

# Accessibility and Universal Design

Presented by

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Design and Trades Conference – May 29, 2014



State of Connecticut Minimum Legal Requirements for Accessibility

## The Why of Regulations

## **A Brief History of Architecture**

- Millions of Years: creator of shelter
- Thousands of Years: confidant of pharaohs, kings, queens, popes and other wealthy patrons of the art
- Hundreds of Years: a gentleman's hobby
- A Few Generations: a profession
- Recently: a business

**Do Meeting the Needs of the User and Design Fit the Job Description?**

## **A Brief History of Code Enforcement**

**18 th Century B.C.**

Hammurabi's Law: If the building falls down, kill the Architect.



**The 1960's**

different rules and regulations in various municipalities throughout the State; some municipalities with no apparent regulations or guidelines

**1971:** State of Connecticut Building Code based on BOCA Basic Building Code/1970 as amended on various dates

**1981:** State of Connecticut Basic Building Code/1978 based on BOCA Basic Building Code/1978 as amended

**1987:** State Building Code based on BOCA Basic/National Building Code/1984+BOCA 1986 Accumulative Supplement + April 15, 1987 Connecticut Supplement

**1989:** State Building Code based on BOCA National Building Code/1987 + BOCA 1988 Accumulative Supplement + October 16, 1989 Connecticut Supplement

**1994:** State Building Code based on BOCA National Building Code/1990 + BOCA 1992 Accumulative Supplement + June 15, 1994 Connecticut Supplement

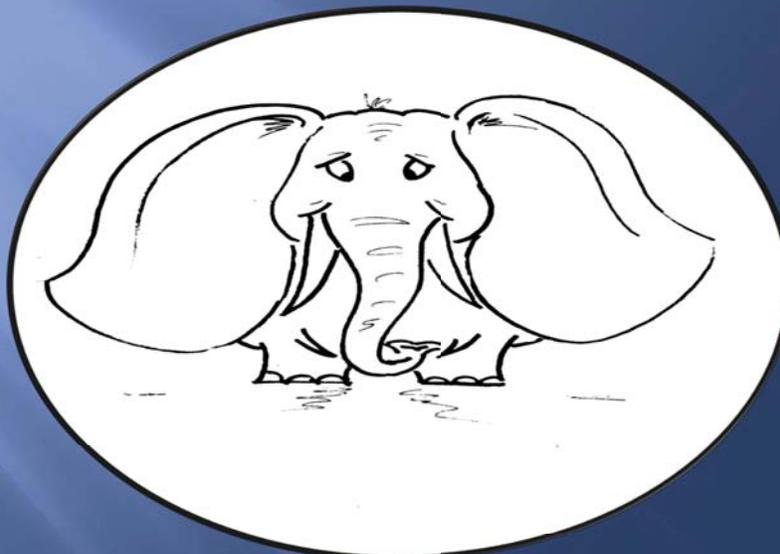
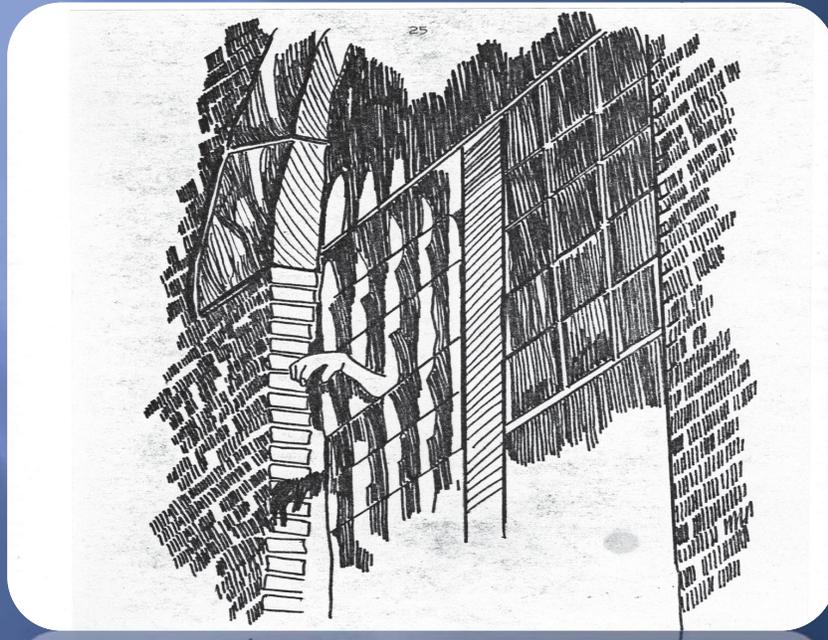
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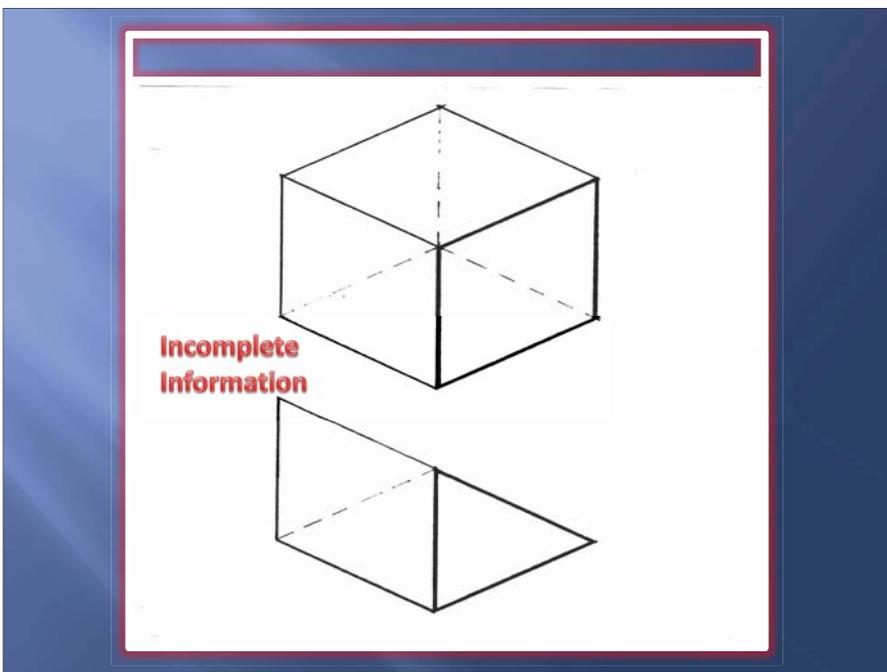
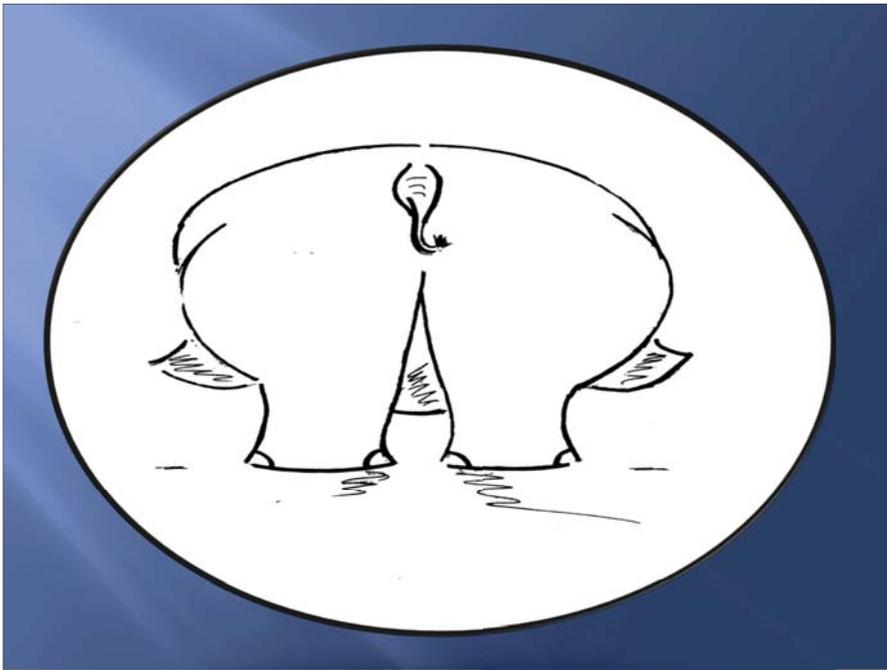
**1999:** State Building Code based on BOCA National Building Code/1996 + May 1, 1999 Connecticut Supplement + April 7, 2000 Amendment

**2004:** 1999 State Building Code based on BOCA National Building Code/1996 + May 1, 1999 Connecticut Supplement + April 7, 2000 Amendment + September 1, 2004 Amendment

**2005:** 1999 State Building Code based on the 2003 International Building Code + December 31, 2005 Connecticut Supplement and 2009 Amendments

**2014:** Proposed New Code pending submission for Legislative Hearings and Action





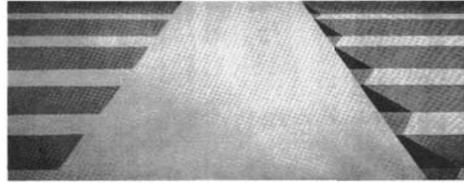
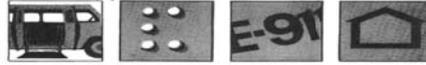
**“WIN?”**

"WIN?" is a game which provides a framework for value clarification and highlights forces that affect the behavior of individuals in a group setting. An understanding of these forces will aid persons who come together to plan for change.

**Pierz Associates**  
115 Garden Street  
Wethersfield, Connecticut 06109  
Telephone: 203-563-9856

“When two or more people come together to plan for change, conflict exists.”

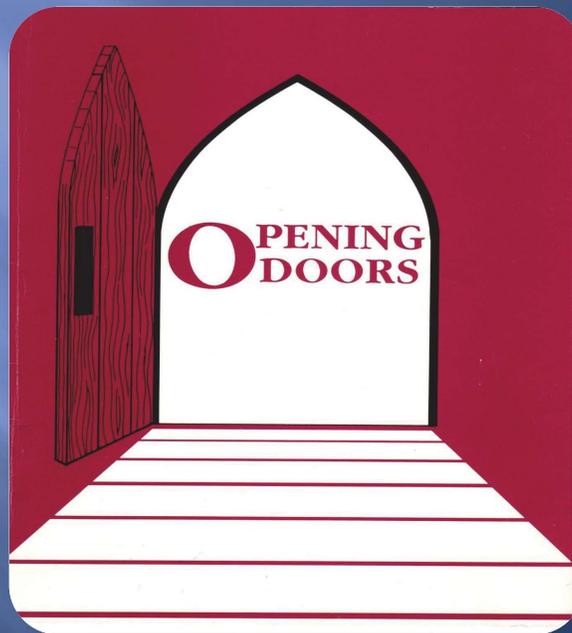
# SERVICES FOR PEOPLE WITH DISABILITIES



TOWN OF WETHERSFIELD

## TABLE OF CONTENTS

INTRODUCTION .....	1
SECTION A .....	3
RESOURCES FOR INDEPENDENT LIVING .....	3
ADAPTIVE EQUIPMENT AND HOME MODIFICATION .....	3
ORGANIZATIONS DEALING WITH DISABILITIES .....	7
DISABILITY RIGHTS ORGANIZATIONS .....	11
ADVOCACY .....	12
SECTION B .....	14
HOUSING .....	14
TRANSPORTATION .....	21
HEALTH .....	24
SAFETY .....	31
SECTION C .....	35
EDUCATION .....	35
EMPLOYMENT .....	37
RECREATION .....	40
PLACES OF WORSHIP .....	42
SECTION D .....	45
ENERGY ASSISTANCE .....	45
FOOD AND CLOTHING .....	48
FINANCIAL AND LEGAL SERVICES .....	50
SECTION E .....	55
TOWN DEPARTMENTS .....	55
MISCELLANOUS INFORMATION .....	57



# Test Your Architectural Barrier Awareness

1. Ramps are easier for everyone to use than stairs.

False

Prostheses or long leg braces may make ramps difficult. Also, persons with balance problems may find ramps difficult to use.

8. If a door is wide, and if it has no threshold, it is accessible to persons in wheelchairs.

False

Not always! The door might be excessively heavy, or might have heavy pressure resistance. Also, the type of hardware can be a factor.

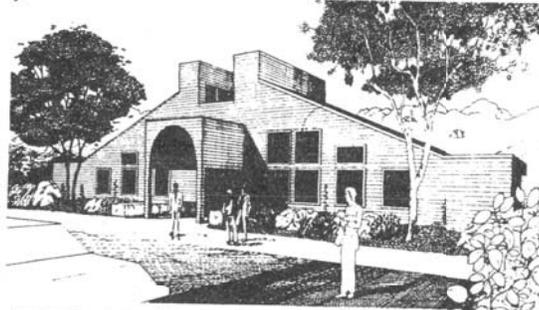
## TEST YOUR ARCHITECTURAL BARRIER AWARENESS

How would you rate your awareness? Answers on pages 4 and 5

- |     |   |   |  |
|-----|---|---|--|
| 1.  | T | F | Ramps are easier for everyone to use than stairs.  |
| 2.  | T | F | Most guide dogs stop at intersection curb cuts (wheelchair curb ramps).  |
| 3.  | T | F | Barrier-free buildings should have heat-sensitive elevator controls (the kind that work just by touching a number which lights up).  |
| 4.  | T | F | The color used on stairways is a frequent cause of stairway accidents for elderly persons.   |
| 5.  | T | F | Most people with visual impairments can understand direction signs in braille.   |
| 6.  | T | F | Carpets can cause barriers for wheelchairs.  |
| 7.  | T | F | Public rest room signs marked "Ladies" and "Gentlemen" may pose barriers to some persons who have mental retardation.                |
| 8.  | T | F | If a door is wide, and if it has no threshold, it is accessible to persons in wheelchairs.   |
| 9.  | T | F | A person with epilepsy or dizziness and fainting spells should have many bathroom grab bars in the bathroom.                         |
| 10. | T | F | Most elderly persons and persons with disabilities should have a telephone in their bathroom.  |
| 11. | T | F | Some people suffer heat stroke in their shower or bathtub.   |
| 12. | T | F | Round doorknobs are generally the most difficult kind to use.  |
| 13. | T | F | A dark sign with light lettering is generally easier to read than a light sign with dark lettering.                                  |
| 14. | T | F | Most hotels/motels have evacuation procedures for guests who have disabilities and would require special assistance in an emergency. |

- |     |               |  |
|-----|---------------|--|
| 1.  | False         | Prostheses or long leg braces may make ramps difficult. Also, persons with balance problems may find ramps difficult to use.   |
| 2.  | True or False | Guide dogs now are trained to recognize and stop at curb cuts or curb ramps. Previously, dogs were trained to stop at abrupt changes in level (e.g., curbs, steps, etc.).  |
| 3.  | False         | Prostheses will not work, nor will reaching devices. They also can be a hazard if a fire near a hall way elevator control panel generates enough heat to call elevator to that floor.  |
| 4.  | True          | Especially in basement stairs, top and bottom steps should have contrasting strips or color. Be careful of carpeted steps, as the colors or patterns may cause the steps to "blend" away.  |
| 5.  | False         | VERY FEW ...less than 5%! Blindness usually is acquired in mid or later years. Sensation in fingertips may be decreased, and modern technology (tapes, etc.) are easier to use than learning braille.  |
| 6.  | True          | Padding, pile height and some types of carpet construction may impede wheelchair maneuverability.  |
| 7.  | True          | Persons are sometimes taught to identify facilities by length of word; i.e., Men and Women. Changing the words may reverse the length. Graphics are encouraged. . . also for non-English speaking persons.   |
| 8.  | False         | Not always! The door might be excessively heavy, or might have heavy pressure resistance. Also, the type of hardware can be a factor.  |
| 9.  | False         | The key word here is MANY. Many grab bars might create a hazard!   |
| 10. | True          | Portable phones are a help. If installed, make sure that they are not wall-hung at a height that would be useless if a person fell.  |
| 11. | True          | This is a special concern in housing for elderly or persons with disabilities. Reduced sensation in hands or legs may result in burns not immediately felt.  |
| 12. | True          | They require the most hand and finger dexterity. Lever or loop types are best.   |
| 13. | True          | Some conflicting studies, but usually is true. The important factor is to have HIGH CONTRAST! Don't get too "cutesy"! Avoid tone on tone.  |
| 14. | False         | Almost none! Some are beginning to identify on registration board for benefit of emergency personnel (Fire or Police). Some people believe that designated accessible rooms should be only on first or second floors . . . but most guests want options. |

2 WETHERFIELD POST, MARCH 21, 1980



Architects' rendering of the group home for the handicapped the United Cerebral Palsy association is proposing to build on Maple Street.

## Many Residents in Favor Of Apartments for Disabled

333 Maple Street – Residential Zone



Modular Group Home – Community-based Living



BARC Photograph of Completed Project

# The Rehabilitation Act of 1973

## Section 504 – Discrimination

The Americans with Disabilities Act of 1990

Title I – Employment

Title II – State & Local Government

Title III – Public Accommodations

Titles II & III include Transportation

Title IV – Telephone Systems

## CODE ISSUES

philosophy is that everything is required to be accessible, and if it is not specifically exempted by the code than it shall be accessible.

### Site Arrival Conditions

- **Accessible Routes Are Required**
  - **From**
    - **Public transportation stops**
    - **Accessible parking**
    - **Passenger loading zones**



## Accessible Entrance

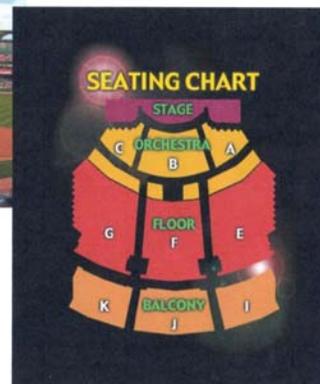


## Primary Function Area

- ***If the area being altered contains***
  - ***A primary function area***
    - ***The route to that area and any toilet rooms or drinking fountains that serve that area must be evaluated for accessibility***

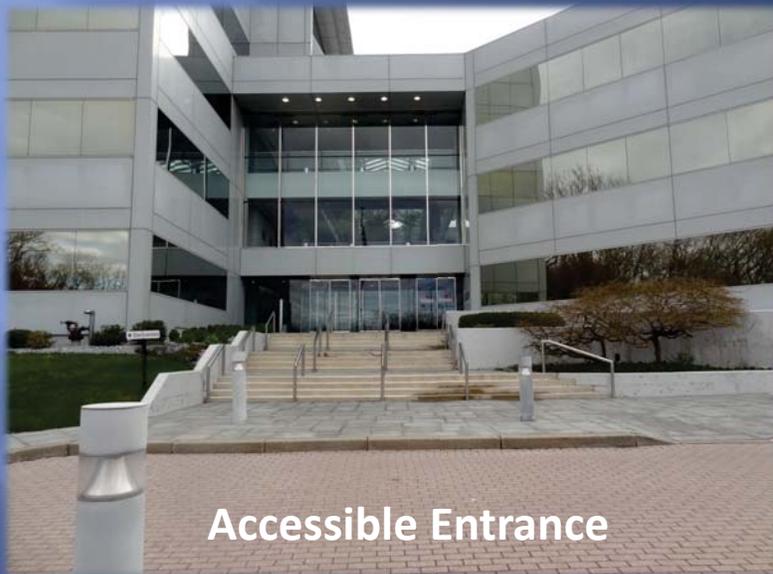


## Assembly Use





**Ramp Access Blended into the Design of the Building**



**Accessible Entrance**

## **Side Views of Accessible Ramp**





## Ramp Conditions

## Required Handrail Details

Chapter 5. General Site and Building Elements

ICC/ANSI A117.1-2003

**505.10.1 Top and Bottom Extension at Ramps.** Ramp handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or floor, or shall be continuous to the handrail of an adjacent ramp run.

**505.10.2 Top Extension at Stairs.** At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the landing nosing. Extensions shall return to a wall, guard, or

the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

**505.10.3 Bottom Extension at Stairs.** At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the bottom tread nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

**506 Windows**  
Accessible windows shall have operable parts complying with Section 309.

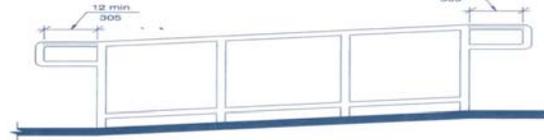


Fig. 505.10.1  
Top and Bottom Handrail Extensions at Ramps

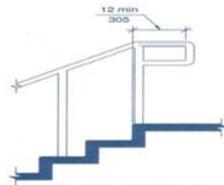


Fig. 505.10.2  
Top Handrail Extensions at Stairs

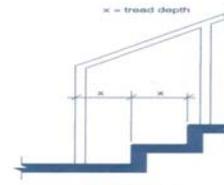


Fig. 505.10.3  
Bottom Handrail Extensions at Stairs



**ISSUE:**

**Ramp Extensions**

Missing Alarm Pull Switch

Unusable Rear Grab Bar



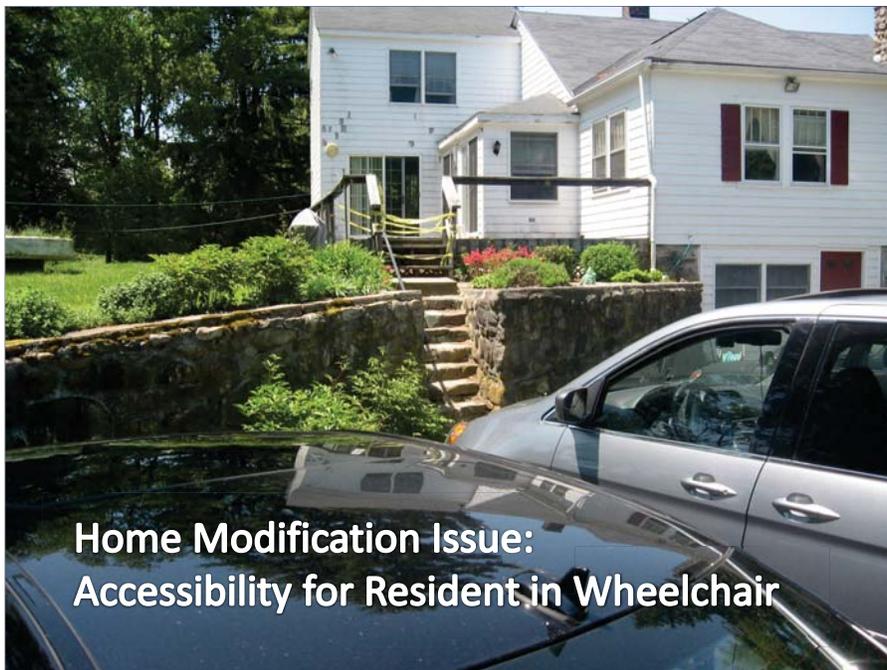
## Required Non-Slip Exit Path



Strip Mall Change of Occupancy Issues



Entrance Issues



Home Modification Issue:  
Accessibility for Resident in Wheelchair

## ADA REQUIREMENTS

tend to be subjective, with wording such as "when the changes are readily achievable" defined as being "easy to accomplish without much difficulty or expense".

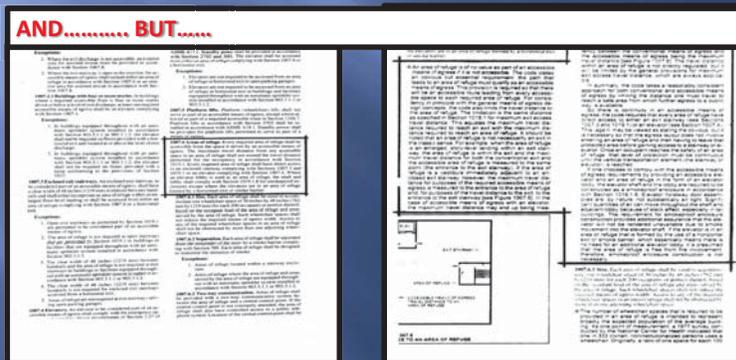
# Signage Issue – Confusing Language



## Question: Are code requirements definitive?

Example: Look at a specific requirement of the code

- Sentences in the code to state the requirement
- Paragraphs in the commentary to explain the requirement



## Federal Legislation & Accessibility

### ICC Codes

Coordinating

**ADA** (1990 Americans With Disabilities Act)

**FHA** (Fair Housing Amendment Act)

### Other Areas

For Consideration ???

**UFAS** (Uniform Federal Accessibility Standards)

**ADAAG** (Americans with Disabilities Act Accessibility Guidelines)

# Elevator Requirements

## 3.9 Elevators

Sends us to Chapter 30 of IBC  
Section 3001.1.1 Equipment  
Regulated By Statute

- o Addition as per 05 CT Supplement

## 3001.2 Referenced Standards

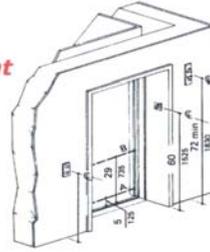
- Sends us to ASME A17.1
  - o Standard mainly used by State Elevator Division

## 1007.4 & .5

- Deal with Accessible elevators

## Section 1109

- Deals with Elevators, Lifts & controls



NOTE: The automatic door reopening device is activated if an object passes through either line A or line B. Line A and line B represent the vertical locations of the door reopening device and its triggering contact.



Elevator Conflict

## Public Accommodations

in New Construction

“There’s an OOPS on the table.”



## **National Fair Housing Advocate Online**

**\$600,000 Settlement Ends Discriminatory  
Policies at Housing Complex for Persons with  
Disabilities**

**“This is believed to be the largest settlement  
in a case challenging independent living  
requirements in Connecticut.”**

## **Landmark Agreement with Law School Admission Council**

The Justice Department’s proposed consent decree will require the Law School Admission Council “to pay \$7.73 million in penalties and damages to compensate for widespread and systematic discrimination in violation of the Americans with Disabilities Act (ADA)”.



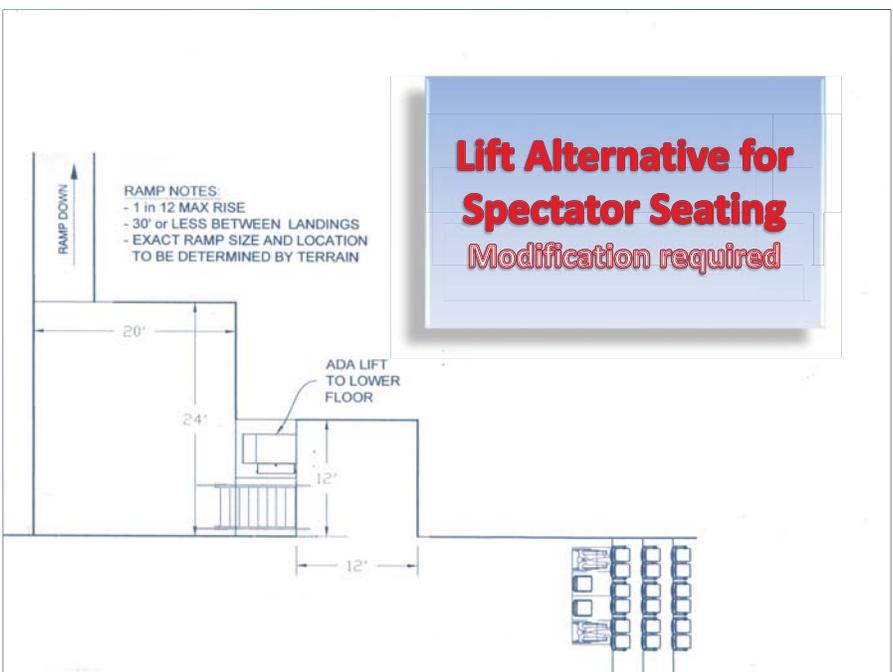
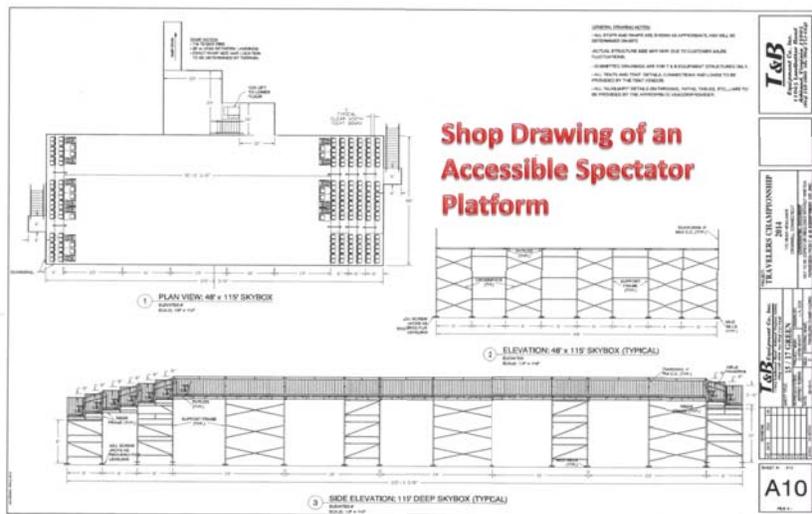
**Accessible Sightseeing**

**2009 Travelers Championship  
 TPC River Highlands  
 Cromwell, CT 06416**

**Compliance Guidelines  
 Connecticut State Building and Fire Safety Codes  
 Temporary Structures**



**Accessibility Issues Regarding Outdoor Events**

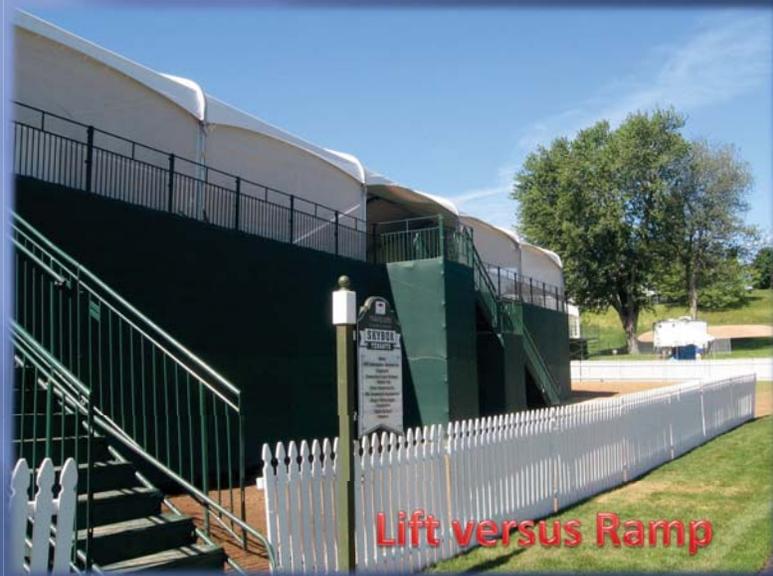




**ISSUE: Typical Platform Tent**



**Ramps as possible accessible solutions**



**Lift versus Ramp**



Lift Alternative Under Construction



ISSUE: Employee Service Access to Spectator Platform



Information and Technical Assistance on the Americans with Disabilities Act

Search ADA.gov go More Search Options

Law / Regulations Design Standards Technical Assistance Materials Enforcement

CIVIL MONETARY PENALTIES INFLATION ADJUSTMENT UNDER TITLE III

On March 28, 2014, the Department of Justice issued a Final Rule that adjusts for inflation the civil monetary penalties assessed or enforced by the Civil Rights Division, including civil penalties available under title III of the Americans with Disabilities Act of 1990 (ADA). For the ADA, this adjustment increases the maximum civil penalty for a first violation under title III from \$55,000 to \$75,000; for a subsequent violation the new maximum is \$150,000. The new maximums apply only to violations occurring on or after April 28, 2014.

This Final Rule is a non-discretionary agency action made pursuant to Section 4 of the Federal Civil Penalties Adjustment Act of 1990, as amended (Adjustment Act), which mandates the Attorney General to adjust for inflation the civil penalties assessed or enforced by the Department of Justice. The amounts of the adjustment were determined according to a specific mathematical formula set forth in Section 5 of the Adjustment Act. The previous adjustment under the ADA occurred in 1999.

PDF (Federal Register format) | HTML (Federal Register)

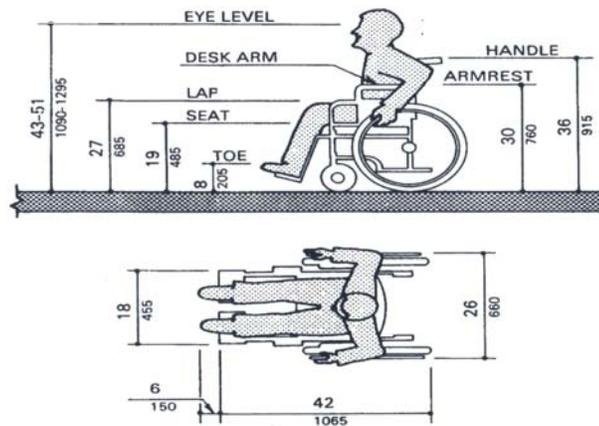
**New ADA adjustment increases for first violations and subsequent violations**

## UNIVERSAL DESIGN

is a concept that the design of spaces and products shall be accessible and usable by everyone to the greatest extent possible without a need for special adaptations.



### Dimensions of Adult-Size Wheelchair



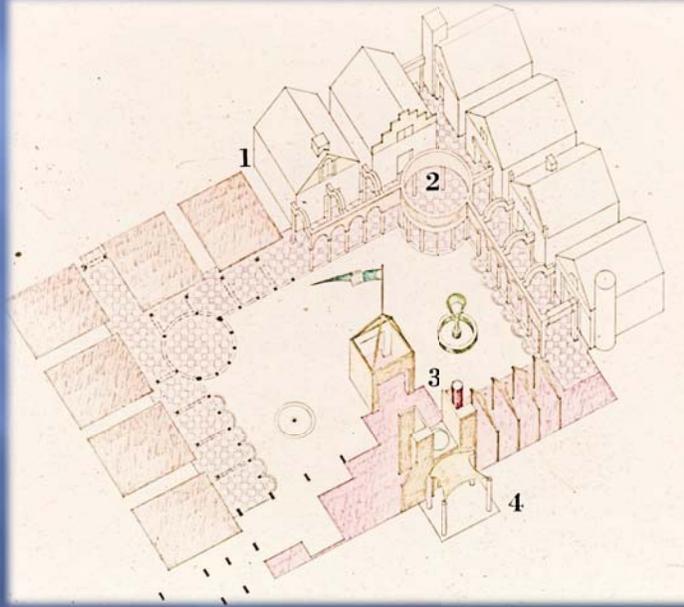


Conceptual  
Image

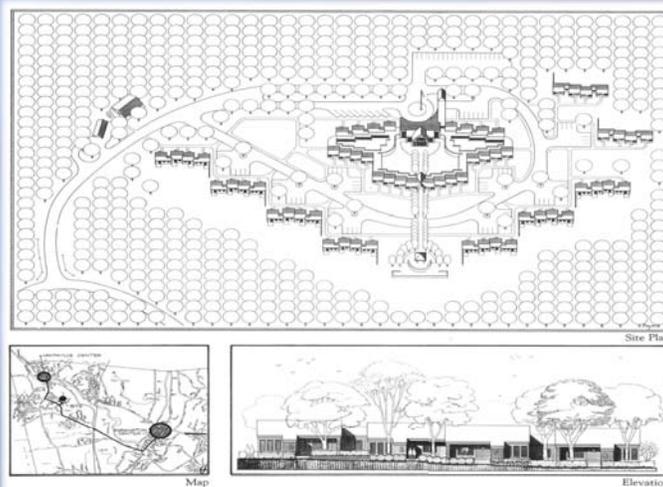
333 Maple  
Street

**Activity  
Zones:**

- 1- Private
- 2- Semi-  
Private
- 3- Semi-  
Public
- 4 - Public



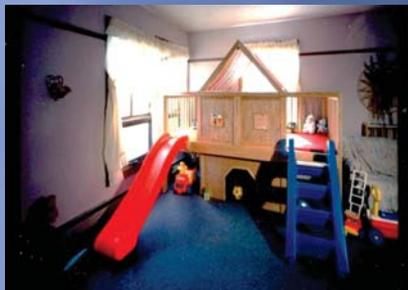
**BARC** Sketch Study of the Personal Living Center



**New Horizons Village** Concept Study 1982



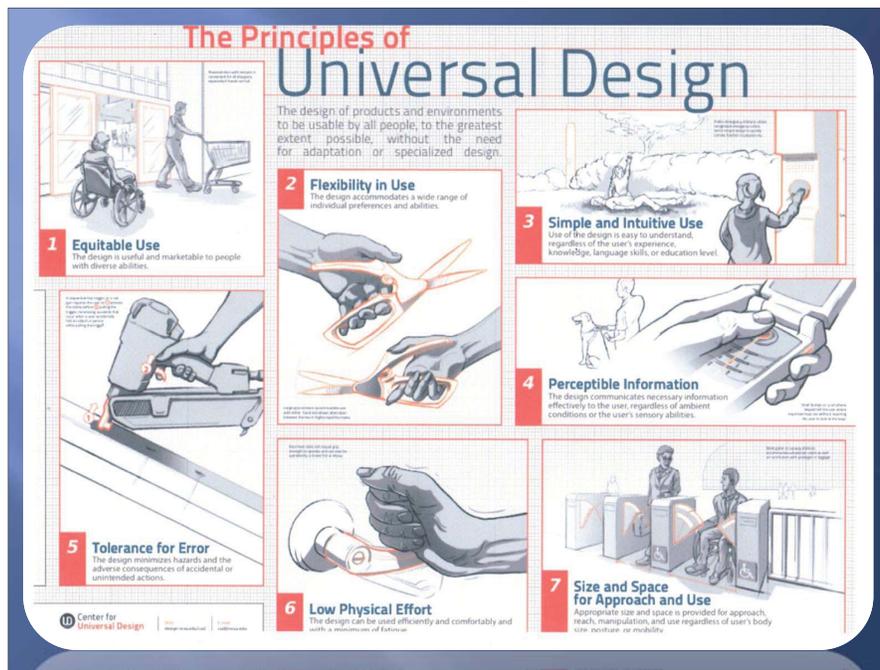
Individual versus Universal



Playscape  
Design : Toddler  
Care by Parents  
in Wheelchairs

Crib Design:  
Infant Care by  
Parents in  
Wheelchairs





## Conclusion

The Building Code is binding by law for all towns, cities, boroughs and all state agencies as per provisions of sections 29-252a and 29-253 of the Connecticut General Statutes.

Provisions of ADA are binding by Federal Law.

Standards continue to be updated as the temporary able-bodied are becoming more aware of the need for Universal Design.

Stay tuned for Future Developments.

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