

ICC A117.1–2017 with Supplement 1:

Standard for Accessible and Usable Buildings and Facilities

American National Standard

International Code Council
200 Massachusetts Avenue, NW, Suite 250
Washington, DC 20001

Approved March 28, 2017

American National Standards Institute
1899 L Street, NW, 11th Floor
Washington, DC 20036



Standard for Accessible and Usable Buildings and Facilities
(ICC A117.1-2017)

First Printing: May 2017
Second Printing: December 2018
Third Printing: April 2022
Fourth Printing: September 2022
Fifth Printing: December 2023

ISBN: 978-1-962103-66-4 (PDF download)

COPYRIGHT © 2017
By
INTERNATIONAL CODE COUNCIL, INC.

ALL RIGHTS RESERVED. This 2017 ICC Standard for Accessible and Usable Buildings and Facilities (ICC A117.1-2017) is a copyrighted work owned by the International Code Council, Inc (“ICC”). Without advance written permission from the ICC, no part of this book may be reproduced, distributed, or transmitted in any form or by any means, including, without limitation, electronic, optical or mechanical means (by way of example, and not limitation, photocopying, or recording by or in an information storage retrieval system). For information on use rights and permissions, please contact: ICC Publications, 4051 Flossmoor Road, Country Club Hills, IL 60478. Phone 1-888-ICC-SAFE (422-7233).

Trademarks: “International Code Council,” the “International Code Council” logo, “ICC,” the “ICC” logo, and other names and trademarks appearing in this book are registered trademarks of the International Code Council, Inc., and/or its licensors (as applicable), and may not be used without permission.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgement of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he or she has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

ICC & CANINE COMPANIONS: WORKING TO RAISE AWARENESS

Canine Companions (<https://canine.org/>) is leading the service dog industry so clients and their dogs can live with greater independence. The organization provides service dogs to adults, children and veterans with disabilities and facility dogs to professionals working in healthcare, criminal justice and educational settings. Founded in 1975, their dogs and all follow-up services have been provided at no cost to clients.

ICC and Canine Companions both support the goal of creating safe, affordable, accessible and sustainable buildings and communities.



FOREWORD

(The information contained in this foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.)

Development

The 1961 edition of ANSI Standard A117.1 presented the first criteria for accessibility to be approved as an American National Standard and was the result of research conducted by the University of Illinois under a grant from the Easter Seal Research Foundation. The National Easter Seal Society and the President's Committee on Employment of People with Disabilities became members of the Secretariat, and the 1961 edition was reaffirmed in 1971.

In 1974, the U.S. Department of Housing and Urban Development joined the Secretariat and sponsored needed research, which resulted in the 1980 edition. After further revision that included a special effort to remove application criteria (scoping requirements), the 1986 edition was published. When requested in 1987, the Council of American Building Officials (CABO) assumed the Secretariat. Central to the intent of the change in the Secretariat was the development of a standard that, when adopted as part of a building code, the standard would be compatible with the building code and its enforcement. The 1998 edition largely achieved that goal. The 2017 edition of the standard is the latest example of the A117.1 committee's effort to continue developing a standard that is compatible with the building code.

In 1998, CABO became the International Code Council (ICC). The International Code Council (ICC) became the secretariat in 1998 when CABO became ICC. The 2017 edition marks the 30th anniversary of the ICC Secretariat of the standard.

2017 Edition

New to the 2017 edition are enhanced dimensions for clear floor spaces and turning spaces. These increases were in response to technical data regarding the space needed by persons using scooters and some types of motorized wheelchairs. These enhanced provisions only apply to new buildings and facilities. Where existing buildings and facilities are remodeled, the historic dimensions will still apply.

Other changes include exterior routes, curb cuts, blended transitions, clarity for detectable warnings, passenger drop offs and parking requirements coordinated with the Public Rights of Way Guidelines, providing an accessible design standard for electrical vehicle charging stations and enhanced safety for accessible routes crossing parking lots. Also introduced are acoustic standards for classrooms, features allowing for better communication for persons using sign language, provisions addressing the recharging of wheelchairs in assembly venues and hotels, access to





gaming machines and tables, and provisions for water bottle filling stations.

The new standard continues to provide coordination between the accessible provisions of this standard and the Fair Housing Accessibility Guidelines (FHAG) and the 2010 Standard for Accessible Design referenced by the American's with Disabilities Act (ADA) and the Architectural Barriers Act (ABA).

ANSI Approval

This Standard was processed and approved for submittal to ANSI by the Accredited Standards Committee A117 on Architectural Features and Site Design of Public Buildings and Residential Structures for Persons with Disabilities. ANSI approved the 2017 edition on March 28, 2017. Committee approval of the Standard does not necessarily imply that all Committee members voted for its approval.

Adoption

ICC A117.1–2017 is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's laws.

Interpretations

Requests for interpretations on the provisions of ICC A117.1–2017 should be addressed to: ICC, Chicago District Office, 4051 W. Flossmoor Road, Country Club Hills, IL 60478–5795.

Maintenance—Submittal of Proposals

All ICC standards are revised as required by ANSI. Proposals for revising this edition are welcome. Please visit the ICC website at www.iccsafe.org for the official “Call for proposals” announcement. A proposal form and instructions can also be downloaded from www.iccsafe.org.

ICC, its members and those participating in the development of ICC A117.1-2017 do not accept any liability resulting from compliance or noncompliance with the provisions of ICC A117.1-2017. ICC does not have the power or authority to police or enforce compliance with the contents of this standard. Only the governmental body that enacts this standard into law has such authority.

Marginal Markings

Solid vertical lines in the margins within the body of the standard indicate a technical change from the requirements of the 2009 edition. Deletion indicators in the form of an arrow (◀) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.

At the time of ANSI approval, the A117.1 Committee consisted of the following members:

Organizational Member

Representative

Building Owners and Managers Association International (BOMA) (BO) Steve Orłowski

COMMITTEE

Construction Specifications Institute (CSI)(P)	Dennis J. Hall, FAIA, FCSI
Disability Rights Education & Defense Fund (DREDF) (CU).	Marilyn Golden
.	Karen L. Braitmayer, FAIA (Alt)
Hearing Loss Association of America (HLAA) (CU)	Sharon Toji
.	Brenda Battat (Alt)
Illuminating Engineering Society of North America (IESNA) (P)	Greg Guarnaccia
.	Robert Dupuy (Alt)
.	Eunice Noell-Waggoner (Alt)
International Association of Amusement Parks and Attractions (IAAPA) (BO) . .	John Paul Scott, AIA, NCARB
. .	Robert Minnick, PE, CSP
. .	Stephanie See (Alt)
International Code Council (ICC) (R)	Kimberly Paarlberg, RA
.	John S. Gonzalez (Alt)
International Sign Association (ISA) (PD)	Teresa Cox
.	Glenn Dea, AIA (Alt)
.	Kenny Peskin (Alt)
Little People of America, Inc. (LPA) (CU).	Allison Lourash
Montgomery County Department of Permitting Services (MCDPS) (R).	Robert Kelly
.	Hemal Mustafa (Alt)
National Association of Convenience Stores (NACS) (BO)	Bradley Gaskins, AIA, CASp
.	Sean Robinson (Alt)
National Association of Home Builders (NAHB) (BO).	Dan Buuck.
.	Gary Ehrlich, P.E. (Alt)
National Association of Theater Owners	Gene Boecker, AIA, RAS
.	Matt Lescher, CASp (Alt)
National Association of the Deaf (NAD) (CU)	Hansel Bauman
National Electrical Manufacturers Association (NEMA) (PD)	Richard Roberts
.	Denise Pappas (Alt)
National Elevator Industry, Inc. (NEII) (PD)	Kevin L. Brinkman
National Fire Protection Association (NFPA) (R)	Allan B. Fraser
.	Ron Coté, PE (Alt)
National Multifamily Housing Council (NMHC) (BO).	Ronald G. Nickson
New Mexico Governor's Commission on Disability (NMGCD) (CU)	Hope Reed
.	Daniel A. Fernandez (Alt)
North Carolina Department of Insurance; Office of the State Fire Marshal (NCOSFM)(R).	Laurel W. Wright
Paralyzed Veterans of America (PVA) (CU).	Mark H. Lichter, AIA
.	Gigi L. Scovel, AIA (Alt)

Plumbing Manufacturers International (PMI) (PD)	Matt Sigler
Rehabilitation Engineering and Assistive Technology of North America (RESNA)(R)	Edward Steinfeld, FAIA Glenn Hedman, PE, CPE (Alt)
Society for Experiential Graphic Design (SEGD) (P)	Dave Miller Ann Makowski (Alt)
Stairbuilders and Manufacturers Association (SMA) (PD)	David Cooper Paul Wishnoff (Alt)
Target Corporation (BO)	Thomas Phillips
United Cerebral Palsy Association, Inc. (UCPA) (CU)	Gina Hilberry, AIA
United Spinal Association (CU)	Dominic Marinelli Nathan Roether (Alt)
U.S. Access Board (USAB) (R)	Marsha K. Mazz Jim Pecht (Alt)
U.S. Department of Agriculture (USDA) (R)	Michel M. Mitias William R. Downs (Alt)
U.S. Department of Housing and Urban Development (HUD) (R)	Cheryl D. Kent Luis F. Borray (Alt)
Washington Association of Building Officials (WABO) (R)	Rick Lupton Steve McGlocklin Richard Williams (Alt)
World Institute on Disability (WID) (CU)	Hale Zukas

Individual Members

Todd Andersen AIA (P)
 Alan Gettelman (PD)
 Jake L. Pauls, CPE (P)
 Ed Roether (P)
 John P. S. Salmen, FAIA (P)
 Kenneth M. Schoonover, PE (P)

Acknowledgment

The updating of this standard over the past 6 years could only be accomplished by the hard work of not only the current committee members listed at the time of approval but also the many committee members who participated and contributed to the process over the course of development. ICC recognizes their contributions as well as those of the participants who, although not on the committee, provided valuable input during this update cycle.

The A117.1 standard committee would like to take a moment to recognize three members of the committee who were unable to see the fruits of their labor from this past cycle come to completion. Much of what has been accomplished would not have been possible without their contributions, expertise and passion for providing access to the disabled communities in the built environment. This edition of the standard will be a lasting tribute to their memory and a reminder for those who serve on the committee of what may be accomplished.

Brian D. Black – National Elevator Industry, Inc.
 Ron Burton – Building Operators and Managers Association
 Tricia Mason – Little People of America

Interest Categories

Builder/Owner/Operator (BO) – Members in this category include those in the private sector involved in the development, construction, ownership and operation of buildings or facilities; and their respective associations.

Consumer/User (CU) – Members in this category include those with disabilities, or others who require accessibility features in the built environment for access to buildings, facilities and sites; and their respective associations.

Producer/Distributor (PD) – Members in this category include those involved in manufacturing, distributing, or sales of products; and their respective associations.

Professional (P) – Members in this category include those qualified to engage in the development of the body of knowledge and policy relevant to their area of practice, such as research, testing, consulting, education, engineering or design; and their respective associations.

Regulatory (R) – Members in this category include federal agencies, representatives of regulatory agencies or organizations that promulgate or enforce codes or standards; and their respective associations.

Individual Expert (IE) (Nonvoting) – Members in this category are individual experts selected to assist the consensus body. Individual experts shall serve for a renewable term of one year and shall be subject to approval by vote of the consensus body. Individual experts shall have no vote.

Voting Membership in Each Category

Category	Number
Builder/Owner/Operator - (BO)	8
Consumer/User - (CU)	11
Professional - (P)	15 (5 individual)
Producer/Distributor - (PD)	9 (1 individual)
Regulatory - (R)	9
TOTAL MEMBERS	52

Table of Contents

CHAPTER 1 APPLICATION AND ADMINISTRATION	1	CHAPTER 5 GENERAL SITE AND BUILDING ELEMENTS	55
101 Title	1	501 General	55
102 Purpose	1	502 Parking Spaces	55
103 Human Factor Provisions	1	503 Passenger Loading Zones	59
104 Compliance Alternatives	1	504 Stairways	60
105 Conventions	1	505 Handrails	62
106 Referenced Documents	1	506 Windows	65
107 Definitions	3	507 Accessible Routes through Parking	65
CHAPTER 2 SCOPING	7	CHAPTER 6 PLUMBING ELEMENTS AND FACILITIES	67
201 General	7	601 General	67
202 Dwelling and Sleeping Units	7	602 Drinking Fountains and Bottle Filling Stations	67
203 Administration	7	603 Toilet and Bathing Rooms	68
CHAPTER 3 BUILDING BLOCKS	9	604 Water Closets and Toilet Compartments	69
301 General	9	605 Urinals	78
302 Floor Surfaces	9	606 Lavatories and Sinks	79
303 Changes in Level	9	607 Bathtubs	80
304 Turning Space	10	608 Shower Compartments	82
305 Clear Floor Space	12	609 Grab Bars	87
306 Knee and Toe Clearance	13	610 Seats	89
307 Protruding Objects	15	611 Washing Machines and Clothes Dryers	90
308 Reach Ranges	16	612 Saunas and Steam Rooms	92
309 Operable Parts	17	CHAPTER 7 COMMUNICATION ELEMENTS AND FEATURES	93
CHAPTER 4 ACCESSIBLE ROUTES	19	701 General	93
401 General	19	702 Alarms	93
402 Accessible Routes	19	703 Signs	93
403 Walking Surfaces	19	704 Telephones	100
404 Doors, Doorways and Gates	25	705 Detectable Warnings and Surfaces	101
405 Ramps	33	706 Assistive Listening Systems	106
406 Curb Ramps and Blended Transitions	35	707 Automatic Teller Machines (ATMs) and Fare Machines	107
407 Elevators	40	708 Two-way Communication Systems	108
408 Limited-use/Limited-application Elevators	47		
409 Private Residence Elevators	50		
410 Platform Lifts	51		

TABLE OF CONTENTS

CHAPTER 8 SPECIAL ROOMS AND SPACES . . . 109

801	General	109
802	Assembly Areas	109
803	Dressing, Fitting, and Locker Rooms	116
804	Kitchens	116
805	Transportation Facilities	118
806	Holding Cells and Housing Cells	121
807	Courtrooms	121
808	Enhanced Acoustics for Classrooms	122

CHAPTER 9 FURNISHINGS AND EQUIPMENT . 123

901	General	123
902	Dining Surfaces and Work Surfaces	123
903	Benches	123
904	Sales and Service Counters and Windows	124
905	Storage Facilities	126
906	Charging Stations	126
907	Gaming Machines and Tables	126

CHAPTER 10 RECREATIONAL FACILITIES 127

1001	General	127
1002	Amusement Rides	127

1003	Recreational Boating Facilities	129
1004	Exercise Machines and Equipment	129
1005	Fishing Piers and Platforms	131
1006	Golf Facilities	132
1007	Miniature Golf Facilities	132
1008	Play Areas	133
1009	Swimming Pools, Wading Pools, Hot Tubs and Spas	137
1010	Shooting Facilities with Firing Positions	142

CHAPTER 11 DWELLING UNITS AND SLEEPING UNITS 143

1101	General	143
1102	Accessible Units	143
1103	Type A Units	144
1104	Type B Units	150
1105	Type C (Visitable) Units	159
1106	Units with Communication Features	160

INDEX 161

SUPPLEMENT 1 177

List of Figures

Chapter 1	Application and Administration 1	Figure 308.2.2	Obstructed High Forward Reach 16
Figure 105.4	Graphic Convention for Figures 2	Figure 308.3.1	Unobstructed Side Reach 17
Chapter 2	Scoping (No figures) 7	Figure 308.3.2(A)	Obstructed High Side Reach 17
Chapter 3	Building Blocks 9	Figure 308.3.2(B)	Obstructed High Side Reach 17
Figure 302.2	Carpet on Floor Surfaces 9	Figure 309.1	Operable Parts - Exception 3 18
Figure 302.3	Openings in Floor Surfaces 9	Chapter 4. Accessible Routes 19	
Figure 303.2	Vertical Change in Level 9	Figure 403.5.1(A)	Clear Width of an Accessible Route - New Buildings - Interior 19
Figure 303.3	Beveled Changes in Level 9	Figure 403.5.1(B)	Clear Width of an Accessible Route - New Buildings - Exterior 20
Figure 304.3.1.1	Circular Turning Space - New Buildings - Size and Overlap 10	Figure 403.5.1(C)	Clear Width of an Accessible Route - Existing Buildings - Interior 20
Figure 304.3.1.2	Circular Turning Space - Existing Buildings - Size and Overlap 10	Figure 403.5.1(D)	Clear Width of an Accessible Route - Existing Buildings - Exterior 20
Figure 304.3.2.1(A)	T-Shaped Turning Space - New Buildings - Option 1 10	Figure 403.5.2.1(A)	Clear Width at 180-degree Turn - New Buildings - Option 1 21
Figure 304.3.2.1(B)	T-shaped Turning Space - New Buildings - Option 2 11	Figure 403.5.2.1(B)	Clear Width at 180-degree Turn - New Buildings - Option 2 21
Figure 304.3.2.1(C)	T-shaped Turning Space - New Buildings - Option 3 11	Figure 403.5.2.1(C)	Clear Width at 180-degree Turn - New Buildings - Option 3 21
Figure 304.3.2.1.1	T-shaped Turning Space - New Buildings - Overlap 11	Figure 403.5.2.2(A)	Clear Width at 180-degree Turn - Existing Buildings 22
Figure 304.3.2.2	T-shaped Turning Space - New Buildings - Size and Overlap 12	Figure 403.5.2.2(B)	Clear Width at 180-degree Turn - Existing Buildings - Exception 22
Figure 304.3.2.2.1	T-shaped Turning Space - Existing Buildings - Overlap 12	Figure 403.5.3.1(A)	Clear Width at 90-degree Turn - New Buildings - Option 1 22
Figure 305.3.1	Size of Clear Floor Space - New Buildings 12	Figure 403.5.3.1(B)	Clear Width at 90-degree Turn - New Buildings - Option 2 23
Figure 305.3.2	Size of Clear Floor Space - Existing Buildings 12	Figure 403.5.3.1(C)	Clear Width at 90-degree Turn - New Buildings - Option 3 23
Figure 305.5(A)	Position of Clear Floor Space - Forward 13	Figure 403.5.3.1(D)	Clear Width at 90-degree Turn - New Buildings - Option 4 23
Figure 305.5(B)	Position of Clear Floor Space - Parallel 13	Figure 403.5.3.2	Clear Width at 90-degree Turn - Existing Buildings 23
Figure 305.7.1	Maneuvering Clearance in an Alcove - Parallel Approach 13	Figure 403.5.4.1(A)	Passing Space- New Buildings - 60 X 60 Option 24
Figure 305.7.2	Maneuvering Clearance in an Alcove - Forward Approach 13	Figure 403.5.4.1(B)	Passing Space- New Buildings - T-turn Option 24
Figure 306.2(A)	Toe Clearance - Elevation 14	Figure 403.5.4.2(A)	Passing Space- Existing Buildings - 60 X 60 Option 25
Figure 306.2(B)	Toe Clearance - Plan 14	Figure 403.5.4.2(B)	Passing Space- Existing Buildings - T-turn Option 25
Figure 306.3(A)	Knee Clearance - Elevation 14	Figure 404.2.2(A)	Clear Width of Doorways - Hinged Door 26
Figure 306.3(B)	Knee Clearance - Plan 14	Figure 404.2.2(B)	Clear Width of Doorways - Sliding Door 26
Figure 307.2	Limits of Protruding Objects 15	Figure 404.2.2(C)	Clear Width of Doorways - Folding Door 26
Figure 307.3(A)	Post-mounted Protruding Objects 15		
Figure 307.3(B)	Post-mounted Protruding Objects 15		
Figure 307.4	Reduced Vertical Clearance 16		
Figure 308.2.1	Unobstructed Forward Reach 16		

LIST OF FIGURES

Figure 404.2.2(D)	Clear Width of Doorways- Doorways within Doors.	26	Figure 404.2.3.5(A)	Recessed Doors and Gates - New Buildings - Pull Side	29
Figure 404.2.3.2(A)	Maneuvering Clearances at Manual Swinging Doors - Front Approach - Pull Side	26	Figure 404.2.3.5(B)	Recessed Doors and Gates - New Buildings - Push Side	29
Figure 404.2.3.2(B)	Maneuvering Clearances at Manual Swinging Doors - Front Approach - Push Side - New Buildings	26	Figure 404.2.3.5(C)	Recessed Doors and Gates - New Buildings - Push Side - Provided with Both Closer and Latch.	29
Figure 404.2.3.2(C)	Maneuvering Clearances at Manual Swinging Doors - Front Approach - Pull Side - Existing Buildings - Footnote 5	26	Figure 404.2.3.5(D)	Recessed Doors and Gates - Existing Buildings - Pull Side	30
Figure 404.2.3.2(D)	Maneuvering Clearances at Manual Swinging Doors - Hinge Approach - Pull Side	27	Figure 404.2.3.5(E)	Recessed Doors and Gates - Existing Buildings - Push Side	30
Figure 404.2.3.2(E)	Maneuvering Clearances at Manual Swinging Doors - Hinge Approach - Pull Side	27	Figure 404.2.3.5(F)	Recessed Doors and Gates - Existing Buildings - Push Side - Door Provided with Both Closer and Latch.	30
Figure 404.2.3.2(F)	Maneuvering Clearances at Manual Swinging Doors - Hinge Approach - Push Side	27	Figure 404.2.5(A)	Two Doors or Gates in a Series - New Buildings.	30
Figure 404.2.3.2(G)	Maneuvering Clearances at Manual Swinging Doors - Latch Approach - Pull Side	27	Figure 404.2.5(B)	Two Doors or Gates in a Series - New Buildings.	30
Figure 404.2.3.2(H)	Maneuvering Clearances at Manual Swinging Doors - Latch Approach - Push Side	27	Figure 404.2.5(C)	Two Doors or Gates in a Series - New Buildings.	31
Table 404.2.3.2	Maneuvering Clearances at Manual Swinging Doors and Gates	28	Figure 404.2.5(D)	Two Doors or Gates in a Series - Existing Buildings.	31
Table 404.2.3.3	Maneuvering Clearances at Sliding and Folding Doors.	28	Figure 404.2.5(E)	Two Doors or Gates in a Series - Existing Buildings.	31
Figure 404.2.3.3(A)	Maneuvering Clearance at Sliding and Folding Doors - Front Approach - New Buildings.	28	Figure 404.2.5(F)	Two Doors or Gates in a Series - Existing Buildings.	31
Figure 404.2.3.3(B)	Maneuvering Clearance at Sliding and Folding Doors - Front Approach - Existing Buildings - Footnote 2.	28	Table 405.2	Allowable Ramp Dimensions for Construction in Existing Sites, Buildings and Facilities.	33
Figure 404.2.3.3(C)	Maneuvering Clearance at Sliding and Folding Doors - Pocket or Hinge Approach	28	Figure 405.7	Ramp Landings	33
Figure 404.2.3.3(D)	Maneuvering Clearance at Sliding and Folding Doors - Stop or Latch Approach.	28	Figure 405.9	Edge Protection - Limited Drop Off - Exception 3	34
Table 404.2.3.4	Maneuvering Clearances for Doorways without Doors or Gates	29	Figure 405.9.1	Extended Floor Surface.	35
Figure 404.2.3.4(A)	Maneuvering Clearances for Doorways without Doors or Gates - Front Approach - New Buildings	29	Figure 405.9.2.1	Curb.	35
Figure 404.2.3.4(B)	Maneuvering Clearances for Doorways without Doors or Gates - Front Approach - Existing Buildings - Footnote 1	29	Figure 405.9.2.2	Barrier	35
Figure 404.2.3.4(C)	Maneuvering Clearances for Doorways without Doors or Gates - Side Approach	29	Figure 406.2(A)	Perpendicular Curb Ramp.	36
			Figure 406.2(B)	Perpendicular Curb Ramp.	36
			Figure 406.3(A)	Parallel Curb Ramp.	37
			Figure 406.3(B)	Parallel Curb Ramp.	37
			Figure 406.4	Blended Transition	38
			Figure 406.5.2	Grade Break	39
			Figure 406.5.4	Counter Slope of Surfaces Adjacent to Curb Ramps	39
			Figure 406.5.5	Clear Space at Bottom of Curb Ramps and Blended Transitions.	40
			Figure 407.2.1.1	Height of Elevator Call Buttons	41
			Figure 407.2.1.7	Destination-oriented Elevator Indication	41
			Figure 407.2.2.2(A)	Elevator Visible Signals - Height of Signals.	42
			Figure 407.2.2.2(B)	Elevator Visible Signals - Size of Signals.	42

Figure 407.2.3.1	Floor Designation	42	Figure 410.5.1.1	Platform Lifts - Size with Single Door or Doors on Opposite Ends - New Buildings	52
Figure 407.2.3.2	Destination-oriented Elevator Car Identification	43	Figure 410.5.1.2	Platform Lifts - Size with Door or Doors on Opposite Ends - Existing Buildings	52
Figure 407.4.1(A)	Inside Dimensions of Elevator Cars - Centered Door Location	43	Figure 410.5.2.1	Platform Lifts - Size with Doors on Adjacent Sides - New Buildings	53
Figure 407.4.1(B)	Inside Dimensions of Elevator Cars - Side (Off-centered Door) Location.	44	Figure 410.5.2.2	Platform Lifts - Size with Doors on Adjacent Sides - Existing Buildings	53
Figure 407.4.1(C)	Inside Dimensions of Elevator Cars - Any Door Location	44			
Figure 407.4.1(D)	Inside Dimensions of Elevator Cars - Any Door Location.	44			
Figure 407.4.1(E)	Inside Dimensions of Elevator Cars - Existing Car Configuration.	44			
Table 407.4.1	Minimum Dimensions of Elevator Cars	44	Chapter 5. General Site and Building Elements		55
Figure 407.4.6.2	Elevator Car Control Buttons	45	Figure 502.2(A)	Vehicle Parking Space Size	55
Table 407.4.7.1.4	Control Button Identification	46	Figure 502.2(B)	Van Parking Space Size Exception	55
Figure 408.3.3(A)	Door Location for Limited Use/Limited Application (LULA) Elevators - Car with Single Door	48	Figure 502.4	Parking Space Access Aisle	56
Figure 408.3.3(B)	Door Location for Limited Use/Limited Application (LULA) Elevators - Car with Doors on Opposite Sides	48	Figure 502.9.1	Wide Sidewalks	57
Figure 408.3.3(C)	Door Location for Limited Use/Limited Application (LULA) Elevators - Car with Doors on Adjacent Sides	48	Figure 502.9.1.2	Narrow Sidewalks	58
Figure 408.3.3(D)	Door Location for Limited Use/Limited Application (LULA) Elevators - Car with Doors on Adjacent Sides - Exception	49	Figure 502.9.2	Perpendicular or Angled Parking Space.	58
Figure 408.4.1(A)	Inside Dimensions of Limited Use/Limited Application (LULA) Elevator Cars - New Buildings	49	Figure 503.3(A)	Passenger Loading Zone Access Aisle - New Buildings	59
Figure 408.4.1(B)	Inside Dimensions of Limited Use/Limited Application (LULA) Elevator Cars - Existing Buildings - Exception 1	49	Figure 503.3(B)	Passenger Loading Zone Access Aisle - Existing Buildings	60
Figure 408.4.1(C)	Inside Dimensions of Limited Use/Limited Application (LULA) Elevator Cars - Existing Buildings - Exception 2	50	Figure 504.2	Treads and Risers for Stairways.	60
Figure 409.4.1(A)	Private Residence Elevators - New Buildings - Car Size	50	Figure 504.5(A)	Stair Nosings - Vertical Riser - Curve or Bevel at Leading Edge.	61
Figure 409.4.1(B)	Private Residence Elevators - Existing Buildings - Car Size	51	Figure 504.5(B)	Stair Nosings - Vertical Riser - Curved Nosing	61
Figure 409.4.6.3	Location of Controls in Private Residence Elevators	51	Figure 504.5(C)	Stair Nosings - Vertical Riser - Beveled Nosing	61
Figure 410.2.1(A)	Platform Lift Doors and Gates - Platform Lift with Door at One End or at Opposite Ends.	52	Figure 504.5(D)	Stair Nosings - Vertical Riser - Angled Riser	61
Figure 410.2.1(B)	Platform Lift Doors and Gates - Platform Lift with Doors on Adjacent Sides	52	Figure 505.4(A)	Handrail Height - Stairs	62
			Figure 505.4(B)	Handrail Height - Ramps	62
			Figure 505.5	Handrail Clearance.	62
			Figure 505.7(A)	Handrail Cross Section - Circular	63
			Figure 505.7(B)	Handrail Cross Section - Noncircular	63
			Figure 505.7(C)	Handrail Cross Section - Noncircular	63
			Figure 505.10.1	Top and Bottom Handrail Extension at Ramps	64
			Figure 505.10.2	Top Handrail Extension at Stairs	64
			Figure 505.10.3	Bottom Handrail Extension at Stairs.	64
			Chapter 6. Plumbing Elements and Facilities		67
			Figure 602.2.1(A)	Clear Floor Space at Wheelchair Drinking Fountains.	67
			Figure 602.2.1(B)	Clear Floor Space at Wheelchair Drinking Fountains - Primarily for Children's Use - Exception	67
			Figure 602.2.3	Wheelchair Drinking Fountain Spout Height and Location.	67

LIST OF FIGURES

Figure 602.2.4	Wheelchair Drinking Fountain Spout Location.	68	Figure 604.11.7(B)	Children's Dispenser Outlet - Exception	78
Figure 602.3.2	Standing Use Drinking Fountain Spout Height and Location	68	Figure 605.2(A)	Height and Depth of Urinal - Wall Hung Type.	78
Figure 602.3.3	Standing Use Drinking Fountain Spout Location.	68	Figure 605.2(B)	Height and Depth of Urinal - Stall Type	79
Table 603.6	Maximum Reach Depth and Height	69	Figure 606.3	Height of Lavatories and Sinks.	79
Figure 604.2	Water Closet Location.	69	Figure 607.2(A)	Clearance for Bathtubs with Removable In-tub Seats	80
Figure 604.3	Size of Clearance for Water Closet.	70	Figure 607.2(B)	Clearance for Bathtubs with Seat at Head End of Tub	80
Figure 604.4	Water Closet Seat Height	70	Figure 607.4.1(A)	Grab Bars for Bathtubs with Seat at Head End of Tub - Elevation. . .	81
Figure 604.5.1	Side-Wall Grab Bar for Water Closet	71	Figure 607.4.1(B)	Grab Bars for Bathtubs with Seat at Head End of Tub - Plan.	81
Figure 604.5.2	Rear-Wall Grab Bar for Water Closet	71	Figure 607.4.2(A)	Grab Bars for Bathtubs with Removable Seats - Elevation . . .	81
Figure 604.7.1(A)	Dispenser Outlet Location - Protruding Dispenser Below Grab Bar	72	Figure 607.4.2(B)	Grab Bars for Bathtubs with Removable Seats - Plan	82
Figure 604.7.1(B)	Dispenser Outlet Location - Protruding Dispenser Above Grab Bar	72	Figure 607.5	Location of Bathtub Controls	82
Figure 604.7.1(C)	Dispenser Outlet Location - Recessed Dispenser	72	Figure 608.2.1.1	Transfer-type Shower Compartment Size	82
Figure 604.7.1(D)	Dispenser Outlet Location - Dispenser in Front of Water Closet - Exception . . .	73	Figure 608.2.1.2(A)	Transfer-type Shower Compartment Clearances - New Buildings - Option 1.	83
Figure 604.9.2(A)	Wheelchair Toilet Compartments - Wall Hung Closet, Adult	73	Figure 608.2.1.2(B)	Transfer-type Shower Compartment Clearances - New Buildings - Option 2.	83
Figure 604.9.2(B)	Wheelchair Toilet Compartments - Floor Mounted Water Closet, Adult - Wall Hung and Floor Mounted Water Closet, Children.	73	Figure 608.2.1.2(C)	Transfer-type Shower Compartment Clearances - Existing Buildings	83
Figure 604.9.2.3	Wheelchair Toilet Compartments - Alternate Wheelchair Toilet Compartment.	74	Figure 608.2.2.1	Standard Roll-in-type Shower Compartment Size.	83
Figure 604.9.3(A)	Wheelchair Toilet Compartment Doors - Door Swinging into the Wheelchair Toilet Compartment	74	Figure 608.2.2.2	Standard Roll-in-type Shower Compartment Clearance	84
Figure 604.9.3(B)	Wheelchair Toilet Compartment Doors - Exception 3 - Alternate Wheelchair Compartment.	75	Figure 608.2.3.1	Alternate Roll-in-type Shower Compartment Size.	84
Figure 604.9.3.1(A)	Wheelchair Toilet Compartment Door Opening Location - Door Swinging in on Front Wall of Partition	75	Figure 608.3.1(A)	Grab Bars in Transfer-type Shower - Elevation	85
Figure 604.9.3.1(B)	Wheelchair Toilet Compartment Door Opening Location - Door Swinging in on Side Wall of Partitions	75	Figure 608.3.1(B)	Grab Bars in Transfer-type Shower - Plan	85
Table 604.9.3.1	Door Opening Location.	76	Figure 608.3.2(A)	Grab Bars in Standard Roll-in-type Shower - Elevation	85
Figure 604.9.5(A)	Toe Clearance - Elevation.	76	Figure 608.3.2(B)	Grab Bars in Standard Roll-in-type Shower - Plan	85
Figure 604.9.5(B)	Toe Clearance - Plan	76	Figure 608.3.3(A)	Grab Bars in Alternate Roll-in-type Shower - Elevation	86
Figure 604.10.1	Ambulatory Compartment.	77	Figure 608.3.3(B)	Grab Bars in Alternate Roll-in-type Shower - Plan	86
Figure 604.11.2	Children's Water Closet Location.	77	Figure 608.4.1	Transfer-type Shower Controls and Hand Shower Location	86
Figure 604.11.4	Children's Water Closet Height	77	Figure 608.4.2	Standard Roll-in-type Shower Controls and Hand Shower Location . .	86
Figure 604.11.7(A)	Children's Dispenser Outlet - Location.	78			

Figure 608.4.3(A)	Alternate Roll-in-type Shower Controls and Hand Shower Location - End Wall - Elevation	87	Figure 704.2.1.2	Clear Floor Space for Telephones - Forward Approach	101
Figure 608.4.3(B)	Alternate Roll-in-type Shower Controls and Hand Shower Location - Control Wall - Elevation	87	Figure 705.5(A)	Truncated Dome Size and Spacing	102
Figure 609.2	Size of Grab Bars	88	Figure 705.5(B)	Elevation (Enlarged)	102
Figure 609.3	Spacing of Grab Bars	88	Figure 705.6(A)	Extent of Detectable Warnings - Perpendicular	102
Figure 609.4.2(A)	Positions of Children's Grab Bars - Side-wall View	88	Figure 705.6(B)	Extent of Detectable Warnings - Returned Curb	103
Figure 609.4.2(B)	Positions of Children's Grab Bars - Rear-wall View	89	Figure 705.6(C)	Extent of Detectable Warnings - Parallel	103
Figure 610.2(A)	Bathtub Seats - Removable In-tub Seats	89	Figure 705.7.1	Perpendicular Curb Ramps	104
Figure 610.2(B)	Bathtub Seats - Seat Provided at Head End of Tub	89	Figure 705.7.2	Parallel Curb Ramps	104
Figure 610.3.1	Rectangular Shower Compartment Seats	90	Figure 705.7.3	Blended Transitions	105
Figure 610.3.2	L-shaped Shower Compartment Seats	90	Figure 705.7.4	Pedestrian Refuge Islands	106
Figure 611.2(A)	Clear Floor Space - Top Loading	91	Figure 705.7.5	Pedestrian At-grade Rail Crossings	106
Figure 611.2(B)	Clear Floor Space - Front Loading	91	Figure 707.5(A)	Numeric Key Layout - 12-key Ascending	107
Figure 611.4 (A)	Height of Laundry Equipment - Top Loading	91	Figure 707.5(B)	Numeric Key Layout - 12-key Descending	107
Figure 611.4 (B)	Height of Laundry Equipment - Front Loading	91	Table 707.6.1	Raised Symbols	107
Chapter 7. Communication Elements and Features . . . 93			Chapter 8. Special Rooms and Spaces 109		
Table 703.2.4	Visual Character Height	94	Figure 802.3(A)	Width of Wheelchair Space in Assembly Area - Single Space	109
Figure 703.3.5	Character Height	94	Figure 802.3(B)	Width of Wheelchair Space in Assembly Area - Multiple Adjacent Space	109
Figure 703.3.10	Height of Raised Characters above Floor	95	Figure 802.4(A)	Depth of Wheelchair Space in Assembly Area - Front or Rear Access - New Buildings	109
Figure 703.3.11	Location of Signs at Doors	95	Figure 802.4(B)	Depth of Wheelchair Space in Assembly Area - Front or Rear Access - Existing Buildings	109
Figure 703.4.3	Braille Measurement	96	Figure 802.4(C)	Depth of Wheelchair Space in Assembly Area - Side Access - New and Existing Buildings	109
Table 703.4.3	Braille Dimensions	96	Figure 802.5.1(A)	Wheelchair Space Location Overlap - Rear Approach - New and Existing Buildings	110
Figure 703.4.4	Position of Braille	97	Figure 802.5.1(B)	Wheelchair Space Location Overlap - Side Approach	111
Figure 703.4.5	Height of Braille Characters above Floor	97	Figure 802.7.2(A)	Companion Seat Alignment - Elevation	111
Figure 703.5	Pictogram Field	98	Figure 802.7.2(B)	Companion Seat Alignment - Front or Rear Approach - Existing Buildings	112
Figure 703.6.3.1	International Symbol for Accessibility	98	Figure 802.7.2(C)	Companion Seat Alignment - Front or Rear Approach - New Buildings	112
Figure 703.6.3.2	International TTY Symbol	98	Figure 802.7.2(D)	Companion Seat Alignment - Side Approach	112
Figure 703.6.3.3	International Symbol of Access for Hearing Loss	98	Figure 802.9.1.1	Lines of Sight over the Heads of Seated Spectators	113
Figure 703.6.3.4	Volume-controlled Telephone	98			
Table 703.7.4	Low Resolution VMS Character Height	99			
Table 703.7.5	Pixel Count for Low Resolution VMS Signage	99			
Figure 703.7.5	Low Resolution VMS Signage Characters	100			
Figure 704.2.1.1	Clear Floor Space for Telephones - Parallel Approach	101			

LIST OF FIGURES

Figure 802.9.1.2	Lines of Sight between the Heads of Seated Spectators	113
Figure 802.9.2	Line of Sight over Standing Spectators	114
Table 802.9.2.2	Required Wheelchair Space Location Elevation over Standing Spectators	114
Table 802.10	Wheelchair Space Location Dispersion	115
Figure 804.2.1(A)	Pass-through Kitchen Clearance	116
Figure 804.2.1(B)	Pass-through Kitchen Clearance	116
Figure 804.2.2(A)	U-shaped Kitchen Clearance	117
Figure 804.2.2(B)	U-shaped Kitchen Clearance	117
Figure 804.2.2(C)	U-shaped Kitchen Clearance - Exception	117
Figure 805.2.2(A)	Size of Bus Boarding and Alighting Area - New Buildings	119
Figure 805.2.2(B)	Size of Bus Boarding and Alighting Area - Existing Buildings	119
Figure 805.3	Bus Shelters	120
Figure 805.10	Track Crossing	121

Chapter 9. Furnishings and Equipment 123

Figure 903(A)	Benches - Bench size and Clear Floor Space	124
Figure 903(B)	Benches - Bench Back Support and Seat Height	124
Figure 904.3(A)	Sales and Service Counters - Cross Section	124
Figure 904.3(B)	Sales and Service Counters - Elevation	125
Figure 904.4.2	Height of Checkout Counters	126

Chapter 10. Recreational Facilities 127

Figure 1002.4.4.3	Protrusions in Wheelchair Spaces in Amusement Rides	128
Figure 1003.3.1(A)	Boat Slip and Boarding Pier Clearance	130
Figure 1003.3.1(B)	Boat Slip and Boarding Pier Clearance - Exception 1 - Clear Pier Space Reduction at Boat Slips and Boarding Piers	130
Figure 1003.3.1(C)	Boat Slip and Boarding Pier Clearance - Exception 2 - Edge Protection at Boat Slips and Boarding Pier	131
Figure 1005.4.2	Extended Ground or Deck Surface at Fishing Piers and Platforms	131
Figure 1007.3.2(A)	Golf Club Reach Range - New Buildings	133
Figure 1007.3.2(B)	Golf Club Reach Range - Existing Buildings	133

Table 1008.3.2.1.2	Number and Types of Ground Level Play Components Required to be on Accessible Routes	134
Figure 1008.4.2.1	Transfer Platforms	136
Figure 1008.4.2.2	Transfer Steps	136
Figure 1009.2.2	Pool Lift Seat Location	137
Figure 1009.2.3(A)	Clear Deck Space at Pool Lifts - New Buildings	138
Figure 1009.2.3(B)	Clear Deck Space at Pool Lifts - Existing Buildings	138
Figure 1009.2.4	Pool Lift Seat Height	138
Figure 1009.2.8	Pool Lift Submerged Depth	138
Figure 1009.3.2	Sloped Entry Submerged Depth	139
Figure 1009.3.3	Handrails for Sloped Entry	139
Figure 1009.4.1	Clear Deck Space at Transfer Walls	139
Figure 1009.4.2	Transfer Wall Height	139
Figure 1009.4.3	Depth and Length of Transfer Walls	140
Figure 1009.4.5	Grab Bars for Transfer Walls	140
Figure 1009.5.1	Size of Transfer Platforms	140
Figure 1009.5.2	Clear Deck Space at Transfer Platforms	141
Figure 1009.5.4	Transfer Steps	141
Figure 1009.5.6	Size of Transfer Steps	141
Figure 1009.5.7(A)	Grab Bars - Individual Grab Bars	141
Figure 1009.5.7(B)	Grab Bars - Continuous Grab Bars	141

Chapter 11. Dwelling Units and Sleeping Units 143

Figure 1103.11.2.4(A)	Water Closets in Type A Units - Water Closet Location	145
Figure 1103.11.2.4(B)	Water Closets in Type A Units - Minimum Clearance	146
Figure 1103.11.2.4(C)	Water Closets in Type A Units - Clearance with Lavatory (Overlap Exception)	146
Figure 1103.11.2.4(D)	Water Closets in Type A Units - Water Closet Seat Height	146
Figure 1103.11.2.5.1(A)	Clearance for Bathtubs in Type A Units - With Removable Seat	146
Figure 1103.11.2.5.1(B)	Clearance for Bathtubs in Type A Units - With Permanent Seat	146
Figure 1103.11.2.5.2	Standard Roll-in-type Shower Compartment in Type A Units	147
Figure 1103.12.1.1	Minimum Kitchen Clearance in Type A Units	147
Figure 1103.12.1.2(A)	U-shaped Kitchen Clearance in Type A Units	148
Figure 1103.12.1.2(B)	U-shaped Kitchen Clearance in Type A Units - Exception	148

Figure 1103.12.3	Work Surface in Kitchen for Type A Units	148
Figure 1103.12.4	Kitchen Sink for Type A Units.	149
Figure 1104.1.1	Clear Floor Space for Type B Units. . .	150
Figure 1104.9	Reach over a Kitchen or Bathroom Cabinet.	151
Figure 1104.11.1.1	Swing-up Grab Bars for Water Closets	152
Figure 1104.11.3.1.1	Lavatory in Type B Units – Option A Bathrooms.	153
Figure 1104.11.3.1.2(A)	Clearance at Water Closets in Type B Units - Water Closet Location	153
Figure 1104.11.3.1.2(B)	Clearance at Water Closets in Type B Units - Clearance Width and Depth . .	153
Figure 1104.11.3.1.2(C)	Clearance at Water Closets in Type B Units - Increased Clearance Depth - Forward Approach.	154
Figure 1104.11.3.1.2(D)	Clearance at Water Closets in Type B Units - Clearance with Lavatory Overlap	154
Figure 1104.11.3.1.3.1	Parallel Approach Bathtub in Type B Units–Option A Bathroom	155
Figure 1104.11.3.1.3.2	Forward Approach Bathtub in Type B Units–Option A Bathroom	156
Figure 1104.11.3.1.3.3(A)	Transfer-type Shower Compartment in Type B Units	156
Figure 1104.11.3.1.3.3(B)	Transfer-type Shower Compartment in Type B Units - Exception	156
Figure 1104.11.3.2.1	Lavatory in Type B Units – Option B Bathroom	156
Figure 1104.11.3.2.3.1	Bathroom Clearance in Type B Units – Option B Bathroom	157
Figure 1104.12.1.1	Minimum Clearance in Type B Units.	157
Figure 1104.12.1.2(A)	U-shaped Kitchen Clearance in Type B Units.	158
Figure 1104.12.1.2(B)	U-shaped Kitchen Clearance in Type B Units - Exception.	158

