be maintained by the diocese. Another 100 acres of prairie and woodland is being sold to ACRES Land Trust to be protected as a nature preserve in perpetuity. The [REDACTED] Center, which offers retreats, spiritual direction and other programming, including social justice advocacy, is being spun off as an independent non-profit with close ties to the sisters. Finally, as the sisters require less space in their motherhouse, portions will be leased to compatible non-profits which were identified by means of a Community Needs Assessment.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

**What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**  
Not applicable. *See Appendix H.*

**Has DQA (IDPH) approved similar projects?**  
Not to our knowledge but presumed so.

**What corrective actions might be identified to allow these types of products to be approved?**  
Not applicable



██████████ Healthcare Center SNF

Menomonee WI

2012 (10731)

**Description of Project**

Hoffman was selected to evaluate all ██████████ facilities to determine if consolidation of various departments would reduce costs and improve operational efficiency. The ██████████ 40-year-old, 137-bed Skilled Health Center was one of the facilities evaluated and determined to be in need of numerous code and maintenance updates. The solution was a new Health Care Center and renovation of the existing Health Care Center into a consolidated ██████████ Office Building. Hoffman submitted three replacement facility proposals to the State of Wisconsin's – Incentive Medicaid Program for consideration and all were awarded to the County. One proposal consisted of a 45-bed Life Care Center to house the old Health Center's administrative and core services, and residents needing the highest level of care. The other two proposals were for 46-bed Life Care Homes. The selected 22-acre site for the new ██████████ Center and Homes — The Neighbors of ██████████ — allows for future continuum of care service expansion on a single campus. It features three facilities housing resident neighborhoods similar in layout to small home designs used in free standing skilled care units. Each neighborhood includes a central gathering area with a dining room, living room, and kitchen. Resident rooms are 100% private with full baths, ceiling tracks, and individual environmental control.

**Why this project, and the components questioned by DQA, is necessary to serve residents and staff?**

Not applicable.

**What is the basis of DQA's denial (ADA/NFPA) section or other regulation or statute?**

Not applicable. *See Appendix J.*

**Has DQA approved similar projects?**

**What corrective actions might be identified to allow these types of products to be approved?**

Not applicable.

## Appendix

### Table of Contents

- A O’Connell, Kim. (2017, February) **Access for All**. *AIA Architect*, *AIA Feature* 56-58.
- B 2001 'Best Practices in the Designing Toileting and Bathing Facilities for Assisted Transferring – Conclusions and Recommendations
- C 2014 [REDACTED] SNF Stoughton, WI
- D 2010 [REDACTED] [REDACTED] Homes and Rehab SNF Oshkosh, WI
- E 2012 [REDACTED] Pavilion SNF Arlington Heights, Illinois
- F 2016 [REDACTED] SNF Wichita, Kansas
- G 2010 [REDACTED] Pavilion SNF Ottawa, Illinois
- H 2016 [REDACTED] SNF Huntington, Indiana
- J 2012 [REDACTED] SNF Menomonee, WI

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