UNIVERSAL DESIGN

Accessibility and the Americans with Disabilities Act

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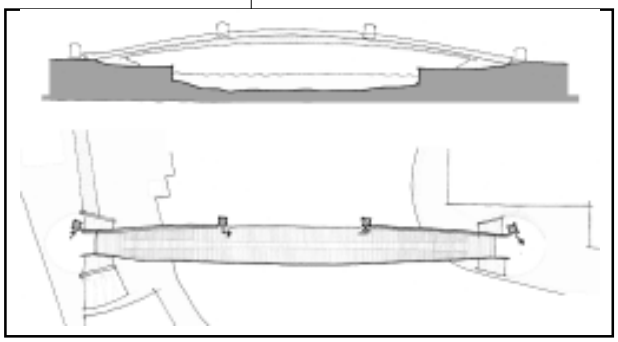
Adapted Design for New Venice Bridge

Bowing to international pressure from architects, designers and disability advocates, the City of Venice has agreed to seek an alternate design for a pedestrian bridge being built on the Canal Grande. When completed, the bridge will be the fourth and the newest structure over the canal. The other three bridges were built in 1588, 1932 and 1934.

Designed by architect Santiago Calatrava, the original specifications for the new bridge's included glass stairs illuminated with embedded fiber optics.



The architect has decided to develop the above solution involving the additon of an elevator-like lift on the northwest side of the bridge. The lift would operate bank to bank outside of the bridge pathway.

Challenges to the bridge design began in January 2002 after an article appeared in a national newspaper in Italy calling attention to its inaccessibility. Word of the inaccessible bridge was spread outside of Italy via the Internet.

The architectural firm HBGroup solicited and collected email from architectural professionals and disability advocates criticizing the bridge design and calling for a halt to construction.

See Venice Bridge, **page 12**

Universal Design in an Historic Theatre

Film Institute Reopens Silver Theatre

Working closely with the Commission on People with Disabilities in Montgomery County, MD, the American Film Institute (AFI) has renovated and expanded the historic Silver Theatre in Silver Spring, MD. The directors of AFI and the Gensler architectural firm made sure that the state-of-the-art, three-theater complex—officially named the AFI Silver Theatre and Cultural Center—included universal design features to provide audiences of all abilities with a comfortable and pleasurable movie-going experience. The facility, which opened in April, will present film and video generally unavailable elsewhere, including independent features, shorts, foreign films, documentaries and classic cinema.

In addition to meeting the requirements mandated by the Americans with Disabilities Act Standards for Acessible Design, the Silver Theatre provides audio description and digital captioning capabilities in all three theaters. Developed by The Media Access Group at WGBH, Boston's public broadcasting station, the Descriptive Video Service (DVS) delivers descriptive narration via infrared systems, enabling blind and visually impaired moviegoers to hear the narration on headsets. Decriptions are narrated and recorded onto an audio platform that can be synchronized to the film as it is projected.

See Silver Theatre, **page 6**

CONTENTS

Is It Within Reach?

Current (and proposed) accessibility criteria create a great deal of confusion regarding what is or is not within the range of reach. The problem is that we have limited data and the make-up of the user population is changing, both in terms of who is the user and what technology they are using.

To determine reach, the height above the floor and the horizontal distance from the user to the item being reached for must be considered.

Height Above the Floor

While the present Americans with Disabilities Act Accessibility Guidelines (ADAAG) allows a 54" high side reach (when a wheelchair space is available within 10" of the object), the proposed ADAAG and the current ICC/ANSI A117.1 Standard allow no reach higher than 48".

A big question is: If the US Architectural & Transportation Barriers Compliance Board (Access Board) lowers the ADAAG maximum reach height from 54" to 48", will the US Department of Justice require existing building owners to meet this standard if the building owner had already lowered objects (such as light switches and fire alarm pull stations) to meet the previous standard?

Horizontal Distance

The horizontal reach distance criteria is integral to reach height and especially confusing. The horizontal reach criteria differ from that for frontal reach for wheelchair approach, and the criteria are also unclear as to how to evaluate reach over an obstruction such as a counter or appliance. The data supporting these criteria are murky because most people can also lean and stretch when reaching.

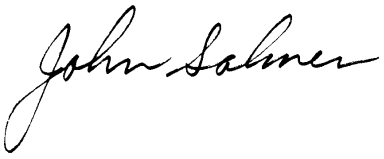
One study of people of short stature concluded that the maximum average horizontal reach was only 13", instead of the 24" allowed by the ADAAG ("Moving Within Reach," Universal Design Newsletter, April 1996, Vol. 2, No. 6).

Best Practice

We at Universal Designers & Consultants Inc. recommend to our clients that new construction be designed to have all controls and operating devices between 36" and 48" above the floor and no more than 12" (horizontally) from the clear floor space where a person might sit in a wheelchair. This places the feature at a height that shorter people and children can reach, while keeping it at a comfortable height for taller people who may have problems bending over.

We recognize that there are occasions where extenuating circumstances may necessitate other arrangements, but this criteria allow normal field construction adjustments and minor errors to be accommodated.

We also recognize that many existing objects and controls may be useable even when they are outside our recommended reach range and would not be a barrier to a person with a disability.



jsalmen@UniversalDesign.com

Duncan Receives Icon of the Industry Award in Education

Richard Duncan, Coordinator of Training at the Center for Universal Design, College of Design at North Carolina State University, was recently awarded the Icon of the Industry Award for Education by the Senior Housing Council of the National Association of Homebuilders.

The award recognizes outstanding contributions having a positive impact on the development of products, industry education or housing options for the mature consumer. Previous recipients include the National Investment Center for Senior Housing and AARP.

The award was presented at the annual Seniors Housing Symposium, Building for Boomers & Beyond: Emerging Trends, Evolving Markets. The event was sponsored by the National Association of Home Builders, Senior Housing Council and held in Palm Springs, California.

For more information please visit the Center for Universal Design at **www.design.ncsu.edu/cud** or the NAHB Senior Housing Council at **www.build4boomers.org**.

Reg/ LegWATCH

Jan Tuck Elected Access Board Chair

Jan Tuck from Marina del Rey, CA, was elected chair of the US Architectural & Transportation Barriers Compliance Board (Access Board) in March.

Tuck, appointed to the Access Board by President Bush last year, is the head of the accessibility compliance program at Princess Cruises. Tuck oversees access to Princess ships, as well as to affiliated hotels, tours, motor coaches, and rail cars. She has worked with the company for 25 years.

Before joining the Access Board, Tuck had served on an advisory committee to explore access to passenger vessels. The Access Board is currently developing draft guidelines on passenger vessels based on recommendations from that committee.

Canadian UD Institute Closes

Citing budget constraints, officials at the University of Manitoba have announced the closing of the Universal Design Institute in Canada.

UDI was a leader in universal design research in Canada, providing advice and research findings to local, provincial, national and international organizations, according to David R. Whitty, Ph.D., dean of the Faculty of Architecture at the university. "Many of its recommendations have had significant effect upon design legislation and practice," he said in a letter announcing the closing. "…the Institute operation in its current form will be discontinued."

In its place, the University of Manitoba Faculty of Architecture is working to establish funding for an Endowed Chair. "An Endowed Chair of $1 million would permit the retention of a research advocate in universal design and would permit the Faculty to build upon its past successes at the UDI," said Whitty. "The Faculty will continue to deliver universal design into the teaching programme."

The former director of the UDI, Laurie Ringaert, was recently appointed director of the Center for Universal Design in Raleigh, N.C.

"Many of its recommendations have had significant effect upon design legislation and practice."

David R. Whitty, Ph.D.
Dean of the Faculty of Architecture,
University of Manitoba

Ostroff and Kose Honored for Inclusive Design

Elaine Ostroff and Satoshi Kose were recently honored at Include 2003, an international conference at the Royal College of Art in London. Include 2003, organized by the Helen Hamlyn Research Centre at the Royal College of Art, with the support of the Laura Ashley Foundation, is intended to build bridges between researchers, practitioners and companies who have identified inclusive design as a strategy around which social and commercial objectives can converge.

A masked friend accepts the award on Ostroff's behalf.

On March 28, the organizers presented awards recognizing outstanding contributions to the advancement of inclusive design.

Ostroff received a Scientific Committee Award in appreciation for and recognition of her leadership, personal dedication and groundbreaking work in developing and promoting the concept of universal design in the US and beyond. A Harvard School of Education graduate, Ostroff co-founded the Adaptive Environments Center in 1978. She is director of the Global Universal Design Educator's Network and co-author of Building a World Fit for People: Designers with Disabilities at Work. She was a senior editor of the **Universal Design Handbook** published by McGraw-Hill, 2001and is a consulting editor to this newsletter. An educator, she has been involved with accessible and universally designed environments since 1971.

Kose was honored by the Scientific Committee for his personal dedication and significant achievements in promoting the adoption of inclusive design in Japan. A senior research fellow at the Building Research Institute in Japan, Kose is a specialist in building safety and human factors. He is one of the leading figures in universal design research in Japan.

Swimming Pool Accessibility

A Review of the New Design Guidelines

Guest Analysis by John Paul Scott

Editor's Note: In September 2002, the US Architectural & Transportation Barriers Compliance Board (Access Board) completed a large portion of an eight-year effort to develop accessibility guidelines for recreation facilities. In addition to the play area guidelines published in 2000, the new rule provides accessibility guidelines for amusement rides, swimming pools, golf and miniture golf, boating and fishing docks, and sports facilities and equipment.(These are guidelines only until adopted by the US Department of Justice.)

This is the second of a two part series on swimming pool accessibility. This article provides an explanation of the accessible components required by the Americans with Disabilities Act Accessibility Guidelines for a compliant swimming pool, the first article in this series appeared in the January 2003 (Vol. 6, No. 5) issue of Universal Design Newsletter.

Sloped entries are a large real estate investment in an aquatic recreation facility.

Pool (Chair) Lift. The pool chair lift is likely the most usable component for people who have ambulatory disabilities or who rely on wheelchairs. The proposed new Americans with Disabilities Act Accessibility Guidelines (ADAAG) for recreation facilities would require the lift to have unassisted operation from the deck or the pool, and to be located in an area with no more than 48 inches deep water. Footrests are required except at spas. If armrests are provided, the one positioned opposite of the water must be removable or fold clear for the transfer process.

The seat is required to be at the common transfer height of 16 to 19 inches and the deck must have a clear floor area of 36 by 48 inches with its rear edge aligned 12 inches behind the back edge of the lift chair. When set for transfer, the centerline of the lift chair must be a minimum of 16 inches from the edge of the pool.

Sloped (Ramped) Entry. A sloped entry is similar to an accessible ramp. The ADAAG ramp criteria apply, except the distance between the grab bars is limited to 33 to 38 inches. When a sloped entry is provided for a wave action pool, leisure rivers or pools with sand bottom features, the limited clear width between handrails is not required. To reduce underwater hazard to swimmers, handrail extensions are not required at the bottom of the ramp.

Sloped entries are a large real estate investment in an aquatic recreation facility. They are viable for water park wave pools, lazy rivers and wading pools. Sloped entries pose some challenges for typical swimming pools. The sloped entry ramp must extend to a submerged depth of 24 to 30 inches and have level landings at the top and bottom. Ramp runs of more than 30 inches of rise require intermediate landings. A ramp and landing to a submerged depth of 36 inches will have an approximate length of 50 feet depending on the difference of the water elevation and the top of the pool's deck. Such a ramp system will be approximately the width of a six-lane 25-yard competitive pool.

Transfer (Tier) Systems. Transfer tiers are moderately usable by both ambulatory people and people who use wheelchairs. They are a key element of play area accessibility and have great potential for application in amusement rides.

A transfer system is made of a transfer platform, transfer steps and grab bars. The platform's minimum dimensions are 19 by 24 inches with the larger clear width provided at the head or approach to the platform. The steps are 14 to 17 inches deep with a minimum clear width of 24 inches, and centered on the platform. The step risers are 8 inches high maximum and must reach to 18 inches minimum below stationary water level.

Individual grab bars or a continuous run of grab

See Swimming Pools, **page 10**

Additional Pool Lift Requirements in California

In California, there are several other safety related pool lift requirements in the building code that are not in the Americans with Disabilities Act Accessibility Guidelines. These include:

- The seat is required to be stable when in the loading or unloading position;
- Arm rests are required on both sides of the seat to aid the user in maintaining an upright seated posture;
- Lap belts are required to aid in preventing the user from falling out of the seat when it is being rotated over the pool edge; and
- The seat material must be made of a firm material -- not a loose fabric.

ARGENTINA

New Universal Design Center in Buenos Aires

Two Argentinean architects have created the Centre for Studies on Universal Design (CEDU) at the Studies Centre of the Architects Society in Buenos Aires, Argentina. According to co-founders Norma Sharovsky and Eduardo Frank, "As we became aware of the lack of specialized architects in this specific field, we decided to create this centre in order to develop activities in the academic, laboratory and experimental areas, involving innovations in the habitat tending to improve the quality of life and health prevention taking into account the progress achieved in universal design. It is our intention to keep a close interchange with similar institutions, with the target of developing strategies to facilitate the creation of a more inclusive society, on the basis of the Universal Design Principles."

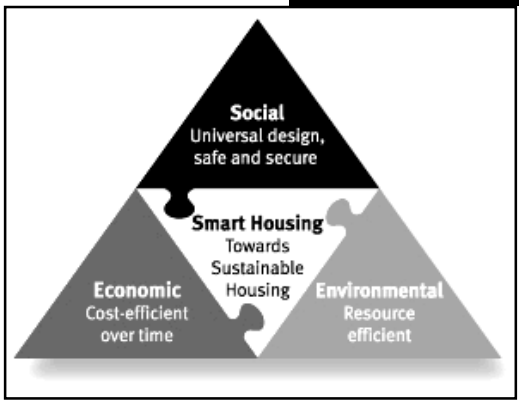
In response to the changing demographics, the centre is holding an intensive post-graduate course this summer on "Third Age Architecture - From the Elderly Adults' Habitat to Universal Design," from Aug. 1-31 at the Architects' Central Society in Buenos Aires. Sharovsky and Frank note, "Third Age architecture is much more than a habitat without barriers, it is not the result of applying an exhaustive catalogue of forms and recipes, or the design of orthopaedic spaces which finally reinforce the exclusion model. The designing process must take into account the elderly adult's individual needs, from an inter-disciplinary approach, within the frames of health prevention and universal design." Participants will earn a certificate in Design of Third Age Habitat, issued by the Architects' Central Society and San Martín National University. For more information, contact **estudiosf@velocom.com.ar**.

AUSTRALIA

Sustainable, Affordable, Universal Housing

Sustainable, affordable, and universal housing are usually presented as separate issues but the Queensland Department of Housing integrates all three of these approaches in a unique and integrated "*Smart Housing*" policy. Queensland, a state in northeast Australia, promotes its mission to "Improving People's Lives Through Housing" with a variety of practical strategies for consumers and developers of housing through a user-friendly website and display homes.

Smart House displays homes across the state illustrating socially, environmentally and economically sustainable housing. In opening the Department of Housing's *Smart House* at Cranbrook, the Minister for Public Works and Housing Robert Schwarten explained, "The idea behind *Smart Housing* is to save owners thousands of dollars in energy bills, maintenance and modifications in the future…Through using simple, commonsense design and building practices, this house is flexible, efficient, safe, secure and affordable…*Smart Housing* means incorporating certain features into houses at the design and construction stage. It may only cost a little extra at the time, but adding these features a few years later can cost up to three times more."



The Smart Housing triangle logo shows the interconnections between sustainable, affordable, and universal design.

The website defines the three elements:

• social sustainability - a *Smart House* has been designed with people in mind. It is safe, secure and universally designed.

• environmental sustainability - a *Smart House* is resource efficient in water, waste and energy.

• economic sustainability - a *Smart House* is cost-efficient.

For details, examples, guidelines and resources, see **www.housing.qld.gov.au**.

EUROPE

Friendly Restrooms in Development

Together, Sweden, Germany, the Netherlands, Italy, Greece, and Israel are leading the Friendly Restroom (FRR) consortium to make more usable private and public restrooms for people who are older and have disabilities. The project addresses the problem of poorly designed toilet facilities in private and public places that do not fit the specific needs of many older persons with physical and cog-

See World Update, **page 12**

"World Update" is written by Elaine Ostroff, founding director of the Adaptive Environments Center. If you have information about international universal design efforts that you would like to have published in Universal Design Newsletter, write to us at:6 Grant Ave., Takoma Park, MD 20912; or contact **publisher@universaldesign.com**.

Silver Theatre, *from page 1*

The description track is fed via infrared transmitter to a small portable receiver. The descriptions provide information about key visual elements such as actions, settings and scene changes, making movies more meaningful to people with vision loss. The system can also add volume to the film soundtrack for patrons with hearing impairments.

The Rear Window Captioning system exhibits reversed caption text on a large LED display mounted in the rear of the theatre. Patrons with hearing impairments use transparent acrylic panels attached to their seats to reflect the captions, which appear superimposed on the movie screen. The reflective panels are portable and adjustable, enabling the caption user to view captions from any seat in the theatre.

"Right now, the hardware is installed for digital captioning in all three theaters. Unfortunately, there aren't many films that are captioned and ready for use with the system."

Ray Barry,
Deputy Director
AFI Silver Theatre and
Cultural Center

The Silver Theatre's digital captioning system displays subtitles on the screen, a useful feature for patrons with hearing impairments. "Right now, the hardware is installed for digital captioning in all three theaters," says Ray Barry, Deputy Director of the AFI Silver Theatre and Cultural Center. "Unfortunately, there aren't many films that are captioned and ready for use with the system." Since inaugurating its Motion Picture Access (MoPix) technology in movie theaters in 1997, WGBH has aggressively worked to encourage all the major studios and exhibitors to adopt these technologies and make closed captions and descriptive narration available for movies on an ongoing basis.

The Silver Theatre's three stadium-style cinemas all feature wheelchair-accessible and companion seating in a variety of locations. The challenge in renovating the AFI Silver I —the original 1938 theater, which had 1,100 seats and now has 400—was working with the existing historic slope. "We were able to easily create wheelchair-accessible seating on the flat plane at the back of the theater," says Don Scheuerman Jr., Senior Engineer with Montgomery County's Department of Public Works and Transportation and project manager during the renovation, "but not everyone wants to sit in the back." The solution was to create an aisle way about 60 percent back from the screen that would accommodate patrons in wheelchairs and to add two accessible seats at the front of the theater, which may require assistance to access, but will provide a greater range of opportunity for viewing the films. The 12-inch-high stage beneath the projection screen, which is used for awards ceremonies and special events, is also ramped to allow for easy access.

The historic Silver Theatre first opened in 1938.

The two other state-of-the-art, stadium-style theaters—AFI Silver II and AFI Silver III—have 200 and 75 seats, respectively, and feature wheelchair-accessible and companion seating at their entrances. In the 200-seat venue, the wheelchair and companion seating are in the fourth row. In the 75-seat theatre, the wheelchair and companion seating are in the front row.

All three theaters will accommodate film formats from 16mm to 35mm, high definition digital cinema video projection and broadcast quality video recording as well as distance learning capabilities via satellite, fiber and the internet. In addition, the historic theater can project 70mm film and has an organ for live musical accompaniment of silent films.

"Montgomery County is committed to serving its broad constituency," says Scheuerman. "It's important to us to make sure that people of all abilities can enjoy the restaurants, theaters, shops and businesses not just in Silver Spring, which is experiencing incredible revitalization, but throughout the entire county."

Built in 1938, the original Silver Theatre was a stunning Art Moderne cinema house celebrated as the centerpiece of the Silver Spring shopping center built at the height of the Depression. By the end of World War II, the Silver Theatre had transformed the community into a bustling business district. After a nearly 50-year run, the theater closed its doors in 1985 and was saved from demolition by the collective efforts of community preservationists. In 1994, the Montgomery County Council voted to add the Silver Theatre to its master plan for historic preservation. And in 1998, the AFI was chosen to operate the refurbished Silver Theatre and Cultural Center. The opening of the 49,000 square foot AFI Silver Theatre and Cultural Center—which also houses a cafe, a film-based retail outlet, office and meeting spaces, and reception and exhibition areas—establishes the American Film Institute as one of the largest specialty film exhibitors in the United States.

Tenement Museum Addresses Access Issues

by Edward Steinfeld

The Tenement Museum on the Lower East Side of Manhattan is a good example of how access can be provided at an historic building with serious limitations. The main site of the museum is a highly visible restored corner storefront. It is at grade level with no steps at the entry. Inside there is a bookstore that sells a wide variety of literature and gift items. The building also houses restrooms and a room for viewing videos. These are also at grade level and accessible. In addition, the museum owns a restored tenement building in the neighborhood. Tours of that building feature displays showing how people lived in the tenements.

Although the main museum site is accessible, the restored tenement apartments with the displays are in a building that does not have an accessible entry or an elevator. The number of people allowed on each tour is limited because of the cramped spaces in the old building. As an historic structure, the crowded spaces capture the essence of tenement life. Thus, it is unlikely that full accessibility could ever be provided to this building without significantly changing its character. Yet, the Tenement Museum has made an effort to provide an equivalent experience for those who cannot take the tour. With limited resources, the staff created a book of photographs and tour descriptions that allow people to take a virtual tour and gain access to the same information that tour participants would receive from their guides. Alternate media are also available to people who have vision impairments.

Photo by Danise Levine

Tenement building exterior

Although the tour book is designed primarily for people who cannot access the tenement buildings, it is also useful for people who may visit the museum during a time when no tours are available or the next set of tours are booked up. These visitors can read the book and decide to either wait, come back again at the next available tour time or visit the museum on another day. Thus, the book not only helps the museum achieve accessibility, but it also effectively markets its tours.

Photo by Danise Levine

Storefront with bookstore and media center

The Tenement Museum demonstrates that providing an equivalent service does not have to be expensive. It just takes some thought and effort to create an equivalent experience. Moreover, this requirement of accessibility can be used as an opportunity to improve service delivery to everyone. With more resources, information technology could be used to create an even more effective resource.

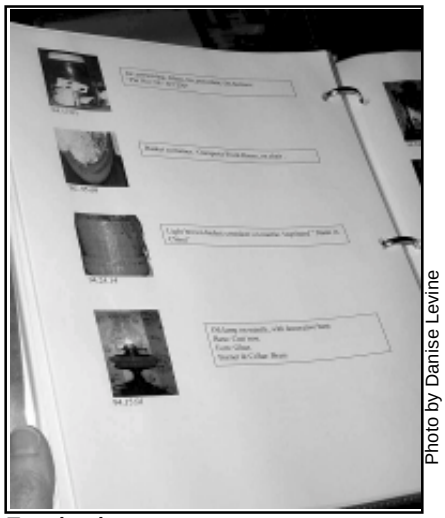


Photo by Danise Levine

Tour book

This case study will appear in the book Universal Design New York 2, produced by the IDEA Center for the City of New York Department of Design and Construction and the Mayor's Office for People with Disabilities. This is a follow-up publication to Universal Design New York. It is designed for ease of use by design professionals and provides more technical information than the first book, especially with respect to the requirements of accessibility regulations.

The contents of pages 7-9 are provided by the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo, which is sponsored by a grant from the National Institute of Disability and Rehabilitation Research (NIDRR) U.S. Department of Education (DOE). These contents, however, do not necessarily represent the policy of DOE. Readers should not assume an endorsement by the federal government.

Visitability Coming to Steel City

Pittsburgh hosts conference to refine draft visitability ordinance

In February, the Allegheny County/City of Pittsburgh Task Force on Disabilities launched a comprehensive effort to craft a visitability ordinance. In a day-long program, the task force gathered architects, developers, community organizers, disability advocates and government officials to discuss a draft ordinance and related issues.

The program included four events developed for specific audiences. For architects there was a continuing education program and "charette." Participants were divided into groups. Each group was given documentation on the design of three different homes, either already constructed or in process of design. Each group then redesigned the homes based on the proposed ordinance and developed sketches of their changes. After the re-designs were completed, the groups described their efforts and raised issues for general discussion.

The developers in attendance were offered a similar session where they discussed six different designs. Each small group had one designer who could sketch out the design changes.

The program for community organizers was held to discuss strategies of change and how best to advocate for the visitability ordinance. Finally, there was a public event at which Eleanor Smith, founder of the visitability advocacy group Concrete Change, spoke at length about her experiences with visitability and Ed Steinfeld, featured speaker and director of the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo, addressed cost issues.

"Having several events focused on different audiences provides an opportunity for each stakeholder group to address the particular issues of relevance to them."

Ed Steinfeld, Director of the Rehabilitation Engineering Research Center on Universal Design at Buffalo

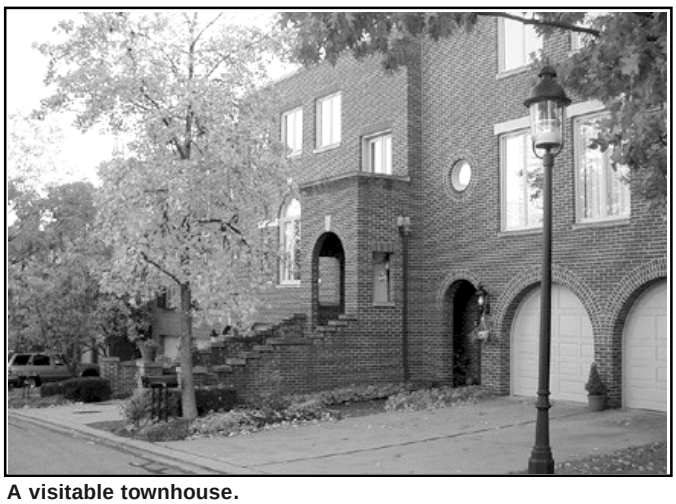


Photo by Ed Steinfeld

A visitable townhouse.

Photo by Ed Steinfeld

A visitable New Urbanist building.

"The program is a good model for other communities to use in educating stakeholders on visitability," said Steinfeld. "Having several events focused on different audiences provides an opportunity for each stakeholder group to address the particular issues of relevance to them. The charette concept is an excellent method to get professionals engaged using a problem solving approach," he said. Steinfeld also noted that the more intensive approach with a larger number of attendees attracts media and political leaders.

"By demonstrating how easy it is, in most cases, to provide visitability in new construction compared to existing buildings, the value of visitability as a pro-active planning approach to accessible housing becomes obvious," said Steinfeld.

Steinfeld believes that achieving a strong ordinance in Pittsburgh would be a significant step forward for the movement. The city's topography and geology offer significant challenges to no-step entrances. Although sloping sites can sometimes aid accessibility, in Pittsburgh, it is not uncommon for the houses on one side of a street to be one story above the street elevation. In addition, the proposed ordinance calls for visitability features to be incorporated in cases of substantial rehabilitation as well as new construction — a first in the visitability movement.

Also, there is a strong urbanist tradition in the city and many architects, officials and developers are dedicated to maintaining it. That tradition combined with the will for visitabile homes is

See Pittsburgh, **page 9**

The Inclusive Home Design Bill Taking Shape

by Jordana Maisel

Visitability is an inclusive design approach for integrating basic accessibility features into newly built housing. It is based on the idea that inclusion of basic architectural access features in new homes is a human right and improves every person's ability to live effectively.

Eleanor Smith and the organization she founded in 1986, Concrete Change, have been pushing for requirements that make federally assisted housing, that is not currently covered by any other federal or state legislation, Visitable. A Visitable home is one which meets three conditions: one zero-step entrance, doorways that are 32 inches wide and basic access to at least a half bath on the main floor. These three features are considered the most essential for a person with mobility impairments to visit or live in a home, at least temporarily.

The Visitability movement continues to gain acceptance and popularity in many local areas. Municipalities in Arizona, California, Georgia, Illinois and Texas have enacted Visitability ordinances.

Last fall, U.S. Rep. Janice Schakowsky (D-IL) introduced a bill, H.R. 5683, which would require all newly constructed, federally-assisted single-family houses and townhouses to meet minimum standards of Visitability. In introducing the Inclusive Home Design Act, Schakowsky noted, "When homes are accessible, it benefits not only today's disability community, but also all of us who are friends and family members of people with disabilities."

Since the bill was introduced, Schakowsky and her staff have been responding to public feedback, amending the bill's language and garnering support from a variety of groups. Her office has already received many letters of endorsement, including one from the Consortium for Citizens with Disabilities (CCD) Housing Task Force, a coalition of more than 10 different organizations. The coalition is also working with working with developers to determine the "costs" of Visitability.

Schakowsky plans to reintroduce the bill this session.

"When homes are accessible, it benefits not only today's disability community, but also all of us who are friends and family members of people with disabilities."

Congresswoman Janice Schakowsky (D-IL)

Pittsburgh, *from page 8*

bound to give birth to creativity. And finally, he noted Pittsburgh's residential architecture is extraordinarily rich in character and aesthetic quality; there is an interest in maintaining the level of quality. "Exterior ramps and suburban style homes will most likely not be acceptable solutions in Pittsburgh," said Steinfeld.

Photo by Ed Steinfeld

Entry to a visitable townhouse.

According to Steinfeld, the RERC on UD collected all the materials produced at the event and intends to develop "before and after" case studies. "We have good documentation from the architects and will be able to communicate with them to identify cost differences," he said. "There are a wide variety of housing types represented. We will develop technical guidelines to address the needs identified during the program. "

The proposed ordinance in Pittsburgh, is supported by the mayor and several members of the council. A visitability ordinance is expected to pass in some form.

The contents of this insert are provided by the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo, which is sponsored by a grant from the National Institute of Disability and Rehabilitation Research (NIDRR) U.S. Department of Education (DOE). These contents, however, do not necessarily represent the policy of DOE. Readers should not assume an endorsement by the federal government.

Swimming Pools, *from page 4*

bars are required at one side of the system. The top of the gripping surface must be no higher than 4 to 6 inches above the top platform, tread, or above the edge of the tread nosing when using a continuous handrail. Part of this requirement may be a preventative measure to resist head and torso entrapment of children. These low grab bars will not afford much torso support for some people who use wheelchairs.

A 60-inch square clear floor area centered on the platform is required adjacent to the platform. A side approach transfer space is required and grab bars are not permitted to obstruct this end of the system.

For a transfer tier to work, the surrounding pool deck must be lowered so that the top of the transfer wall is the minimum possible distance above the water level.

The guidelines require that the surfaces of transfer platforms, steps and tops of transfer walls shall not be sharp and shall have rounded edges. Most other swimming pool safety specifications require that any of these kinds of walking or user surfaces be slip resistant. It is important that the surface is not rough and abrasive.

Transfer Walls. A 12 to 16 inches wide transfer surface is required to be 16 to 19 inches above the deck. It must have a minimum 60-inch length with an adjacent 60-inch square clear floor area. The transfer wall can have one or two grab bars on top of the wall. The grab bars should be oriented perpendicular to the pool's edge, and extend the full depth of the wall. The top of the gripping surface must be 4 to 6 inches above the wall.

For a transfer wall to work, the surrounding pool deck must be lowered so that the top of the transfer wall is the minimum possible distance above the water level.

Pool Stairs. Pool stairs are much like the accessible stairs in ADAAG 4.9, except the handrails are required to be positioned between 20 to 24 inches apart. This makes the stair useful for a person with an ambulatory disability. The handrails must also be at a height of 34 to 38 inches. Like sloped (ramped) entries, handrail extensions are not required at the bottom landing of the stair.

The current ADAAG requires that stair treads be 11 inches minimum depth with treads and risers uniform in width and height. Like standard accessible stairs, the risers must be sloped or the underside of the nosing must have an angle not less than 60 degrees. Step nosing is limited to a ½-inch maximum radius and its leading edge limited to a 1½-inch maximum projection.

Current ADAAG does not place a riser height limit on accessible stairs. Swimming pool standards currently permit riser heights to a maximum of 8 inches and usually place no limit on the last and deepest riser. This last exception is supposed to accommodate sloped pool floors and curved transitions from pool floor to any vertical surface. The proposed criteria will require a 4-inch minimum and 7-inch maximum riser.

Aquatic Wheelchair Issues

Rarely do vacationers travel with an aquatic wheelchair that will withstand chemical water treatment found in a swimming pool. Private state and local governmental entities may need to consider the provision of an aquatic wheelchair in order to satisfy their "program accessibility" obligations under Title II of the Americans with Disabilities Act (ADA). Before purchasing an aquatic chair one needs to fully understand the differences between sand beach chairs and pool chairs. Frequently sand beach chairs have inflated tires, and thus they are unstable in submerged conditions.

Sloped entries pose other challenges to people who use wheelchairs. Exiting the pool requires ascending a ramp against a mass of water and attempting to pull oneself up the ramp using the handrails, may result in pulling oneselves right out of the chair. Also, poor design of a sloped entry can potentially pose a hazard to both the ramp user and swimmers. If the ramp and landing are oriented toward the deep end of the pool, and there are no curb barriers on the bottom landing, an aquatic chair may roll to the deep end of the pool submerging the chair user.

Due to space limitations, this article was edited for length. A complete version of this article can be found online at **www.UniversalDesign.com**.

John Paul Scott, AIA, is architect and owner of Create Access, Architects/Consultants.

Website Spotlight: AgeSource Worldwide

American Association of Retired People (AARP) has included a new database on its website that features descriptions of major or unique libraries, clearinghouses, directories, bibliographies and websites around the world that focus on aging and related subjects.

By visiting **http://research/aarp.org/general/agesource_home.html**, users can search subjects such as Alzheimer's disease or wills and estate planning.

Information can be sorted by name, country, and region of the world, type and language of the information source or any combination. The site includes information from more than 20 countries, including the United States, Japan, Norway and Chile, and although the contents of AgeSource Worldwide are limited to English, the navigation and help pages have all been translated into French and Spanish to facilitate international use. The database is easy to use by simply keying in a particular subject or focusing the search within a comprehensive listing of countries, products and services, languages and geographic areas.

Located at www.section508.gov, interactive web-based tutorial courses supplement previously released material and provide advanced guidance on how products can conform to the Section 508 standards.

Section 508 Tutorials

The U.S. Architectural & Transportation Barriers Compliance Board (Access Board) offers a program of online guidance and training on the requirements of Section 508 standards.

Located at **www.section508.gov**, interactive web-based tutorial courses supplement previously released material and provide advanced guidance on how products can conform to the Section 508 standards. Part of the "508 Universe" program developed by the Federal Information Technology Accessibility Initiative, an interagency partnership on the implementation of section 508, the new courses cover requirements for software applications and operating systems, desktop and portable computers, and self-contained, closed products, such as kiosks, calculators and fax machines.

The website also provides an introduction to the law and information on buying compliant products.

Making Educational Software and Web Sites Accessible

This newly expanded and updated publication from the CPB/WGBH National Center for Accessible Media (NCAM), with funding from the National Science Foundation and the Mitsubishi Electric America Foundation, was originally published in 2000 to capture access challenges and solutions and present them in a format specifically designed to assist educational software developers. In addition to providing a basic understanding of the needs of users with different disabilities and specific solutions and guidelines for designing more accessible software, this revised manual includes extensive information on making multimedia presentations accessible to students who are deaf or blind; examples of writing image descriptions for students who are blind; and solutions for making forms, data tables and electronic and online textbooks accessible. The free guidebook can be obtained by visiting http://ncam.wgbh.org/cdrom/guideline, by e-mailing mary_watkins @wgbh.org, or by calling 617.300.3400 (v) or 617.300.2489 (tty).

Emergency Evacuation Preparedness: Taking Responsibility for Your Safety

The Center for Disability Issues and the Health Professions (CDIHP) at Western University of Health Sciences in Pomona, CA recently published a 36-page guide to help people with disabilities better prepare for large- or small-scale emergencies.

Designed to help people with disabilities take responsibility for their own safety during emergencies and evacuations and learn to work effectively with first responders, the guide offers information on evaluating need, assessing abilities, mastering the skill of giving quick information, establishing a personal network and determining evacuation options as well as compiling personal emergency health information. The guide is available free of charge at www.cdihp.org/evacuationpdf.htm.

For more information, contact: CDIHP, 309 E. 2nd Street, Pomona, CA 91766-1854 or calling 909.469.5380 or 909.469.5520 (tty).

Venice Bridge, *from page 1*

Architects and designers from around the world have criticized the bridge design for being generally unsafe and inaccessible to people who cannot travel up or down stairs. Ergonomist and stair safety consultant Jake Pauls noted in correspondence to the group protesting the bridge design, "It is clear that the design poses significant usability and safety problems for all potential users."

According to Pauls, "Putting steps onto an arched or curved structure will invariably lead to serious problems of step uniformity and/or problems of transitions between stepped and ramped or level portions of the circulation path."

Responding to the criticism of inaccessibility, the city initially proposed free rides across the canal on public ferries, known as traghetti, for people who were unable to use the bridge.

When local disability advocates objected to use of the ferries, the city explored a second proposal that included installing two platform lifts that would run on demand along the arc of the bridge, an accessibility solution used on some of the historic bridges in Venice.

According to Paola Bucciarelli, an architect with HBGroup in Milan, this proposal was rejected for several reasons including:

- Practicality — it would take half an hour for the platform lifts to cover the entire span of the bridge;
- Reliability — platform lifts have usually performed poorly in weather conditions similar to those in Venice;
- Aesthetics – often platform lifts appear like cumbersome metal apparatus; and
- Equity — 30 minutes to cross the bridge by means of an unreliable, noisy, and segregating device is not considered by the disabled community as an equal treatment.

"Putting steps onto an arched or curved structure will invariably lead to serious problems of step uniformity and/or problems of transitions between stepped and ramped or level portions of the circulation path."

Jake Pauls,
Ergononomist and Stair
Safety Consultant

Suggested Solutions

In January, the Mayor of Venice, Paulo Costa, invited representatives of groups opposing the bridge to a meeting to discuss the design. As a result of the meeting, architects from the HBGroup developed a report, approved by several associations of people with disabilities, for submittal to the architect, Calatrava. The final report included seven alternatives to the proposed platform lifts.

In late May, the mayor announced that Calatrava had decided to develop one of the solutions offered. The solution involves adding an elevator-like lift that can be used by everyone on the northwest side of the bridge. This would allow the profile of the bridge as seen from the core of Venice to remain unchanged. The lift would operate from bank to bank outside of the bridge pathway.

"We are all convinced that the 'optimum' would be to redesign the bridge completely, creating a different profile and shape, without creating expensive and maybe un-aesthetical adaptations later on," said Bucciarelli. But now that the bridge is under construction, neither the city nor the architect are open to completely redesigning it, she said. The report suggests that the lift be able to be used by anyone without creating conditions of stigmatization or discrimination.

According to Bucciarelli, Calatrava is studying the solution and further examining the safety issues that the stairs pose for people with visual impairments. "We hope that Calatrava and his staff will do their best in order to find a good universal design solution. We hope we will have the opportunity to discuss it after Calatrava defines the solution in detail," said Bucciarelli.

Due to the design protest, statics issues, and some unexpected historical discoveries during excavation, construction of the bridge has been delayed by six months. The bridge should be completed by the summer of 2004.

To see a copy of the solutions offered by HBGroup visit, **www.hbgroup.it/calatrava/index.htm**

World Update, *from page 5*

nitive limitations.

The European Union's Quality of Life program funded the 36-month research and development project to carry out the necessary research to design, build and test prototypes for a FRR. The FRR will incorporate user-centered design – considering users, relatives, caretakers, and rehabilitation professionals -- in all stages. All the elements of the FRR will be individually adjustable so that older persons can enjoy a better quality of life. The project will be evaluated by satisfaction measurements that include increased safety feelings and reduced risk for falls and injuries. The project expects to achieve a 70 percent satisfaction level among representative volunteer testers, through research conducted in the six lead countries. For more information and updates, see **www.frr-consortium.org/index.htm.**

Koyo Adjustable Leg System

The Koyo Adjustable Leg System from Hafele is an alternative to electric and pneumatic table raising devices.

Available in mobile or stationary solutions with a choice of casters or levelers, the legs operate on a step-by-step ratchet system, allowing for a total adjustment range of 11 3/4 inches.

The user simply steps on the leveler or caster to raise the table. When the leg reaches the highest setting, light force applied to the tabletop drops the leg slowly to its lowest position. The legs are conveniently marked with a scale to keep track of height level and are available in black textured or silver/aluminum finishes. Load capacity exceeds 500 pounds per leg.

The Ingress'r Touch-Activated Door Control

The Ingress'r automatic door control from Wikk Industries Inc. was designed to offer independence to people with severe disabilities using motorized chairs with limited or no use of their limbs.

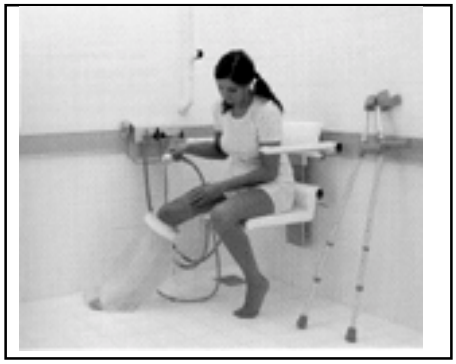
When mounted 3 inches off the ground, the 36-inch tall door operator switch serves people of all abilities by means of a tap at any point along its height.

The 6-inch-wide Ingress'r can be mounted on interior or exterior walls, bollards, posts, columns or entry sashes and features beveled edges to discourage shear-off from carts or wheelchairs.

Pressalit Bathroom Solutions and Products

By examining and analyzing the constraints imposed by the three main parameters of a successful bathroom layout—the user, the caregiver and the room itself—Pressalit Care has developed a system that can be adapted to suit multiple requirements for flexibility and accessibility.

Pressalit's horizontal and vertical wall track system allows plumbing fixtures to be adjusted in varying heights and widths, making the space more functional and easy to use. Pressalit's product catalog features measurements for spatial requirements, turning area, wash stations, toileting and showering. It offers room designs, adjustment options, a list of materials and mounting guidelines. The company's product line includes wall tracks, electric and gas-powered brackets for easy movement, shower chairs, folding seats, modular shelves, handrails, toilet seats and accessories.



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Residential Facility Offers Services for an Aging Population

Editor's Note: This is one of the projects from "Universal Design Exemplars" CD-ROM. The exemplars project, led by the Center for Universal Design at North Carolina State University, with support from the National Endowment for the Arts, the NEC Foundation of America and the Trace Research Center, selected 32 entries from a variety of design disciplines for inclusion on the CD-ROM. For more information, contact **www.design.ncsu.edu/cud**.

Akita Prefecture Chuo Silver Zone Complex is a residential facility with medical services for older adults combined with a large community recreation center. Built to provide the prefecture with a centrally located facility from which to offer services to its aging population, strong emphasis was placed on maintaining integration of the different generations to minimize social isolation of the older residents.

The recreation facility, central to the site, includes a large swimming pool as well as workshops, a tearoom, play space for children and exercise rooms. Spaces are integrated so people of various ages may share contact and maintain relationships with peers, family, and community members, while freely and independently pursuing personal interests and goals. The project illustrates aspects of the following Principles of Universal Design:

Tactile guides for people with vision impairments are provided on handrails rather than the conventionally used truncated domes on the floor.

Equitable Use

The overall philosophy of the recreation center is to give all users, regardless of age, strength, or agility, the opportunity to participate independently in activities of their choosing.

Flexibility in Use

Many of the single user toilet rooms in the residential section feature four-panel folding doors. A walking person not using a mobility aid may open and close two panels. However, a person using a wheelchair may open all four panels for easier use of the toilet room. On all main staircases, the addition of a third handrail creates a narrower staircase with handrails on both sides for people wishing additional support.

Perceptible Information

Contrasting color or tone is used for the nosings, treads, and risers of steps on all staircases. Different colors are used to distinguish level landings from sloping ramps. Tactile guides for people with vision impairments are provided on handrails rather than the conventionally used truncated domes on the floor. Semi-transparent doors on letterboxes allow residents to tell at a glance, without opening the box, if there is any mail inside. A number of color-coding systems help to clearly distinguish facilities and locations within the complex.

Low Physical Effort

Two tier handrails are provided on stairs, ramps, and along corridors with rails at different heights for support at a comfortable height for people who use wheelchairs, older adults, people of short stature and children. Benches are placed throughout the facility so people with limited stamina may rest. Controls and operating mechanisms can be operated with limited grip and strength.

Size and Space for Approach and Use

The spaces are large and uncluttered, allowing people with or without mobility aids or assistance to use the features of the facility.

Can a Temporarily Able-Bodied Family Find Happiness in a Universally Designed Home?

Nearly empty-nesters and approaching age 50 with the rest of the baby boomers, my wife, Ann, and I have designed and built our new "Home for the Next 50 Years." In doing this add- on to a historic building, we have attempted to carefully consider the universal design implications of every element and space while keeping in mind the actual users – our family and friends. This is an excerpt from my continuing journal investigating issues of universal design in the "Home for the Next 50 Years."

John P. S. Salmen, AIA

To be honest, the first few weeks/months of living in the "Home for the Next 50 Years" was a trial for our marriage. It was bad enough to have sold our old house and moved in two months after the scheduled completion date, only to find that the contractors still had about three months of finishing work -- but the real kicker was to have workmen let themselves into our front door every morning at 7:00 a.m., by which time we had to have the floors and furniture covered with plastic to protect them from the dust.

My wife and daughter were real troopers – camping out, as it were – under plastic tarps, but the acclimation to our sparkling new home brought another realization. Many of the appliances, counters and house controls are not located at the traditional height that is most convenient for a standing adult, but instead at lower heights that work for seated as well as standing users. It wasn't too hard to get used to 40" high light switches, and the multiple heights of counters in the kitchen actually offers a more comfortable height for a variety of activities, you just need to select the right counter for the task at hand.

A chair on wheels makes the laundry work.

The biggest adjustment came with the high efficiency, low water use, ultra-quiet Miele front-loading clothes washer and dryer. Our laundry room was short on counter space for sorting and folding laundry, so we opted to place a 36" high counter over the appliances, instead of placing the washer and dryer on a pedestal base which would have raised them to a height that would be more comfortable for a standing person. Upon moving in, we quickly realized that utilizing an extra rolling desk chair gave us comfortable access to the inside of the appliances, quieting the complaints leveled at the fanatic architect/universal designer.

There have been no complaints about the dual height lavatories, the universally designed lever handled hardware on the doors, cabinets and plumbing fixtures, or the elevator and zero-step door entry thresholds --thank goodness.

Upon moving in, we quickly realized that utilizing an extra rolling desk chair gave us comfortable access to the inside of the appliances, quieting the complaints leveled at the fanatic architect/universal designer.

DESIGN TIPS

PROBLEM: How do you make an existing hotel balcony accessible when it is in a coastal area where large thresholds (2" +) are required to keep driven rain and heavy downpours out of the room?

TIP: Prefabricated plastic decking material used for locker-rooms and showers can be cut to fit the balcony and threshold profile. It can be left in place or stored until a guest needs it, at which point it can be quickly re-installed by a member of the hotel engineering staff.

CALENDAR

July 28-29, 2003: ***Home Safety, Environmental Modifications and Accessibility Issues Seminar,*** Columbus, OH. Presented by Shoshanna Shamberg, this seminar will discuss safety and accessibility issues across the lifespan using concepts of universal design. Contact: rehabed@integrity.com.

Aug. 1, 2003: ***Architecture for Social Justice Awards Program: Partnerships in Teaching Proposal Deadline.*** Sponsored by Access to Design Professions, Adaptive Environments. Contact: **www.adaptiveenvironments.org/accessdesign/faculty_award.php**

Aug. 5-7, 2003: ***ADA/504 Coordinators & Accessibility Managers in Cultural Arts Conference,*** Washington, DC. The 3rd Annual meeting of the new national professional network of accessibility coordinators, managers and directors in the arts. Contact: 202.416.8727 (v); 202.416.8728 (tty); 202.416.8802 (fax) or **access@kennedy-center.org**.

Aug.18, 2003: ***Universal Design Leadership Project*** *Proposals Deadline*. National Endowment for the Arts project with the goal of creating greater public awareness of and demand for universally designed environments. Contact: www.arts.gov/guide/RFPs/Universal.html

Sept. 8-10, 2003: ***The US Architectural & Transportation Barriers Compliance Board*** will hold its bi-monthly meeting in Seattle, WA. Contact: 202.272.5434(v), 800.872.2253(v), 202.272.5449 (tty) or **www.access-board.gov**.

Sept. 18-20, 2003: ***Fourth Annual World Congress & Exposition on Disabilities,*** Orange County Convention Center, Orlando, FL. Contact Amy Baum at 212.571.2600, abaum@hiredisability.com or www.hiredisability.com.

Sept. 22-25, 2003: ***Retrofitting for Accessibility,*** Gatlinburg, TN. A National Center on Accessibility training course designed for maintenance professionals, facility managers, architects, landscape architects, access coordinators and planners. Contact: **www.ncaonline.org.**

Nov. 19-20, 2003: ***2020 Vision***, a diversity conference for design professionals at the World Trade Center, Boston. Sponsored by the AIA Diversity Committee and the Boston Society of Architects Includes a meeting of International Network of Designers with Disabilities. Contact: **www.architects.org/diversity**. Also includes ICTA-North America meeting, contact: bdion@magma.ca.

Dec. 4-6, 2003: ***International Conference on Aging, Disability and Independence,*** **Washington, D.C.** The conference, sponsored by the University of Fla. RERC on Technology for Successful Aging, the American Society on Aging and EU, will bring together researchers, practitioners, business leaders and people involved with aging policy. Contact: **www.asaging.org/icadi**.

Events to be placed in the *UDN* Calendar must be submitted to the editor two months before the publication date.

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WATCH for your next issue of ***Universal Design Newsletter*** in **October 2003!**

Address Correction Requested