Part V

The Fall Prevention Manual

The Fall Prevention Manual

Introduction

Every year, millions of people in the United States suffer serious and sometimes fatal falls. In 1996 alone, falls caused 14,100 deaths, more than three times as many deaths as drowning or fires. Falls in public places and in the home were second only to motor-vehicle accidents as the leading cause of unintentional-injury deaths in the United States. Over 25 percent of all deaths in public places and 31 percent of all deaths in the home were due to falls (National Safety Council, 1997). Falls also have serious economic impact. Injuries resulting from falls can be serious enough to require medical attention or restricted activity. Job-site falls often involve serious injuries and result in workers' compensation claims. In many of these cases, the original fall accident could have easily been avoided if a comprehensive inspection had been performed and interpreted using readily accessible standards.

Obviously, the best way to prevent fall incidents is to find potential trouble areas before they can cause a fall. This manual has been prepared to help find those trouble spots, and to assist individuals and entities tasked with the responsibility of ensuring pedestrian safety at a given facility. It

deals specifically with slip, trip, and misstep hazards, and the successful mitigation or elimination thereof.

While every effort has been made to ensure the accuracy of the information in this manual at the time of publication, the passage of time inevitably brings changes to codes, statutes, and regulations. New practices and procedures, legal opinions, and other factors quickly follow, and affect the interpretation and application of these new requirements. Consequently, the authors cannot accept responsibility for errors or omissions that may occur, and it is, therefore, essential to use the most current rules, regulations, and interpretations whenever possible.

This manual is intended to be a guide to and through relevant source material. Checklists included in the manual consist of questions that lead step-by-step through safety requirements and guidelines. They provide a simple, systematic hazard analysis that should detect potential problem areas. These checklists address not only required building codes and architectural standards, but also human factors principles which may not be as obvious. The manual should be considered an overview of many of the issues and parameters that a safety professional would look for and evaluate when conducting a site inspection; therefore consider the information in the manual as minimum requirements. The information from the checklists can be used to develop an extensive set of walkway safety standards specific to the facility.

Periodic inspections and thorough maintenance and housekeeping procedures provide exposure to potentially dangerous conditions and the opportunity to address these conditions before they reach a critical state. Tenants and employees can also be a valuable source of information about potential hazards and hazard management as they are on the premises on a daily basis. In general, regularly inspect the premises, identify any problem areas, eliminate or mitigate those that can be easily fixed, and provide a barrier to, or warn against, those that cannot be immediately repaired. The most important advice is to be *proactive*—identify and fix potentially dangerous conditions before they can lead to an injury.

User Instructions

The handbook is divided into five sections, with Section 1 (Level Surfaces) further divided into four subsections labeled A, B, C, and D. Each section and subsection is designed so it can be used independent of the others, hence the repetition of some terminology and measurements.

The first task is to answer the general questions regarding the particular facility on the form entitled Facility Identification Sheet: Facility Information. These are important because they determine which requirements apply. For example, the building codes generally have different requirements for stairs depending on the occupancy load of the building.

Secondly, take a general tour of the facility and note the location of all areas that need to be evaluated—parking lots, garages, sidewalks, ramps, stairs, walkways, curbs, and so forth—on the Facility Identification Sheet: Areas to be Evaluated. This will make it easier to plan the inspection and prepare the necessary data sheets and equipment. The applicable section of the handbook should be reviewed and the inspector should become familiar with its terminology and procedures prior to the inspection.

Next, conduct a systematic evaluation of each area using the data sheets as a guide through all the measurements required to complete the checklists. It is also helpful to take photographs of the area, both to keep as a record of the condition at the time of the inspection and to provide evidence of any repairs required.

Finally, complete the checklists based on the measurements and data gathered on the data sheets.

A. Data Sheets

The data sheets are to be used at the time of the inspection. The data sheet requires the user to specifically identify the area to be inspected and informs the user of any devices necessary to collect the data. The data sheets are designed to walk the user through gathering the data and making the calculations necessary to answer the checklist questions. It is important to be accurate and consistent when taking measurements, as the referenced documents are very precise.

After completing the data sheets, answer the questions on the checklists.

B. Checklists

Each checklist has a main heading that identifies the section and the measurements from the data sheet containing the information needed to answer the questions.

The first part of the checklists contains “Codes and Requirements.” It is necessary to evaluate each of these items carefully to ensure compliance with federal and regional requirements. The second part of the checklists contains “Guidelines” which provide additional human factors and safety recommendations. Compliance with these guidelines is not mandatory, but it is recommended to provide a safer environment.

The user is encouraged to read the items carefully and understand the question being asked. The questions are very

specific, and "Yes," "No," or "NA" (not applicable) should be sufficient to answer. For simplicity, the questions have been formatted so that a "Yes" answer ensures compliance with the referenced source, and a "No" answer indicates a non-compliant situation. Figures have been included in each section to help clarify some of the concepts and dimensions.

If the answer to a particular question is "No," document the exact nature of the noncompliance. This will provide necessary information for someone else reviewing the checklist, and also aid in correcting any problems. A "No" response in a "Codes and Requirements" checklist does not necessarily mean a violation for the specific facility. It means that further investigation into the applicable codes should be undertaken since requirements vary as to when a facility was built, how it was zoned, its occupancy, and so on. A "No" response on the checklists simply indicates a need to further investigate that particular requirement for the specific facility. If there is any doubt as to the safety of the facility, arrange for a qualified safety consultant to evaluate the premises.

Reference Documents

Each checklist contains requirements from applicable codes and standards. Because more than one regulatory document applies to a particular building, checklist items are drawn from many sources. The specific source from which the requirement or guideline is drawn is indicated in the Reference column on the checklists.

Whenever an evaluation is performed using this manual, the evaluator must be aware of which codes and standards govern his or her particular location. It is essential that for each inspection, the initial general questions regarding building type (public or private), date of construction, zoning, occupancy classification and improvements be thoroughly researched, as all have considerable bearing on deciding which particular codes, standards, or regulations apply. If these questions are difficult to answer, the local Building Department with jurisdiction over the property should be able to help, and can also identify which specific codes that jurisdiction has adopted.

Once the general questions have been answered, the evaluator can call the agency with local jurisdiction over the building to discover which codes were in effect at the time the building was constructed, and those which are in effect at the time of the inspection. For public buildings this would be the public agency affiliated with the occupant; for private buildings, the local Building Department will have the answers. The regional code specific to the area (such as the International Building Code (IBC), Uniform Building Code (UBC) or Building Officials and Code Administrators National Building Code (BOCA)) can furnish much of the information needed to complete the inspection. If, after consulting with local agencies and resource material, there are still questions on specific requirements, architects, construction professionals, civil engineers, and safety professionals should be able to provide the necessary information.

The Sections of the manual are divided into two specific checklists, those entitled "Codes and Requirements" and those containing "Guidelines."

A. Codes and requirements

1. Federal law

The Americans with Disabilities Act of 1990 (ADA) contains civil rights protections aimed at eliminating discrimination against people with disabilities in employment and in the provision of goods and services. Its purpose is to fully integrate disabled people into the work and societal environments.

The ADA is divided into five sections, called Titles. Title III requires access to all public accommodations and commercial facilities—virtually all nonresidential, privately owned buildings. The ADA does not cover residential facilities, which are under the jurisdiction of the Federal Fair Housing Act. The ADA specifically states that when states or local jurisdictions have adopted laws, ordinances, or regulations that are more stringent than the ADA or that cover items not covered by the ADA, those state or local requirements must also be satisfied.

Federal Building Code—In most places this has been superseded by regional documents.

2. Regional documents

State law—Laws developed by the states. For example, California State Law-Title 24 (handicapped accessibility)

Title 24, the California State Building Standards Code, is based on the "model codes" such as the Uniform Building Code. It contains requirements for accessibility.

The most recent edition of the Title 24 accessibility requirements, which became effective on April 1, 1994, is intended to help ensure that a facility meeting the requirements of Title 24 is also in compliance with both the ADA and California requirements.

Local Building Codes (IBC, UBC and BOCA). The International Building Code (IBC) was developed and first printed in 2000 by the International Code Council (ICC). This code superceded the UBC (Uniform Building Code)

and the Building Officials and Code Administrators National Building Code (BOCA)

According to its preface, "The Uniform Building Code (UBC) is dedicated to the development of better building construction and greater safety to the public by uniformity in building laws. The code is founded on broad-based performance principles that make possible the use of new materials and new construction systems." The UBC was designed to provide a complete set of documents for regulatory use. Editions were published at three-year intervals with new editions incorporating changes approved since the previous edition.

The Building Officials and Code Administrators National Building Code (BOCA) provided "minimum standards to insure the public safety, health and welfare insofar as they are affected by building construction and to secure safety to life and property from all hazards incident to the occupancy of buildings, structures or premises." A new edition was published every three years.

B. Guidelines

Many researchers and safety professionals spend a great deal of time investigating codes, statutes, and other regulations, and interpreting them in a variety of ways. Some of this research is formalized into safety or testing practices by such organizations as the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI). Other research has been organized into publications such as books or technical papers. For purposes of this document, this body of research has been put into the second half of the checklists and labeled "Guidelines." These are not absolute requirements, but rather recommendations based on many years of research and experience.

Forms

Printable versions of The Fall Prevention Manual checklist forms are available as PDF® on the accompanying CD-ROM.

BUILDING IDENTIFICATION SHEET
Facility Information

This form should be completed for each facility in which an evaluation will take place.

Facility Name: _____

Facility Address: _____

_____

Date of Construction: _____

Date(s) and type of alteration(s):

_____

_____

Public or Private Facility: _____

Facility Use: _____

Occupancy Load: _____

Zoning: _____

Plans available: _____

Applicable Building Codes and Requirements (i.e. IBC, UBC, BOCA, ADA, Regional, Local, etc.):

_____

_____

_____

BUILDING IDENTIFICATION SHEET
Areas to be Evaluated

Indoor walking areas:

Outdoor walking areas:

Parking lots and garages:

Curbs and curb ramps:

Stairways:

Ramps:

Guardrails and/or toeboards:

CHECKLIST 1: LEVEL SURFACES

Section A: INDOOR LEVEL WALKING SURFACES

This section applies to all indoor areas with level walking surfaces, and includes rooms, doors, entrances, exits, lobbies, and corridors.

TERMINOLOGY

Accessible	A site, building, facility or portion thereof that can be approached, entered, and used by physically disabled people.
Accessible Route	A continuous, unobstructed path connecting all accessible elements and spaces of a building or facility. Interior accessible routes may include corridors, floors, ramps, elevators, lifts and clear floor spaces.
Coefficient of Friction	The degree of traction between the shoe sole and floor material, an indicator of slipperiness of the walking surface. It is often abbreviated as COF.
Cross Slope	The slope that is perpendicular to the direction of travel.
Floor Hole	Opening in any floor measuring less than 12 inches (305 mm) but more than 2 inches (50.8 mm) in its least dimension.
Floor Opening	Opening in any floor measuring 12 inches (305 mm) or more in its least dimension. These may include a hatchway, stair or ladder opening, trench or manhole.
Load-Bearing Cover	A cover designed to support anticipated loads. It should be of any material that meets the strength requirements of the surrounding floor. Safety factors shall be applied based on the anticipated use and be consistent with other requirements.
Overhead Clearance	The distance measured vertically from the floor surface to the overhead surface or ceiling.
Slip-Resistant	The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole and the presence of any foreign material between them. A static coefficient of friction (COF) of .50 or higher is considered adequate for pedestrian safety by most authorities.
Toeboard (Toeplate)	Vertical barrier at floor level, erected along exposed edges of a floor or wall opening, platform, landing, runway, or ramp to prevent objects from falling over the edge.

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of the walking surface: _____

Equipment needed to complete data sheet: tape measure, coefficient of friction tester, protractor, and light meter

1. Carpeted Surface

Height of carpet pile: _____

Is carpet securely attached and level with adjacent flooring?

Noncompliant locations: _____

2. Non-carpeted Surface

Location	COF Reading	Location	COF Reading
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Average: _____

Slip resistant materials used: _____

3. Slope

Slope of walkway in the direction of travel: _____

Location of measurement: _____

Slope of walkway perpendicular to the direction of travel (cross slope): _____

Location of measurement: _____

4. Level Changes

Height of any vertical change (step, uplift between concrete slabs, offset of floor surface):

Location	Height differential
_____	_____
_____	_____
_____	_____

Height of walking surface above floor or grade below (if elevated): _____

5. Single Step

Is there a single step along the walkway? _____

If so, is the location required to be accessible? _____

Depth of single tread: _____

Is there a handrail? _____

6. Width

Width of the walkway: _____

7. Protruding Objects

Object: _____ Free standing or wall mounted: _____

Distance from the floor to the bottom edge: _____ to the top edge: _____

Distance item projects into the walkway from the wall: _____

Object: _____ Free standing or wall mounted: _____

Distance from the floor to the bottom edge: _____ to the top edge: _____

Distance item projects into the walkway from the wall: _____

8. Gratings

Dimensions of grate opening: _____ (length) x _____ (width)

Dimensions of grate opening: _____ (length) x _____ (width)

9. Doors

For doors along the walking surface:

Location of the door: _____

Type of door (sliding, etc.): _____ Height of threshold: _____

Location of the door: _____

Type of door (sliding, etc.): _____ Height of threshold: _____

Location of the door: _____

Type of door (sliding, etc.): _____ Height of threshold: _____

10. Overhead Clearance

Location: _____ Overhead Clearance: _____

11. Illumination

Sources of illumination: _____

Illumination (measured at floor level in the direction of travel): _____ foot-candles

Location of reading: _____

12. Floor Openings (i.e. ladderway, stairway, hatchway, chute, pit, trap door, or skylight)

Type of opening: _____ Does it have a cover: _____

Type of guarding present: _____

Height of guardrail: _____

Type of opening: _____ Does it have a cover: _____

Type of guarding present: _____

Height of guardrail: _____

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 1, 2, 3

Item	Requirement	Yes	No	NA	Reference
1A.1	**Carpeted Surface**				
1A.1.a	If carpet or carpet tile is used on the floor surface, is it securely attached, not wrinkled or loose?	☐	☐	☐	ADA 4.5.3 IBC 1003.2.6
1A.1.b	Is it a low pile carpet, .5 inch (13 mm) high or less, with a firm pad or no pad underneath?	☐	☐	☐	ADA 4.5.3
1A.1.c	Are the exposed edges of the carpet fastened to the floor surface with trim along the entire length? Note: The carpet edge strips should be flush or beveled with adjacent surfaces to prevent tripping.	☐	☐	☐	ADA 4.5.3
1A.2	**Non-Carpeted Surface**				
1A.2.a	If the floor surface is not carpet, is it stable, firm, and slip-resistant?	☐	☐	☐	ADA 4.5.1 IBC 1003.4
1A.2.b	Are slip-resistant materials securely attached?	☐	☐	☐	IBC 1003.4
1A.3	**Slope**				
1A.3.a	Is the slope of the walking surface 1:20 (5 percent, 2.8 degrees) or less? Note: Where the slope is greater than 1:20 (2.8 degrees), it should comply with the requirements for ramps. See Checklist 3 for Ramp requirements.	☐	☐	☐	ADA 4.3.7 IBC 1003.5
1A.3.b	Is the cross slope 1:50 (1.2 degrees) or less?	☐	☐	☐	ADA 4.3.7

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 4, 5

Item	Requirement	Yes	No	NA	Reference
1A.4	**Level Changes**				
1A.4.a	If the floor is not level, is the vertical offset less than .25 inch (6.5 mm)?	☐	☐	☐	ADA 4.5.2
1A.4.b	If the vertical offset is between .25 inch (6.5 mm) and .5 inch (13 mm), is it beveled with a slope of 1:2 (26.5 degrees) or less?	☐	☐	☐	ADA 4.5.2
1A.4.c	If a vertical offset is less than 12 inches (305 mm) is a sloped surface used? Note: When it is necessary to have an elevation change of greater than .5 inch (13 mm) and less than 12 inches (305 mm), it shall be accomplished by a ramp. (ADA 4.3.8; UBC 1003.2.6) See Checklist 3 for Ramp requirements.	☐	☐	☐	ADA 4.3.8 IBC 1003.5
1A.4.d	Where the difference in elevation is 6 inches (152 mm) or less, is the ramp equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials?	☐	☐	☐	IBC 1003.5
1A.4.e	If a walking surface is more than 30 inches above the floor or grade below, are guards installed? Note: See Checklist 4 for Guard requirements.	☐	☐	☐	IBC 1012.1
1A.5	**Single Step**				
1A.5.a	If a single step exists, is it a single riser or 2 risers and a tread only at a location not required to be accessible?	☐	☐	☐	IBC 1003.5
1A.5.b	Does the single tread have a minimum depth of 13 inches (330 mm) and at least one handrail within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair?	☐	☐	☐	IBC 1003.5

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 6, 7, 8

Item	Requirement	Yes	No	NA	Reference
1A.6	**Width**				
	Is the minimum clear width of an accessible route 36 inches (915mm)?	☐	☐	☐	ADA 4.3.3
1A.7	**Protruding Objects**				
1A.7.a	Is the path uninterrupted by any building element or obstruction?	☐	☐	☐	IBC 1003.6
1A.7.b	If a wall-mounted object (e.g., wall-mounted telephone or drinking fountain) has an edge between 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface, does it project 4 inches (102 mm) or less into the walkway? (Figure 1A-1) Note: Wall mounted objects with edges at or below 27 inches (686 mm) may project any amount as long as the required clear width of an accessible route is not reduced. (Figure 1A-1) Note: Handrails serving stairs and ramps are permitted to protrude 4.5 inches (114 mm) from the wall.	☐	☐	☐	ADA 4.4.1 IBC 1003.3.3
1A.7.c	For a free-standing object mounted on a post or pylon (e.g. free-standing telephone), does it overhang 12 inches (305 mm) or less between 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface? (Figure 1A-2) Note: Protruding objects shall not reduce the clear width of an accessible route or maneuvering space.	☐	☐	☐	ADA 4.4.1 IBC 1003.3.2
1A.8	**Gratings**				
1A.8.a	If gratings are located along a walkway, are they non-slippery?	☐	☐	☐	ADA 4.5.4
1A.8.b	Is the shorter dimension of the grating openings no more than .5 inch (13 mm)? (Figure 1A-3)	☐	☐	☐	ADA 4.5.4
1A.8.c	Is the longer dimension of the grating openings placed perpendicular to the usual direction of travel? (Figure 1A-4)	☐	☐	☐	ADA 4.5.4

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 9, 10, 11

Item	Requirement	Yes	No	NA	Reference
1A.9	**Doors**				
1A.9.a	Is there a floor or landing on each side of the door that is at the same elevation on each side of the door?	☐	☐	☐	IBC 1008.1.4
1.A.9.b	For a door other than a sliding door, is the threshold height .5 inch (12.7 mm) or less? Note: For doorways not required for disabled access, the threshold should not exceed 1 inch (25 mm). (UBC 1003.3.1.6)	☐	☐	☐	ADA 4.13.8 UBC 1003.3.1.6 IBC 1008.1.6
1A.9.c	For a sliding door, is the threshold height .75 inch (19.1 mm) or less?	☐	☐	☐	ADA 4.13.8 IBC 1008.1.6
1A.9.d	If there a raised threshold greater than .25 inch (6.4 mm), is it beveled at a slope of 1:2 (50 percent, 26.5 degrees) or less?	☐	☐	☐	ADA 4.13.8 IBC 1008.1.6
1A.10	**Overhead Clearance**				
1A.10.a	Does the walkway have an overhead clearance of at least 80 inches (2032 mm)? Note: The IBC requires a ceiling height of not less than 7 feet (2134 mm). (IBC 1003.2)	☐	☐	☐	ADA 4.4.2
1A.10.b	If an area adjoining an accessible route has an overhead clearance of 80 inches (2032 mm) or less, is a barrier provided to warn blind or visually impaired persons? Example: Areas underneath a flight of stairs.	☐	☐	☐	ADA 4.4.2 IBC 1003.3.1
1A.11	**Illumination**				
	Is the area illuminated by at least 1 foot-candle (11 lux) at floor level?	☐	☐	☐	UBC 1003.2.9.1 IBC 1006.2

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Guidelines

Measurements required from Data Sheet: 1, 2

Item	Guideline	Yes	No	NA	Reference
1A.12	**Change in Materials**				
	When adjacent floor materials are different, do the adjacent materials have similar static coefficient of friction values? Note: Transitioning from a high friction material (e.g., carpet) to a low friction material (e.g., tile and hardwood) is a frequent cause of slips.	☐	☐	☐	
1A.13	**Painted Surfaces**				
	Do painted surfaces contain as abrasive additive, grooving, texture, or other means to make the surface slip resistant?	☐	☐	☐	ASTM F1637 (4.3.3)
1A.14	**Hazards**				
	Is the area clear of any other source of tripping hazard (e.g., extension cords, items or equipment left unattended)? Note: Whenever possible, plugs and junction boxes boxes should be relocated away from walkways to eliminate potential tripping hazards.	☐	☐	☐	
1A.15	**Carpeting**				
	Is the carpet firmly secured and seams tightly maintained? Is the carpet free from loose or frayed edges, unsecured seams, worn areas, holes, wrinkles or other hazards that may cause trip occurrences?	☐	☐	☐	ASTM F1637 (4.3.1)

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Guidelines

Measurements required from Data Sheet: 12

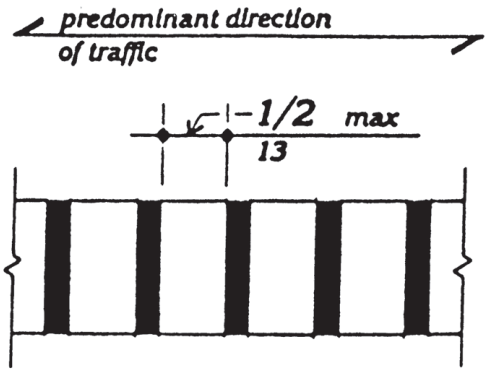
Item	Guideline	Yes	No	NA	Reference
1A.16	**Openings**				
1A.16.a	If there is an opening or hole in the walkway large enough that a person could fall into, is the opening or hole guarded by either a railing system with toeboards along all exposed sides or a load-bearing cover?	☐	☐	☐	ANSI A1264.1(3.7)
1A.16.b	If guarded by a cover, when that cover is not in place, is the opening attended or protected by a removable railing system? Note: Temporary floor openings should have removable guardrail systems or shall be attended. (ANSI A1264.1 (3.6)). Refer to Checklist 4 for the requirements for guardrails. The opening cover should be of any material that meets the strength requirements of the surrounding floor.	☐	☐	☐	ANSI A1264.1(3.7)
1A.16.c	If there is a floor opening or hole that a person *could not* fall into (because of pipes, fixed machinery, equipment, or walls), is the opening or hole guarded by either a securely fastened cover or toeboard?	☐	☐	☐	ANSI A1264.1(3.7)
1A.16.d	If there is a stairway floor opening, is it guarded by a guardrail on all exposed sides, except at the entrance to the stairway? Note: For infrequently used stairways located in passageways, a load-bearing cover or removable guardrail is required on all exposed sides, except at the entrance to stairways. The removable guardrail should be hinged or otherwise mounted so as to come into position automatically with the opening of the cover.	☐	☐	☐	ANSI A1264.1(3.1)

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Guidelines

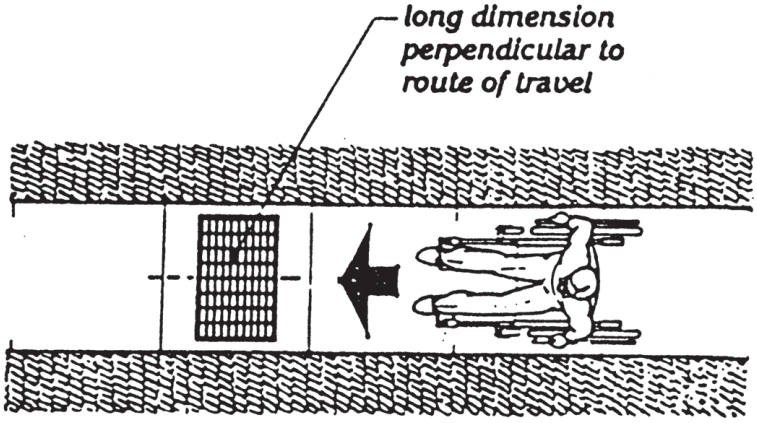
Measurements required from Data Sheet: 12

Item	Guideline	Yes	No	NA	Reference
1A.16	**Openings *(continued)***				
1A.16.e	If there is a hatchway or chute floor opening *in use* is it guarded by either: A load-bearing cover and permanently attached guardrail with one side left exposed or a fixed guardrail with toeboards on all sides except the exposed side which has a removable guardrail with toeboard? Note: When the opening is *not* in use, the cover should be in place or the exposed side should be guarded at both top and intermediate positions by removable guardrails.	☐	☐	☐	ANSI A1264.1 (3.3)
1A.16.f	Where operating conditions require feeding of material into a hatchway or chute opening, is protection provided to prevent a person from falling through the opening?	☐	☐	☐	ANSI A1264.1 (3.3)
1A.16.g	If there is a pit, trapdoor or manhole, is the opening guarded by a load-bearing cover?	☐	☐	☐	ANSI A1264.1 (3.5)
	When the cover is not in place, is the opening protected along the exposed side by removable guardrail systems or attended? Note: The load-bearing cover should not create a tripping hazard; it must be flush with the surrounding surface.	☐	☐	☐	
1A.16.h	If there is a non-load-bearing skylight floor or roof opening and hole, is it guarded by a load-bearing skylight screen or a railing system along all exposed sides? Note: The skylight screen may be of grillwork with openings not more than 4 inches (102 mm), or of slat work with openings not more than 2 inches (50.8 mm) wide, with the length unrestricted.	☐	☐	☐	ANSI A1264.1 (3.4)

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Figures



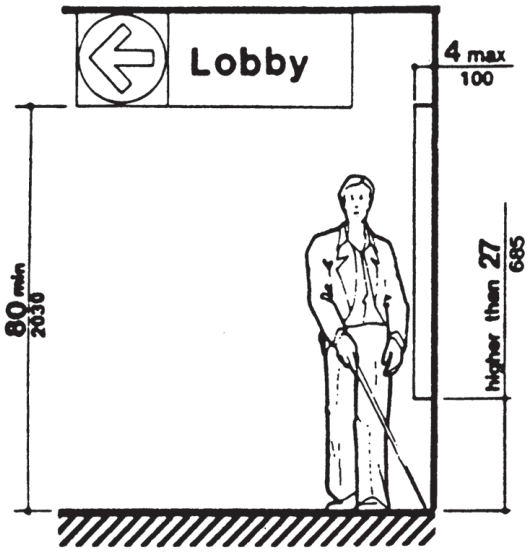
Grating Dimensions
Figure 1A-3



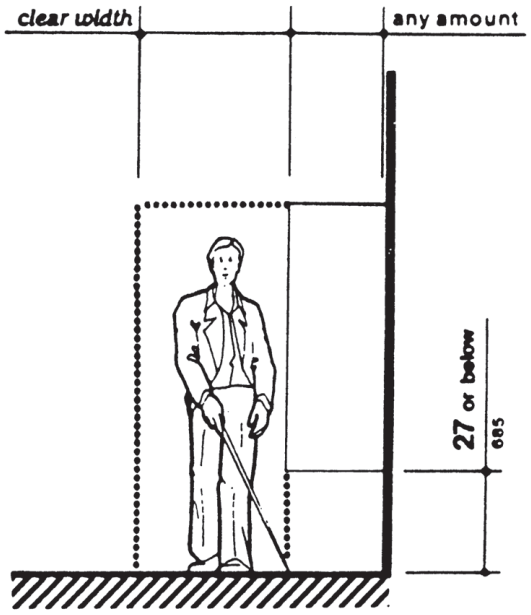
Grating Orientation
Figure 1A-4

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 1A: INDOOR LEVEL WALKING SURFACES
Figures

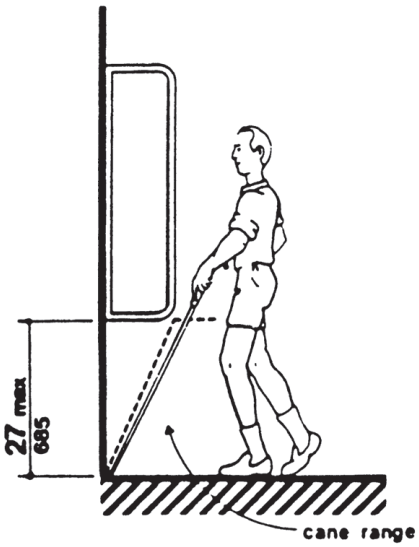


Bottom edge 27 inches or more above the floor



Bottom edge 27 inches or less above the floor

Wall mounted Objects
Figure 1A-1



Free standing Objects
Figure 1A-2

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 1: LEVEL SURFACES

Section B: OUTDOOR LEVEL WALKING SURFACES

This section applies to all outdoor surfaces and exterior routes, excluding parking lots, garages, and curbs which are included in Sections C and D.

TERMINOLOGY

Accessible	A site, building, facility or portion thereof that can be approached, entered, and used by physically disabled people.
Accessible Route	A continuous, unobstructed path connecting all accessible elements and spaces of a building or facility. Exterior accessible routes may include parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps and lifts.
Coefficient of Friction	The degree of traction between the shoe sole and walking surface material, an indicator for slipperiness of the walking surface. It is often abbreviated as COF.
Cross Slope	The slope that is perpendicular to the direction of travel.
Overhead Clearance	The distance measured vertically from the floor surface to the overhead surface or ceiling.
Slip Resistant	The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole and the presence of any foreign material between them. A static coefficient of friction of .50 or higher is considered adequate for pedestrian safety by most authorities.

CHECKLIST 1B: OUTOOR LEVEL WALKING SURFACES
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of the walking surface: _____

Equipment needed to complete data sheet: tape measure, coefficient of friction tester, protractor, and light meter

1. Surface

Type of surface material: _____

Coefficient of friction values:

Location	COF Reading	Location	COF Reading
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Average: _____

Slip resistant materials used: _____

Visible source of water on walking surface: _____

2. Slope

Slope of walkway in the direction of travel: _____

Location of measurement: _____

Slope of walkway perpendicular to the direction of travel (cross slope): _____

Location of measurement: _____

3. Level Changes

Height of any vertical change (step, uplift between concrete slabs, offset of floor surface):

Location	Height differential
_____	_____
_____	_____
_____	_____

Height of walking surface above floor or grade below (if elevated): _____

4. Single Step

Is there a single step along the walkway? _____

If so, is the location required to be accessible? _____

Depth of single tread: _____

Is there a handrail? _____

5. Width

Width of the walkway: _____

6. Protruding Objects

Object: _____ Free standing or wall mounted: _____

Distance from the floor to the bottom edge: _____ to the top edge: _____

Distance item projects into the walkway from the wall: _____

Object: _____ Free standing or wall mounted: _____

Distance from the floor to the bottom edge: _____ to the top edge: _____

Distance item projects into the walkway from the wall: _____

7. Gratings

Dimensions of grate opening: _____ (length) x _____ (width)

Dimensions of grate opening: _____ (length) x _____ (width)

8. Overhead Clearance

Location: _____ Overhead Clearance: _____

9. Illumination

Sources of illumination: _____

Illumination (measured at floor level in the direction of travel): _____ foot-candles

Location of reading: _____

CHECKLIST 1B: OUTDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 1, 2, 3

Item	Requirement	Yes	No	NA	Reference
1B.1	**Surface**				
	Is the ground surface on the accessible route stable, firm, and slip-resistant?	☐	☐	☐	ADA 4.5.1 IBC 1003.4
1B.2	**Slope**				
1B.2.a	Is the slope of the walking surface 1:20 (5 percent, 2.8 degrees) or less? Note: Where the slope is greater than 1:20 (2.8 degrees), it should comply with the requirements for ramps. See Checklist 3 for Ramp requirements.	☐	☐	☐	ADA 4.3.7 ADA 4.8.1 IBC 1003.5
1.B.2.b	Is the cross slope 1:50 (1.2 degrees) or less?	☐	☐	☐	ADA 4.3.7
1B.3	**Level Changes**				
1B.3.a	If the floor is not level (e.g. adjacent concrete slabs that do not abut evenly, uplift in sidewalk), is the vertical offset less than .25 inch (6.5 mm)?	☐	☐	☐	ADA 4.5.2
1B.3.b	If the vertical offset is between .25 inch (6.5 mm) and .5 inch (13 mm), is it beveled with a slope of 1:2 (26.5 degrees) or less?	☐	☐	☐	ADA 4.5.2
1B.4	**Single Step**				
1B.4.a	If a single step exists, is it a single riser or 2 risers and a tread only at a location not required to be accessible?	☐	☐	☐	IBC 1003.5
1B.4.b	Does the single tread have a minimum depth of 13 inches (330 mm) and at least one handrail within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair?	☐	☐	☐	IBC 1003.5

CHECKLIST 1B: OUTDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 1, 2, 3

Item	Requirement	Yes	No	NA	Reference
1B.5	**Width**				
	Is the minimum clear width of an accessible route 36 inches (915 mm)?	☐	☐	☐	ADA 4.3.3
1B.6	**Protruding Objects**				
1B.6.a	Is the path uninterrupted by any building element or obstruction?	☐	☐	☐	IBC 1003.6
1B.6.b	If a wall mounted object (e.g., wall-mounted telephone or drinking fountain) has a leading edge between 27 inches (686 mm) and 80 inches (2030 mm) above the walking surface, does it project 4 inches (102 mm) or less into the walkway? (Figure 1B-1) Note: Wall mounted objects with leading edges at or below 27 inches (686 mm) may project any amount as long as the required clear width of an accessible route is not reduced. (Figure 1B-1) Note: Handrails serving stairs and ramps are permitted to protrude 4.5 inches (114 mm) from the wall.	☐	☐	☐	ADA 4.4.1 IBC 1003.3.3
1B.6.c	For a freestanding object mounted on a post or pylon (e.g., freestanding telephone), does it overhang 12 inches (305 mm) or less between 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface? (Figure 1B-2) Note: Protruding objects shall not reduce the clear width of an accessible route or maneuvering space.	☐	☐	☐	ADA 4.4.1 IBC 1003.3.2

CHECKLIST 1B: OUTDOOR LEVEL WALKING SURFACES
Codes and Requirements

Measurements required from Data Sheet: 7, 8, 9

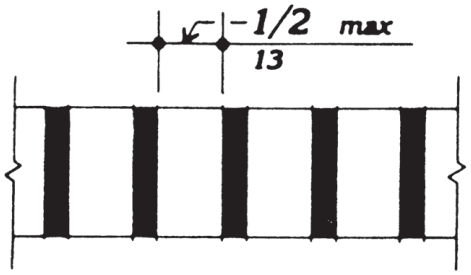
Item	Requirement	Yes	No	NA	Reference
1B.7	**Gratings**				
1B.7.a	If gratings are located on walking surfaces, are they non-slippery?	☐	☐	☐	ADA 4.5.4
1B.7.b	Is the shorter dimension of the grating opening no more than .5 inch (13 mm)? (Figure 1B-3)	☐	☐	☐	ADA 4.5.4
1B.7.c	Is the longer dimension of the grating opening placed perpendicular to the usual direction of travel? (Figure 1B-4)	☐	☐	☐	ADA 4.5.4
1B.8	**Overhead Clearance**				
1B.8.a	Does the walkway have an overhead clearance of at least 80 inches (2030 mm)?	☐	☐	☐	ADA 4.4.2
1B.8.b	If an area adjoining an accessible route has an overhead clearance of 80 inches (2030 mm) or less is a barrier provided to warn blind or visually impaired persons? Example: Area underneath a flight of stairs.	☐	☐	☐	ADA 4.42 IBC 1003.3.1
1B.9	**Illumination**				
	Is the area illuminated by at least 1 foot-candle (11 lux) at floor level?	☐	☐	☐	UBC 1003.2.9.1 IBC 1006.2

CHECKLIST 1B: OUTDOOR LEVEL WALKING SURFACES
Guidelines

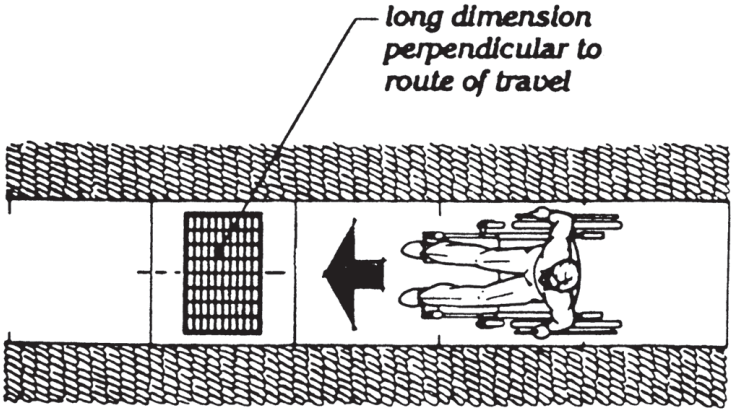
Measurements required from Data Sheet: 1

Item	Guideline	Yes	No	NA	Reference
1B.10	**Change in Materials**				
	When adjacent floor materials are different, do the adjacent materials have similar static coefficient of friction values?	☐	☐	☐	
	Note: Transitioning from a high friction material (e.g., brushed concrete) to a low friction material (e.g. tile) is a frequent cause of slips.				
1B.11	**Drainage**				
1B.11.a	Is the area protected from constant exposure to moisture, such as sprinklers?	☐	☐	☐	
1B.11.b	Are the ground surfaces on outdoor accessible routes slip-resistant in wet conditions?	☐	☐	☐	
	Note: Materials such as terrazzo, marble, or painted surfaces are very slippery in wet conditions.				
1B.11.c	Is adequate drainage provided for the run-off of excess water?	☐	☐	☐	
1B.12	**Walkway Routes**				
1B.12.a	Do walkways efficiently follow routes of travel so that shortcuts are reduced?	☐	☐	☐	
1B.12.b	Is the area clear of any other source of tripping hazard (e.g., sprinkler heads)?	☐	☐	☐	
1B.13	**Painted Surfaces**				
	Do painted surfaces contain an abrasive additive, grooving, texture, or other means to make the surface slip resistant?	☐	☐	☐	ASTM F1637 (4.1.3)

CHECKLIST 1B: OUTDOOR LEVEL WALKING SURFACES
Figures



Grating Dimensions
Figure 1B-3

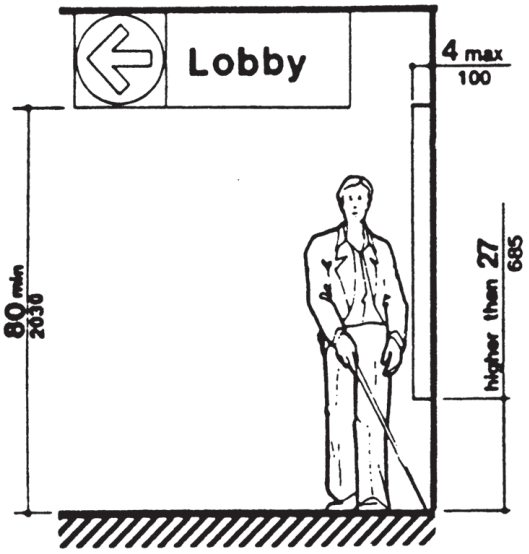


Grating Orientation
Figure 1B-4

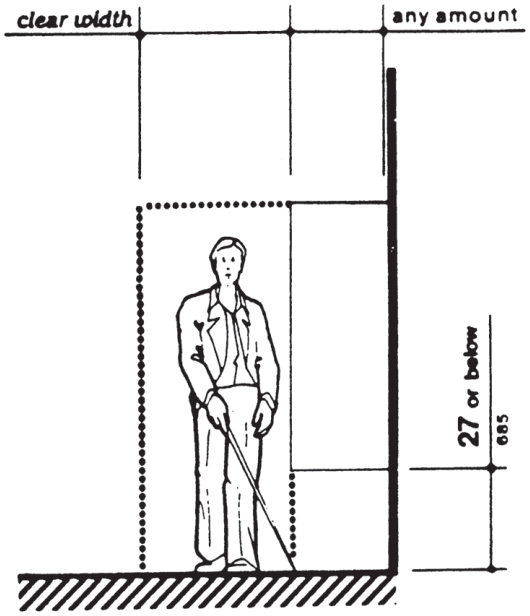
(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 1B: OUTDOOR LEVEL WALKING SURFACES

Figures

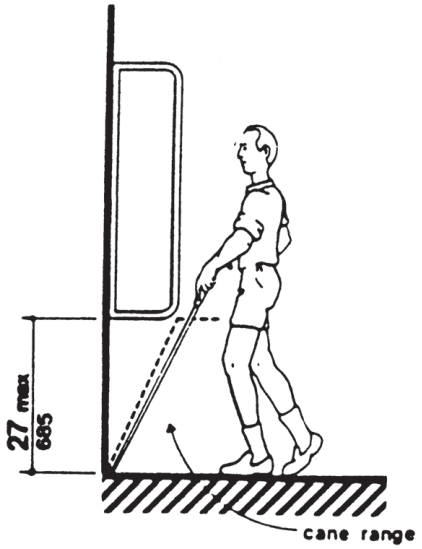


Bottom edge 27 inches or more above the ground



Bottom edge 27 inches or less above the ground

Wall mounted Objects
Figure 1B-1



Free standing Object
Figure 1B-2

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 1: LEVEL SURFACES

Section C: PARKING LOTS AND GARAGES

TERMINOLOGY

Accessible	A site, building, facility or portion thereof that can be approached, entered, and used by physically disabled people.
Accessible Aisles	An accessible pedestrian space between elements (i.e., parking spaces, seating, and desks) that provides clearances appropriate for use of those elements.
Accessible Route	A continuous, unobstructed path connecting all accessible elements and spaces of a building or facility. Exterior accessible routes may include parking access aisles, curb ramps, walks, ramps, and lifts.
Coefficient of Friction	The degree of traction between the shoe sole and floor material, an indicator of slipperiness of the walking surface. It is often abbreviated as COF.
Curb Ramp	A short ramp cutting through a curb or built up to it.
Overhead Clearance	The distance measured vertically from the floor surface to the overhead surface or ceiling.
Slip-Resistant	The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole and the presence of any foreign material between them. A static coefficient of friction (COF) of .50 or higher is considered adequate for pedestrian safety by most authorities.
Speed Bumps	A mounding of asphalt used to control vehicle speed.
Wheel Stops	Formed concrete placed at the front end of parking spaces to stop the front wheels of the car.

CHECKLIST 1C: PARKING LOTS AND GARAGES
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of the walking surface: _____

Equipment needed to complete data sheet: tape measure, coefficient of friction tester, protractor, and light meter

1. Accessible Parking Spaces

Space Location	Width	Slope	COF
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

2. Access Aisles

Aisle Location	Width	Length	Slope	COF
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3. Accessible Routes

Aisle Location	Width	Length	Slope	COF
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Height of any vertical level change (step, uplift between concrete slabs, offset of floor surface):

Location	Height differential
_____	_____
_____	_____
_____	_____

4. Illumination

Source of illumination: _____

Illumination (measured at floor level in the direction of travel): _____ foot-candles

Location of reading: _____

5. Parking Stalls

Location	Width	Length
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. Driving Aisles

Location	Width
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

7. Wheel Stops

Distance between adjacent wheel stops: _____

Distance from front bumper of car parked with wheels against the wheel stop to the curb: _____

8. Speed Bumps

Width of walking area on each side of the speed bump: _____

Height of speed bump: _____

Painted or unpainted? _____ If painted, is it striped? _____

CHECKLIST 1C: PARKING LOTS AND GARAGES
Codes and Requirements

Measurements required from Data Sheet: 1, 2

Item	Requirement	Yes	No	NA	Reference
1C.1	**Accessible Parking Spaces**				
1C.1.a	Are the accessible parking spaces level with no slope greater than 1:50 (1.2 degrees) in any direction?	☐	☐	☐	ADA 4.6.3
1C.1.b	Does each accessible parking space and accessible passenger loading zone have a vertical sign, which is unobscured by a parked vehicle, showing the International Symbol of Accessibility? Note: Signs and warnings should be positioned so people are not likely to walk into them.	☐	☐	☐	ADA 4.6.4
1C.1.c	Are all accessible parking spaces, including van spaces, at least 96 inches (2440 mm) wide with a clearly marked access aisle? Note: Two spaces may share a common aisle.	☐	☐	☐	ADA 4.6.3
1C.2	**Access Aisles**				
1C.2.a	Are access aisles stable, firm, and slip resistant?	☐	☐	☐	ADA 4.5.1
1C.2.b	Are access aisles level with no slope greater than 1:50 (1.2 degrees) in any direction?	☐	☐	☐	ADA 4.6.3
1C.3	**Passenger Loading Zone**				
	Is there an access aisle adjacent and parallel to the passenger loading zone that is at least 20 feet (6 m) long and at least 60 inches (1524 mm) wide? (Figure 1C-1).	☐	☐	☐	ADA 4.6.6

CHECKLIST 1C: PARKING LOTS AND GARAGES
Codes and Requirements

Measurements required from Data Sheet: 3, 4

Item	Requirement	Yes	No	NA	Reference
1C.4	**Accessible Routes**				
1C.4.a	Does each access aisle connect directly to an accessible route?	☐	☐	☐	ADA 4.6.3
1C.4.b	Are accessible routes a full 36 inches (91 mm) wide and not reduced in width by vehicles overhanging parking spaces?	☐	☐	☐	ADA 4.3.3
1C.4.c	Is the slope of the accessible route 1:20 (2.8 degrees) or less? Note: Where the slope is greater than 1:20 (2.8 degrees), it should comply with the requirements for ramps. See Checklist 3 for Ramp requirements.	☐	☐	☐	ADA 4.3.7 ADA 4.8.1
1C.4.d	If the accessible route is not level, is the vertical offset less than .25 inch (6 mm)?	☐	☐	☐	ADA 4.5.2
1C.4.e	If the vertical offset is between .25 inch (6 mm) and .5 inch (13 mm), is it beveled with a slope of 1:2 (26.5 degrees) or less? Note: Abrupt changes in surface level are common causes of accidents. When it is necessary to have an elevation change of greater than .5 inch (13 mm) and less than 12 inches (305 mm), it shall be accomplished by a ramp. (ADA 4.3.8; UBC 1003.2.6) See Checklist 3 for Ramp requirements.	☐	☐	☐	ADA 4.5.2
1C.5	**Illumination**				
	Are parking lots and garages adequately illuminated, at least 1 foot-candle (11 lux) at ground level?	☐	☐	☐	UBC 1006.2 IBC 1006.2

CHECKLIST 1C: PARKING LOTS AND GARAGES
Guidelines

Measurements required from Data Sheet: 5, 6, 7

Item	Guideline	Yes	No	NA	Reference
1C.6	**Parking Stalls**				
1C.6.a	Are parking stalls at least 19 feet (5.8 m) long and 9 feet (2.7 m) wide?	☐	☐	☐	
1C.6.b	Is the width of the driving aisle between rows of vehicles at least 24 feet (7 m)?	☐	☐	☐	
1C.7	**Wheel Stops**				
1C.7.a	Is the distance between adjacent wheel stops at least 3 feet (91 cm)?	☐	☐	☐	
1C.7.b	Are wheel stops positioned so that they do not extend between the front ends of vehicles or span painted lines between parking spaces?	☐	☐	☐	
	Note: Such a condition presents a potential tripping hazard, especially when the lighting is inadequate.				
1C.7.c	Are wheel stops positioned so that when a vehicle parks facing a sidewalk area, the front bumper does not extend over the sidewalk?	☐	☐	☐	
1C.7.d	Are wheel stops conspicuous (i.e., not covered by grass, ice, or snow, etc.)?	☐	☐	☐	
1C.7.e	Are wheel stops and traffic parking rows painted and/or clearly marked?	☐	☐	☐	
	Note: Unpainted wheel stops can be sources of tripping hazards.				
1C.7.f	Are wheel stops in good condition?	☐	☐	☐	
1C.7.g	Are wheel stops secured with steel rods, spikes or other means so that they cannot be moved?	☐	☐	☐	

CHECKLIST 1C: PARKING LOTS AND GARAGES
Guidelines

Measurements required from Data Sheet: 8

Item	Guideline	Yes	No	NA	Reference
1C.8	**Speed Bumps**				
1C.8.a	Are speed bumps painted and clearly marked?	☐	☐	☐	
	Note: Unmarked speed bumps can be sources of tripping hazards.				
1C.8.b	Is there a 3 foot (91 cm) pedestrian aisle at each end of a speed bump?	☐	☐	☐	
1C.9	**Pedestrian Access**				
1C.9.a	Are separate walkways provided so that pedestrians do not compete with vehicular traffic in the parking lot or garage?	☐	☐	☐	
1C.9.b	Are pedestrian ramps or stairs provided in an elevated parking area?	☐	☐	☐	
	Note: Refer to Checklist 2 for Ramp requirements and Checklist 3 for Stair requirements.				
1C.9.c	Are pedestrian routes from the parking lot to the building clear and marked?	☐	☐	☐	
1C.10	**Drainage**				
	Is adequate drainage provided for the run-off of excess water?	☐	☐	☐	

CHECKLIST 1: LEVEL SURFACES

Section D: CURBS AND CURB RAMPS

TERMINOLOGY

Accessible	A site, building, facility or portion thereof that can be approached, entered, and used by physically disabled people.
Accessible Route	A continuous, unobstructed path connecting all accessible elements and spaces of a building or facility. Exterior accessible routes may include corridors, floors, ramps, elevators, lifts, and clear floor spaces.
Cross Slope	The slope that is perpendicular to the direction of travel.
Curb Ramp	A short ramp cutting through a curb or built up to it. It is a sloping pedestrian way, intended for pedestrian traffic, which provides access between a walk or sidewalk to a surface located above or below an adjacent curb face. The purpose is to provide a smooth transition between sidewalks and roadways and eliminate the need for pedestrians to climb steps. There are three types of curb ramps allowed by Uniform Federal Accessibility Standards: flared ramp, returned ramp, and built-up ramp.
Running Slope	The slope that is parallel to the direction of travel.
Slip Resistant	The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole and the presence of any foreign material between them. A static coefficient of friction of .50 or higher is considered adequate for pedestrian safety by most authorities.

CHECKLIST 1D: CURBS AND CURB RAMPS
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of the curb or sidewalk: _____

Equipment needed to complete data sheet: tape measure, coefficient of friction tester, and protractor

1. Curb

Height of the curb: _____ Location of measurement: _____

2. Slope

Slope of the curb ramp: _____ Slope of flared sides: _____

Slope of adjoining routes:

Slope of route at top of curb ramp: _____

Slope of route at bottom of curb ramp: _____

3. Width of Curb Ramp:

Width of the curb ramp, not including the flared sides: _____

4. Coefficient of Friction (COF)

Location	COF	Location	COF
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CHECKLIST 1D: CURBS AND CURB RAMPS
Codes and Requirements

Measurements required from Data Sheet: 1, 2, 3, 4

Item	Requirement	Yes	No	NA	Reference
1D.1	**Curb Ramp**				
1D.1.a	Is a curb ramp located wherever an accessible route crosses a curb?	☐	☐	☐	ADA 4.7.1
1D.1.b	Are the transitions from the curb ramp to walks, gutters or streets flush and free of abrupt changes?	☐	☐	☐	ADA 4.7.2
1D.2	**Slope (Figure 1D-1)**				
1D.2.a	Is the slope of the curb ramp 1:12 or less?	☐	☐	☐	ADA 4.7.2 ADA 4.8.2
1D.2.b	Are the running slopes of the road, gutter, or accessible route adjoining the ramp no greater than 1:20 (2.8 degrees)?	☐	☐	☐	ADA 4.7.2
1D.3	**Width**				
	Is the width of the curb ramp at least 36 inches (914 mm), not including any flared sides?	☐	☐	☐	ADA 4.7.3
1D.4	**Surface**				
	Is the surface of the curb ramp stable, firm and slip resistant?	☐	☐	☐	ADA 4.7.4 ADA 4.5.1

CHECKLIST 1D: CURBS AND CURB RAMPS
Codes and Requirements

Measurements required from Data Sheet: none

Item	Requirement	Yes	No	NA	Reference
1D.5	**Obstructions**				
	Are curb ramps located or protected so that they will not be obstructed by parked vehicles? Example: Marking the area in front of the curb ramp as a "NO PARKING" zone will prevent the ramp from being obstructed.	☐	☐	☐	ADA 4.7.8
1D.6	**Crosswalks**				
	Are curb ramps at crosswalks completely contained within the crosswalk lines, except for the flared sides?	☐	☐	☐	ADA 4.7.9
1D.7	**Islands**				
	Where an accessible pathway crosses an island, is the island cut through at street level? OR Are there curb ramps on both sides and a level area at least 48 inches (1219 mm) long between them?	☐	☐	☐	ADA 4.7.1
1D.8	**Flared Curb Ramp (Figure 1D-2)**				
1D.8.a	If the curb ramp is located where pedestrians must walk across it or where it is not protected by handrails or guardrails, does it have flared sides?	☐	☐	☐	ADA 4.7.5
1D.8.b	Do these flared sides have a slope of 1:10 or less?	☐	☐	☐	ADA 4.7.5
1D.8.c	Where the space at the top of the ramp is less than 48 inches (1219 mm) and wheelchair users must use the side flares for access, do the flared sides have a slope of 1:12 or less?	☐	☐	☐	ADA 4.7.5

CHECKLIST 1D: CURBS AND CURB RAMPS
Codes and Requirements

Measurements required from Data Sheet: none

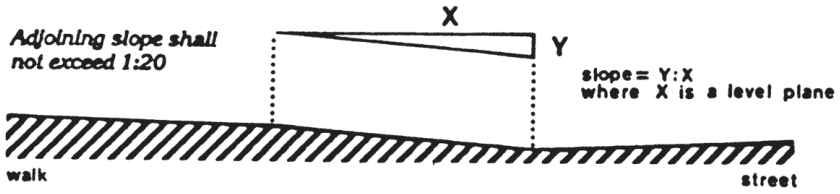
Item	Requirement	Yes	No	NA	Reference
1D.9	**Returned Curb Ramp (Figure 1D-3)**				
	If a sharp returned curb cut is present, is the pedestrian cross traffic prohibited by walls, guardrails, shrubbery or other elements? Note: Curb ramps with returned curbs are used where pedestrians would not normally walk across the ramp.	☐	☐	☐	ADA 4.7.5
1D.10	**Built-up Curb Ramp (Figure 1D-4)**				
	Is the curb ramp located so that the built-up portion does not project into a vehicular traffic lane?	☐	☐	☐	ADA 4.7.6
1D.11	**Diagonal Curb Ramps**				
1D.11.a	If diagonal (or corner-type) curb ramps have returned curbs or other well-defined edges, are these edges parallel to the direction of the pedestrian traffic flow?	☐	☐	☐	ADA 4.7.10
1D.11.b	Is there at least 48 inches (1219 mm) clear space within the crosswalk lines at the bottom of a diagonal curb ramp?	☐	☐	☐	ADA 4.7.10
1D.11.c	If the diagonal curb ramp has flared sides, is there at least a 24 inch (610 mm) segment of straight curb located on each side of the curb ramp within the crosswalk lines?	☐	☐	☐	ADA 4.7.10

CHECKLIST 1D: CURBS AND CURB RAMPS
Guidelines

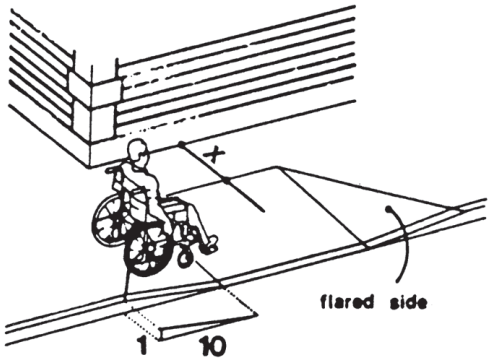
Measurements required from Data Sheet: 1

Item	Guideline	Yes	No	NA	Reference
1D.12	**Curb**				
	Is the curb height 6 inches (150 mm) or less?	☐	☐	☐	
1D.13	**Surface**				
	Is the curb ramp conspicuous, e.g., markings or adequate contrast against the pavement, etc.?	☐	☐	☐	

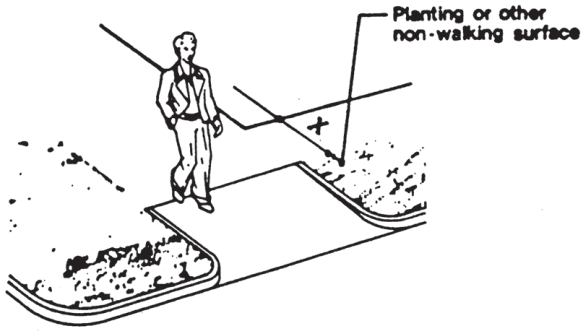
CHECKLIST 1D: CURBS AND CURB RAMPS
Figures



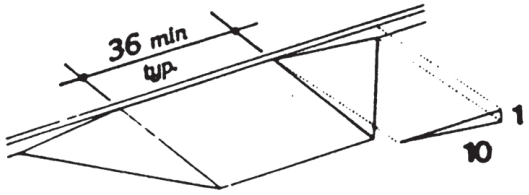
Slope of Curb Ramps
Figure 1D-1



Flared Curb Ramp
Figure 1D-2



Returned Curb Ramp
Figure 1D-3



Built-Up Curb Ramp
Figure 1D-4

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 2: STAIRS

TERMINOLOGY

Flight	A series of steps between landings.
Handrail	A horizontal or sloping rail grasped by the hand for guidance or support, and for assistance in the event of a misstep or fall on the adjacent walking surface.
Handrail Height	The vertical distance from the leading edge of the step up to the top of the handrail.
Landing	A walking surface at the top, bottom, or between flights of a stairway.
Nosing	The front and usually rounded edge of a stair tread; it frequently projects over the riser below it.
Nosing Overhang	The distance that the nosing edge of a step projects beyond the back of the tread below.
Overhead Clearance	A clearance measured vertically from the tread nosing or landing to the overhead surface or ceiling.
Riser	The upright face of a step.
Riser Height	The height of one step measured from the top of a step at the nosing to the top of an adjoining step at the nosing.
Slip Resistant	The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole and the presence of any foreign material between them. A static coefficient of friction of .50 or higher is considered adequate for pedestrian safety by most authorities.
Stairway	A system of two or more risers.
Tread	The horizontal surface of a step; the part that is stepped on.
Tread Depth	The length (from front to back) of a tread.
Wash	A slight sloping of treads to throw off rainwater.

The total number of steps = the total number of risers between two levels.
The total number of treads = the total number of risers minus 1.

CHECKLIST 2: STAIRS
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of Stairs: _____

Occupant Load: _____

Equipment needed to complete data sheet: tape measure, coefficient of friction tester, protractor and light meter

Note**:** If the stairs in this location consist of more than one flight, please repeat the following measurements for each flight. In such a case, the bottom landing will be the top landing of the next flight down, etc.

1. Width

Width of Stairs: _____

Does anything project into the stairway width? _____

If so, is it at or below handrail height? _____

Distance projected into the stairway: _____

2. Risers

Number of risers: _____

Riser height and difference in riser height between two adjacent risers (R2 minus R1, etc.):

		Riser Height		**Difference**
(TOP)	R1	_____		
			>	_____
	R2	_____		
			>	_____
	R3	_____		
			>	_____
	R4	_____		
			>	_____
	R5	_____		
			>	_____
	R6	_____		
			>	_____
	R7	_____		
			>	_____
	R8	_____		
			>	_____
	R9	_____		
			>	_____
	R10	_____		
			>	_____
	R11	_____		
			>	_____
	R12	_____		
			>	_____
	R13	_____		
			>	_____
	R14	_____		
			>	_____
	R15	_____		
			>	_____
	R16	_____		

(A) Largest Riser height in stairway: _____

(B) Smallest Riser height in stairway: _____

Riser Height Differential (A - B): _____

Slope of riser from the horizontal:

Riser measured: _____ Slope: _____

If the risers are open—what is the height of the opening: _____

3. Treads

Tread Material: _____

Number of treads: _____

Tread depth (the horizontal distance from the front to the back of the stepping surface) and difference in tread depth of adjacent treads (T1 - T2, etc.)

Tread slope measured with a protractor in degrees or percent

Tread Static Coefficient of Friction

		Tread depth		**Difference**	**Tread slope**	**Coefficient of Friction**
(TOP)	T1	_____			T1 _____	T1 _____
			>	_____		
	T2	_____			T2 _____	T2 _____
			>	_____		
	T3	_____			T3 _____	T3 _____
			>	_____		
	T4	_____			T4 _____	T4 _____
			>	_____		
	T5	_____			T5 _____	T5 _____
			>	_____		
	T6	_____			T6 _____	T6 _____
			>	_____		
	T7	_____			T7 _____	T7 _____
			>	_____		
	T8	_____			T8 _____	T8 _____
			>	_____		
	T9	_____			T9 _____	T9 _____
			>	_____		
	T10	_____			T10 _____	T10 _____
			>	_____		
	T11	_____			T11 _____	T11 _____
			>	_____		
	T12	_____			T12 _____	T12 _____
			>	_____		
	T13	_____			T13 _____	T13 _____
			>	_____		
	T14	_____			T14 _____	T14 _____
			>	_____		
	T15	_____			T15 _____	T15 _____
			>	_____		
	T16	_____			T16 _____	T16 _____

(C) Longest tread depth in stairway: _____

(D) Shortest tread depth in stairway: _____

Tread Depth Differential (C - D): _____

4. Nosings

Distance nosings extend beyond the face of the riser below: _____

5. Landings

Dimensions of upper landing: _____ x _____ (Length in direction of travel x Width)

Dimensions of lower landing: _____ x _____ (Length in direction of travel x Width)

Vertical distance between landings: _____

Slope of upper landing: _____ Slope of lower landing: _____

Do doors open onto landing: _____

How much does the open door reduce the length (in direction of travel): _____

How much does the open door reduce the width: _____

Coefficient of friction on the upper and lower landings (take measurements in both well worn and in less used areas of the landings and note the condition by the reading):

Upper Landing		**Lower Landing**	
Reading	**Condition**	**Reading**	**Condition**
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Averages			
_____	_____	_____	_____

6. Overhead Clearance

Distance from the walking surface to the overhead surface or ceiling: _____

7. Illumination

Source of illumination: _____

Illumination level: _____ foot-candles on upper landing

_____ foot-candles on lower landing

_____ foot-candles on stairway

Handrails

8. Quantity

Number of handrails: _____

9. Material

Handrail material: _____ (e.g., pipe, wood, etc.)

10. Height

Height of handrails (the vertical distance from the top of step or landing to the top of the handrail):

Left		**Right**	
Top	_____	Top	_____
Bottom	_____	Bottom	_____

11. Extension

Length handrails extend beyond the top and bottom risers:

Left		**Right**	
Top	_____	Top	_____
Bottom	_____	Bottom	_____

Height of handrail extension protruding into an accessible route:

Left _____ Right _____

12. Graspability

Diameter of the grip portion of the handrails:

Left _____ Right _____

13. Clearance

Clearance between the handrails and adjacent wall:

Left _____ Right _____

If handrails are located in a recess:

Depth of the recess:

Left _____ Right _____

Height of the recess above the top of the rail:

Left _____ Right _____

14. Projection

Distance handrails project into the stairway width:

Left _____ Right _____

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 1

Item	Requirement	Yes	No	NA	Reference
2.1	**Construction**				
	Is the stairway built of materials consistent with the types permitted for construction of the building?	☐	☐	☐	IBC 1009.5
2.2	**Width**				
2.2.a	If the stairway serves an occupant load of more than 50 people, are the stairs at least 44 inches (1118 mm) wide?	☐	☐	☐	UBC 1003.3.3.2 BOCA 1014.3 IBC 1009.1
2.2.b	If the stairway serves an occupant load of 50 or fewer people, are the stairs at least 36 inches (914 mm) wide? Note: Types of buildings where a minimum stairway width of 36 inches (914 mm) are allowed include buildings of single exit construction and a single residential dwelling unit. (BOCA 1014.3)	☐	☐	☐	UBC 1003.3.3.2 BOCA 1014.3 IBC 1009.1
2.2.c	Do decorative features or other trim project into the required width 1.5 inches or less on each side of the stairway? Exception: Projections that are at or below handrail height and project no more than 3.5 inches (89 mm) into the required width on each side are allowed. BOCA allows no projections into the width except for projections of 4.5 inches (114 mm) or less at or below the handrails. (BOCA 1014.3.1)	☐	☐	☐	UBC 1003.3.2

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 2

Item	Requirement	Yes	No	NA	Reference
2.3	**Risers**				
2.3.a	Is each riser height at least 4 inches (102 mm) but no more than 7 inches (178 mm)?	☐	☐	☐	UBC 1003.3.3.3 BOCA 1014.6 IBC 1009.3
2.3.b	Is the riser height differential over the entire flight of stairs .375 inch (9.5 mm) or less? Note: All the steps in a flight of stairs shall have uniform riser heights in any one flight of stairs. (ADA 4.9.2)	☐	☐	☐	UBC 1003.3.3.3 BOCA 1014.6.2 IBC 1009.3.1
2.3.c	Is the height differential between adjacent risers .18 inches (4.5 mm) or less?	☐	☐	☐	BOCA 1014.6.2
2.3.d	If the top or bottom riser adjoins a sloping public walk or driveway with an established grade, does the riser, which can be reduced to 4 inches (102 mm), have a variation not exceeding 1 unit vertical for 12 units (8% slope) horizontal of stairway width?	☐	☐	☐	UBC 1003.3.3.3 BOCA 1014.6.2 IBC 1009.3.1
	If so, does the leading edge of the non-uniform tread have a distinctive marking stripe, between 1 inch (25 mm) and 2 inches (51 mm) in width? The stripe shall be different from others on the flight, visible in descent of the stair and have a slip resistant surface.	☐	☐	☐	IBC 1009.3.1
2.3.e	Are risers vertical or sloped from the underside of the leading edge of the tread above at an angle of 30 degrees (.52 rad) or less (from the vertical) to prevent tripping while ascending (at least 60 degrees from the horizontal)? Exception: Solid risers are not required for stairways serving dwelling units not required to be accessible or adaptable.	☐	☐	☐	BOCA 1014.6.1 ADA 4.9.3 IBC 1009.3.2
2.3.f	If the risers are open, is the opening between treads less than 4 inches (102 mm)? Note: Open risers are permitted in stairways serving dwelling units not required to be accessible. (BOCA 1014.6.1) Open risers are not permitted on accessible routes. (ADA 4.9.2)	☐	☐	☐	BOCA 1014.6.1 ADA 4.9.2 IBC 1009.3.2

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 3

Item	Requirement	Yes	No	NA	Reference
2.4	**Treads**				
2.4.a	Is each tread depth 11 inches (279 mm) or more? Exceptions: Stairways which are spiral, winders, circular, alternating tread, or serving as aisles in assembly seating areas.	☐	☐	☐	UBC 1003.3.3.3 BOCA 1014.6 ADA 4.9.2 IBC 1009.3
2.4.b	Is the tread depth differential over the entire flight of stairs .375 inch (9.5 mm) or less? Note: All the steps in a flight of stairs shall have uniform tread run. (ADA 4.9.2)	☐	☐	☐	UBC 1003.3.3.3 BOCA 1014.6.2 IBC 1009.3.1
2.4.c	Is the tread depth differential between adjacent treads .18 inch (5 mm) or less?	☐	☐	☐	BOCA 1014.6.2
2.4.d	Does each tread have a slope of 1 unit vertical in 48 units horizontal (1:48, 2 percent) or less in any direction?	☐	☐	☐	BOCA 1014.1.1 IBC 1009.5.1
2.4.e	Is the tread surface slip-resistant?	☐	☐	☐	ADA A4.5.1
2.4.f	Is the finish floor surface solid and securely attached?	☐	☐	☐	IBC 1009.5.1

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 4

Item	Requirement	Yes	No	NA	Reference
2.5	**Nosings**				
2.5.a	Are tread edges smooth, rounded, or chamfered with no abrupt edge at the nosing?	☐	☐	☐	ADA 4.9.3
2.5.b	Do the nosings of the treads project 1.25 inches (32 mm) or less beyond the tread below? Note: ADA 4.9.3 allows nosings to project no more than 1.5 inches (38 mm) beyond the tread below.	☐	☐	☐	BOCA 1014.6.1 IBC 1009.3.2
2.5.c	Are all projections of the tread nosings of uniform size, including the leading edge of the floor at the top of a flight?	☐	☐	☐	IBC 1009.3.2

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 5

Item	Requirement	Yes	No	NA	Reference
2.6	**Landings**				
2.6.a	Is there a landing at the top and bottom of the stairway?	☐	☐	☐	UBC 1003.3.3.5 IBC 1009.4
2.6.b	Is the vertical distance between floor levels or landings 12 feet (3658 mm) or less?	☐	☐	☐	UBC 1003.3.3.5 BOCA 1014.5 IBC 1009.6
2.6.c	Is the landing length (in the direction of travel) equal to or greater than the required width of the stairway (44 inches or greater)? Note: This length need not exceed 44 inches (1120 mm) if the stairs have a straight run. (BOCA 1014.3.2) This need not exceed 48 inches (1219 mm) where stairway has a straight run. (IBC 1009.4)	☐	☐	☐	UBC 1003.3.3.5 BOCA 1014.3.2 IBC 1009.4 UBC 1003.3.1.7
2.6.d	Is the landing width equal to or greater than the width of the stairway?	☐	☐	☐	IBC 1009.4
2.7	**Landing Slope**				
2.7.a	If the stairway is inside, is the landing level? Note: BOCA and IBC allow a landing slope 1 unit vertical to 48 units horizontal (1:48, 2 percent) or less on interior landings. (BOCA 1014.1.1, IBC 1009.5.1)	☐	☐	☐	UBC 1003.3.5 BOCA 1014.1.1
2.7.b	If the stairway is outside, does the landing surface have a slope of 1:48 (1.2 degrees, 2 percent) or less?	☐	☐	☐	UBC 1003.3.5 BOCA 1014.1.1 IBC 1009.5.2

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 5

Item	Requirement	Yes	No	NA	Reference
2.8	**Doors at Landings**				
2.8.a	Do doors swing onto a landing in the direction of exit travel?	☐	☐	☐	BOCA 1014.8.2
2.8.b	Do landings have a minimum width at least equal to the width of the stairs that they serve or the width of the door, whichever is greater?	☐	☐	☐	UBC 1003.3.1.7
2.8.c	Do doors in the fully open position reduce a required landing dimension (both depth and width) by less than 7 inches (178 mm)?	☐	☐	☐	UBC 1003.3.1.7 BOCA 1014.8.2 IBC 1009.4
2.8.d	When a landing serves an occupant load of 50 or more, does the door in any position not reduce a landing dimension to less than half of its required size?	☐	☐	☐	UBC 1003.3.1.7 BOCA 1004.8.2 IBC 1009.4

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 6, 7

Item	Requirement	Yes	No	NA	Reference
2.9	**Overhead Clearance**				
	Does the entire stairway have an overhead clearance of at least 80 inches (2032 mm)?	☐	☐	☐	UBC 1003.3.3.4 BOCA 1014.4 IBC 1009.2
2.10	**Outdoor Conditions**				
2.10.a	Are outdoor stairs and approaches to stairs designed so that water does not accumulate on the walking surfaces?	☐	☐	☐	BOCA 1014.12 ADA 4.9.6 IBC 1009.5.2
2.10.b	Are outdoor stairs, landings and approaches protected to prevent accumulation of snow and ice?	☐	☐	☐	BOCA 1014.12 ADA 4.9.6 IBC 1009.5.2
2.11	**Illumination**				
2.11.a	Is the area illuminated by at least 1 foot-candle illumination (11 lux) at floor level? Exception: For auditoriums and other similar use facilities, the illumination at floor level may be reduced during performances to not less than .2 foot-candle (2.15 lux), provided that the required illumination be automatically restored upon activation of a fire alarm system.	☐	☐	☐	UBC 1003.2.9.1 IBC 1006.2
2.11.b	If the stairway serves an occupant load of 100 or more, is emergency lighting provided? Note: Emergency lighting is also required for day care and health care centers, regardless of occupancy load.	☐	☐	☐	UBC 1003.2.9.2

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 8, 10

Item	Requirement	Yes	No	NA	Reference
2.12	**Handrail Location**				
2.12.a	Does the stairway have a handrail on each side? Exception: Hotels, motels, dwelling and lodging houses, garages, sheds, agricultural buildings, private stairways 30 inches (762 mm) or less in height.	☐	☐	☐	UBC 1003.3.3.6 IBC 1009.11
2.12.b	Are the handrails uniform and continuous the full length of the stairway?	☐	☐	☐	UBC 1003.3.3.6 IBC 1009.11
2.12.c	On dogleg or switchback stairs, is the inside handrail continuous at landings?	☐	☐	☐	ADA 4.9.4(1)
2.12.d	For stairways 88 inches (2235 mm) or more in width, is there at least one intermediate handrail for each 88 inches (2235 mm) of required width?	☐	☐	☐	UBC 1003.3.3.6
	If so, are the intermediate handrails spaced approximately equally across with the entire width of the stairway?	☐	☐	☐	UBC 1003.3.3.6
	Are intermediate handrails installed so that every location on the stairway is within 30 inches (762 mm) of a handrail?	☐	☐	☐	IBC 1009.11.2
2.12.e	If the stairway is a monumental stairway, are the handrails located along the most direct path of egress travel?	☐	☐	☐	IBC 1009.11.2
2.13	**Handrail Height**				
	Is the top of the handrail at least 34 inches (864 mm) but no more than 38 inches (965 mm) above the tread nosings and the landing surfaces? Exception: Stairways open on one or both sides shall have guardrails. Handrails that form part of a guard shall have a height of at least 36 inches (914 mm) but no more than 42 inches (1067 mm). (BOCA 1022.2.2) Refer to Checklist 4 for Guardrail requirements.	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.2 ADA 4.9.4(5) IBC 1009.11.1

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 11

Item	Requirement	Yes	No	NA	Reference
2.14	**Handrail Extension**				
2.14.a	Do the handrails return to the wall, guard, walking surface, or continue to the handrail of an adjacent stairway?	☐	☐	☐	IBC 1009.11.5
2.14.b	If the handrails are not continuous, does at least one handrail extend at least 12 inches (305 mm) horizontally beyond the top riser? (Figure 2-1) Note: IBC requires both handrails to extend horizontally for a distance of 12 inches (305 mm) beyond the top riser. (IBC 1009.11.5)	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.3 ADA 4.8.5
2.14.c	If the handrails are not continuous, does at least one handrail extend at least 12 inches (305 mm) beyond the bottom riser? (Figure 2-2) Note: IBC and BOCA require the handrails extend for a distance of one tread depth beyond the bottom riser. (IBC 1009.11.5, BOCA 1022.2.3) ADA requires the handrail extend at least one tread depth of sloping handrail plus 12 inches (305 mm) of extension beyond the bottom riser. (ADA 4.9.4(2))	☐	☐	☐	UBC 1003.3.3.6
2.14.d	If the handrail extension protrudes into an accessible route, is the extension rounded to be 27 inches (686 mm) or less above the floor? (Figure 2-1)	☐	☐	☐	ADA 4.9.4(2) ADA 4.4.1
2.14.e	Is the end of the handrail rounded or returned smoothly to the floor, wall, or terminate in a newel post or safety terminal?	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.3 ADA 4.9.4(6)

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 12

Item	Requirement	Yes	No	NA	Reference
2.15	**Handrail Graspability**				
2.15.a	If the handrail is circular, does the circular cross-section of have an outside diameter of at least 1.25 inches (32 mm) and no greater than 2 inches (51 mm)? Note: ADA requires the outside diameter of the handrail to be between 1.25 inches and 1.5 inches (32 mm and 38 mm). (ADA 4.9.4)	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.4 IBC 1009.11.3
2.15.b	If the handrail is not circular, does it have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6.25 inches (159 mm) with a maximum cross section dimension of 2.25 inches (57 mm)?	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.4 IBC 1009.11.3
	Does the edge of the handrail have a minimum radius of .125 inch (3.2 mm)? Note: If the handrail is not circular, it should provide a gripping surface equivalent to that of a circular handrail.) (UBC 1003.3.3.6, BOCA 1022.2.4)	☐	☐	☐	BOCA 1022.2 IBC 1009.11.3
2.15.c	Does the grip portion have a smooth surface with no sharp corners?	☐	☐	☐	UBC 1003.3.3.6 ADA 4.9.4
2.15.d	Is the grip surface continuous, uninterrupted by newel posts, construction elements, or other obstructions?	☐	☐	☐	BOCA 1022.2 ADA 4.9.4(4) IBC 1009.11.4
2.15.e	Is the handrail fixed so that it does not rotate within the fittings?	☐	☐	☐	ADA 4.9.4(7)

CHECKLIST 2: STAIRS
Codes and Requirements

Measurements required from Data Sheet: 13, 14

Item	Requirement	Yes	No	NA	Reference
2.16	**Handrail Clearance (Figure 2-4)**				
2.16.a	Is the clear space between a handrail and the adjacent wall surface 1.5 inches (38 mm) or more? Note: ADA requires the clearance between walls and handrails to be exactly 1.5 inches (38 mm). (ADA 4.9.4(3)) BOCA requires the clear space to be at least 2.25 inches (57 mm). (BOCA 1022.2)	☐	☐	☐	UBC 1003.3.3.6 IBC 1009.11.6
2.16.b	Are handrails and other surfaces adjacent to the stairway free of sharp or abrasive elements?	☐	☐	☐	BOCA 1022.2 ADA 4.9.4 IBC 1009.11.6
2.16.c	If a handrail is located in a recess, is the recess no more than 3 inches (76 mm) deep extending at least 18 inches (457 mm) above the top of the rail?	☐	☐	☐	ADA 4.26.2
2.17	**Handrail Projection**				
2.17.a	Do handrails project 3.5 inches (89 mm) or less into the required stairway width on each side? Exception: BOCA requires handrails extend 4.5 inches (114 mm) or less into the required stairway width, at or below handrail height. (BOCA 1014.3.1, 1022.2.1)	☐	☐	☐	UBC 1003.4.2
2.17.b	Are any projections into the required width at each handrail less than or equal to 4.5 inches (114 mm) at or below the handrail height?	☐	☐	☐	IBC 1009.11.7

CHECKLIST 2: STAIRS
Guidelines

Measurements required from Data Sheet: none

Item	Guideline	Yes	No	NA	Reference
2.18	**Treads**				
2.18.a	Are the stair treads smooth, level, stable, and free from uplifts to catch the shoe?	☐	☐	☐	
2.18.b	Are any slip-resistant materials applied to the step surface (e.g., traction strips) in good condition?	☐	☐	☐	
2.19	**Single Step**				
2.19.a.	Is a single step avoided where possible?	☐	☐	☐	ASTM F1637 (6.2.1)
2.19.b	If a single step (one riser) cannot be avoided, are there obvious visual cues to identify the step (e.g., handrails, delineated nosings, contrast in surface colors, accent lighting and/or warning signs)?	☐	☐	☐	ASTM F1637 (6.2.2)
2.20	**Visual Cues**				
2.20.a	Are the step edges clearly discernible (e.g., edges do not blend into the texture or pattern of the surrounding treads or landings)? Note: Optical illusions cause many stairway fall accidents during descent. Random, floral or geometric designs can camouflage a step nosing. Sufficient visual cues should be provided to accent the step edges so that they can be clearly discerned by pedestrians.	☐	☐	☐	ASTM F1637 (6.1.2)
2.20.b	Are the stairs free from distracting forward or side views?	☐	☐	☐	ASTM F1637 (6.1.1)
2.21	**Tactile Cues**				
	Are tactile cues present to delineate a step edge or elevation change? Example: Using padded carpet on a level surface and a hard flooring material on steps.	☐	☐	☐	

CHECKLIST 2: STAIRS
Guidelines

Measurements required from Data Sheet: none

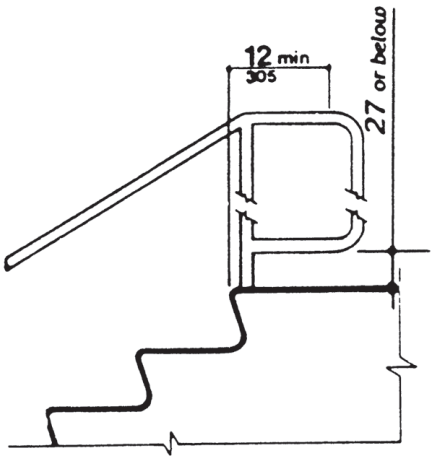
Item	Guideline	Yes	No	NA	Reference
2.22	**Carpeting**				
2.22.a	If the step is covered with carpet, does the carpet conform to the profile of the step edge with no excess or loose carpeting on the edge?	☐	☐	☐	
2.22.b	Is the carpeting a low and relatively dense pile so that it does not entangle narrow high heels? (not shag)	☐	☐	☐	ASTM F1637 (4.3.4)
2.23	**Nosings**				
2.23.a	If a metal tread nosing, retainer, or strip is used on the steps, is it non-slippery and flush with the tread surface to prevent users from tripping? Note: Uplifted metal nosing strips are a very common cause of stairway accidents.	☐	☐	☐	
2.23.b	Are nosings readily discernible, slip resistant, and adequately demarcated?	☐	☐	☐	ASTM F1637 (6.1.2)
2.24	**Landings and Doors**				
2.24.a	If a change in direction is required, is a landing used as an intersection, instead of tapered treads or winders?	☐	☐	☐	
2.24.b	Is there any warning or visual information to alert pedestrians on the stairs to the presence of a door opening into the path of travel?	☐	☐	☐	
2.24.c	Are there windows in the doors to allow pedestrians approaching the stairs to check for others prior to opening the door?	☐	☐	☐	
2.24.d	Are the stairs designed so that doors do not open over the stairs?	☐	☐	☐	ASTM F1637 (6.1.3)

CHECKLIST 2: STAIRS
Guidelines

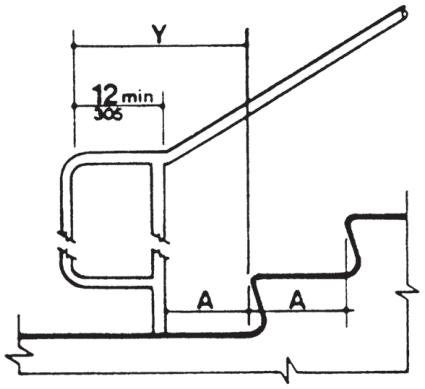
Measurements required from Data Sheet: 7

Item	Guideline	Yes	No	NA	Reference
2.25	**Illumination**				
2.25.a	Is the illumination reasonably uniform over the entire stairway, without shadows on the steps?	☐	☐	☐	ASTM F1637 (4.5.3)
2.25.b	In areas where stairs may not be continuously lighted, are light switches installed at landings so that lighting can be readily turned on?	☐	☐	☐	
2.25.c	Are the switches that control the lights placed sufficiently close to the stair so that there is no risk of a person falling while reaching for the switch?	☐	☐	☐	
2.26	**Overhead Clearance**				
	Is adequate overhead clearance provided so that the ceiling and the light fixtures do not encroach upon the pedestrians field of view?	☐	☐	☐	
2.27	**Drainage**				
	If there is a wash to throw water off external steps, is it less than a 1:60 slope (0.95 degrees)?	☐	☐	☐	
2.28	**Glass**				
	Where there are glass panels in stairways (e.g., windows, mirrors or lighting fixtures), are they protected against accidental breakage either by a physical barrier or by the use of safety glazing materials?	☐	☐	☐	

CHECKLIST 2: STAIRS
Figures



Handrail Extension at the Top of Stairs
Figure 2-1

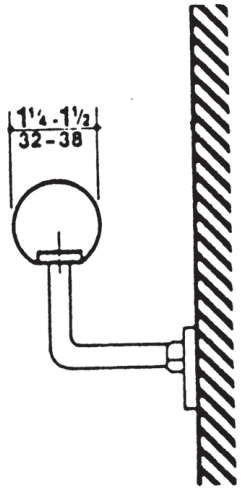


Y is the minimum handrail extension of 12 inches plus the width of one tread (A)

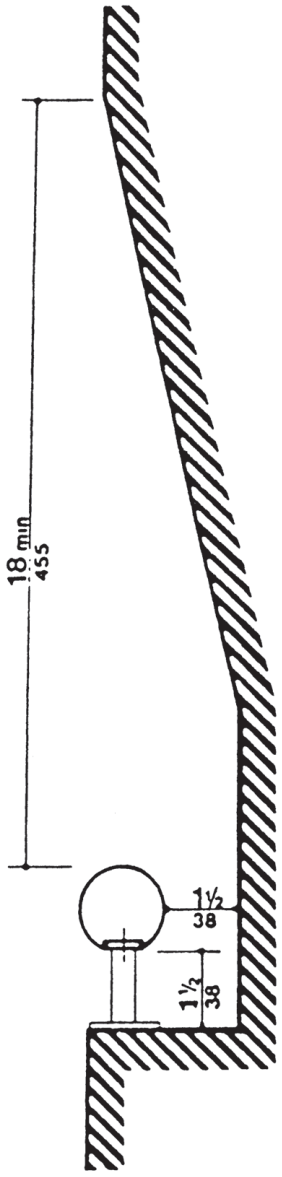
Handrail Extension at the Bottom of Stairs
Figure 2-2

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 2: STAIRS
Figures



Handrail Grip
Figure 2-3



Handrail Clearance
Figure 2-4

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 2: RAMPS

TERMINOLOGY

Cross Slope	The slope that is measured perpendicular to the direction of travel.
Handrail	A horizontal or sloping rail grasped by the hand for guidance or support, and for assistance in the event of a misstep or fall on the adjacent walking surface.
Landing	A platform at the top, bottom, or between sections of a ramp.
Overhead Clearance	A clearance measured vertically from the ramp surface or landing to the overhead surface or ceiling.
Ramp	An inclined plane used as a walkway to enable pedestrians to move from one elevation to another without encountering any obstruction or steps.
Ramp Run	A section of the ramp between the upper and lower landings.
Slip Resistant	The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole, and the presence of any foreign material between them. A static coefficient of friction (COF) of .50 or higher is considered adequate for pedestrian safety by most authorities.
Slope	The inclined angle of the ramp, measured by 1 vertical unit to x horizontal units, percent, or degrees.
Wash	A slight sloping of surface to throw off rainwater.

CHECKLIST 3: RAMPS
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of Ramp: _____

Occupant Load: _____

Equipment needed to complete data sheet: tape measure, coefficient of friction tester, protractor and light meter

Note**:** If the ramp in this location consists of more than one run, please repeat the following measurements for each additional run. In such a case, the bottom landing will be the top landing of the next section down.

1. Change in Elevation

Total change in elevation between upper and lower level: _____

2. Surface

Ramp material: _____ (e.g., concrete, wood, etc.)

Coefficient of Friction Values (for surfaces other than carpeting):

Top landing _____ _____ _____ _____ _____

Average _____

Bottom landing _____ _____ _____ _____ _____

Average _____

Ramp _____ _____ _____ _____ _____

Average _____

3. Width

Width of ramp at floor level: _____ Width between handrails: _____

Projections into width:

Object: _____ Distance into width: _____

Object: _____ Distance into width: _____

4. Slope

Slope of ramp:

Location: _____ Slope: _____

Location: _____ Slope: _____

Location: _____ Slope: _____

Cross Slope of ramp (perpendicular to direction of travel): _____

5. Overhead Clearance

Location: _____ Overhead Clearance: _____

6. Landings

Dimensions of upper landing: _____ x _____ (Length in direction of travel x Width)

Dimensions of lower landing: _____ x _____ (Length in direction of travel x Width)

Slope of landing: _____

7. Doors at Landings

Width of landing with doors open: _____

Distance landing extends beyond the latch edge of the door (measured parallel to the door in the closed position): _____

8. Illumination

Source of illumination: _____

Illumination (measured at floor level in the direction of travel):

_____ foot-candles on upper landing

_____ foot-candles on upper landing

_____ foot-candles on ramp

9. Edge Protection (e.g., wall, curb or guardrail)

Type of edge protection: (Left) _____ (Right) _____

Height of edge protection: (Left) _____ (Right) _____

Handrails

10. Quantity

Number of handrails: _____

11. Material

Handrail material: _____ (e.g., pipe, wood, etc.)

12. Height

Height of handrails (the vertical distance from the top of step or landing to the top of the handrail):

Left		**Right**	
Top	_____	Top	_____
Bottom	_____	Bottom	_____

13. Extension

Length handrails extend beyond the top and bottom of the ramp:

Left		**Right**	
Top	_____	Top	_____
Bottom	_____	Bottom	_____

Height of handrail extension protruding into an accessible route:

Left _____ Right _____

14. Graspability

Diameter of the grip portion of the handrail:

Left _____ Right _____

15. Clearance

Clearance between the handrails and adjacent wall:

Left _____ Right _____

If handrails are located in a recess:

Depth of the recess:

Left _____ Right _____

Height of the recess above the top of the rail:

Left _____ Right _____

16. Projection

Distance handrails project into the ramp width:

Left _____ Right _____

Distance trim or decorative features on railing project into the ramp width: _____

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 1, 2, 3

Item	Requirement	Yes	No	NA	Reference
3.1	**Surface**				
3.1.1	Is the ramp surface stable, roughened, and of slip-resistant material (e.g., brushed concrete, friction strips, or other non-slip treatment)?	☐	☐	☐	UBC 1003.3.4.8 ADA 4.5, 4.8.6 BOCA 1016.6.1 IBC 1010.7.1
3.1.2	Are the slip-resistant materials securely attached?	☐	☐	☐	IBC 1010.7.1
3.2	**Width**				
3.2.a	For any ramp serving an occupant load of more than 50 persons, does the ramp have a width of 44 inches (1118 mm) or more?	☐	☐	☐	UBC 1003.3.4.2 BOCA 1011.3 IBC 1010.5.1 IBC 1016.2
3.2.b	For any ramp serving an occupant load of 50 or fewer persons, does the ramp have a width of 36 inches (914 mm) or more? Note: ADA and IBC require the clear width (between handrails) of the ramp to be at least 36 inches (914 mm). (ADA 4.8.3, IBC 1010.5.1)	☐	☐	☐	UBC 1003.3.4.2 BOCA 1011.3 IBC 1010.5.1 IBC 1016.2 ADA 4.8.3
3.2.c	Is the minimum width of the ramp at least the same as that required for corridors?	☐	☐	☐	BOCA 1016.2.1 IBC 1016.2
3.2.d	If there are any projections into the ramp width at or below handrail height, do they project no more than 3.5 inches (89 mm) into the required width on each side? Note: IBC prohibits projections into the required ramp and landing width (IBC 1010.5.3)	☐	☐	☐	BOCA 1016.2.3
3.2.e	Do projections such as trim and similar decorative features project 1.5 inches (38 mm) or less into the required ramp width?	☐	☐	☐	UBC 1003.3.4.2

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 4, 5

Item	Requirement	Yes	No	NA	Reference
3.3	**Slope**				UBC 1003.3.4.3 BOCA 1016.3 ADA 4.8.2 IBC 1010.2
3.3.a	If the ramp is located within an accessible route of travel and is used as a means of egress, is the slope 1:12 (4.8 degrees, 8.3 percent) or less in the direction of travel?	☐	☐	☐	
3.3.b	If the ramp is not located within an accessible route of egress, is the slope of the ramp 1:8 (7.1 degrees, 12.5 percent) or less in the direction of travel? Note: BOCA allows for the maximum slope to be 1:8 (7.1 degrees) for a rise limited to 3 inches (76 mm) and 1:10 (5.7 degrees) for a rise limited to 6 inches (152 mm).	☐	☐	☐	UBC 1003.3.4.3 BOCA 1016.3 IBC 1010.2
3.3.c	Is the vertical rise for the ramp 30 inches (762 mm) or less between landings?	☐	☐	☐	BOCA 1016.4 ADA 4.8.2 IBC 1010.4
3.3.d	Is the cross slope (measured perpendicular to the direction of travel) of the ramp surface 1:48 (2 percent, 1.19 degrees) or less? Note: ADA requires the cross slope to be 1:50 (1.2 degrees) or less. (ADA 4.8.6)	☐	☐	☐	BOCA 1016.3 IBC 1010.3
3.4	**Overhead Clearance**				
	Does the ramp have overhead clearance of at least 80 inches (2032 mm) measured vertically from the finished floor surface of the ramp and landings to the ceiling? Note: ADA requires minimum overhead clearance to be at least 84 inches (2134 mm). (ADA 4.4.2)	☐	☐	☐	BOCA 1016.2.2 IBC 1010.5.2

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 6

Item	Requirement	Yes	No	NA	Reference
3.5	**Landings**				
3.5.a	Is there a landing at the bottom and top of each ramp, points of turning, entrances, exits, and at doors?	☐	☐	☐	IBC 1010.6
3.5.b	For a ramp having a slope steeper than 1:20 (2.8 degrees, 5 percent), is a landing provided at the top and bottom, and at least one intermediate landing for each 5 feet (1524 mm) of rise? Note: BOCA requires ramp slopes of 1:12 (4.76 degrees, 8.3 percent) or steeper to have landings at the top, bottom, all points of turning, entrance, exit and doors. (BOCA 1016.4) ADA requires a level landing at the top and bottom of each ramp run. (ADA 4.8.3)	☐	☐	☐	UBC 1003.3.4.4
3.5.c	Do top landings and intermediate landings have a dimension of 5 feet (1524 mm) or more, measured in the direction of ramp run? Exception: The landing dimension in the direction of travel is not required to exceed 4 feet (1219 mm) where the travel from one ramp to the next is a straight run. (BOCA 1016.4)	☐	☐	☐	UBC 1003.3.4.4 ADA 4.8.4
3.5.d	Does the landing at the bottom of the ramp have a dimension of 72 inches (1829 mm) or more in the direction of the ramp run?	☐	☐	☐	UBC 1003.3.4.4
3.5.e	Is each landing at least as wide as the widest ramp adjoining the landing? Exception: The least dimension in the direction of travel does is not required to exceed 48 inches (1219 mm) where travel from one ramp to the next is a straight run. (BOCA 1016.4)	☐	☐	☐	BOCA 1016.4 ADA 4.8.4 IBC 1010.6.2
3.5.f	Is the length of each landing at least 60 inches (1524 mm)?	☐	☐	☐	IBC 1010.6.3
3.5.g	Where the ramp changes direction at a landing, are the landing dimensions at least 60 inches (1524 mm) by 60 inches (1524 mm)?	☐	☐	☐	ADA 4.8.4 IBC 1010.6.4
3.5.h	Is the slope of the landing 1:48 (1.19 degrees, 2 percent) or less?	☐	☐	☐	IBC 1010.6.1

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 7, 8

Item	Requirement	Yes	No	NA	Reference
3.6	**Doors at Landings**				
3.6.a	When a door opens onto a landing, in any position, is the smallest dimension of the landing still at least 42 inches (1067 mm)?	☐	☐	☐	UBC 1003.3.4.4 BOCA 1016.2.3
3.6.b	When fully open, does a door reduce the required width of the landing by less than 7 inches (178 mm)?	☐	☐	☐	UBC 1003.3.4.4
3.6.c	When a door opens onto a landing, does the landing extend at least 24 inches (610 mm) beyond the latch edge of the door, measured parallel to the door in the closed position?	☐	☐	☐	UBC 1003.3.4.4
3.6.d	When a door opens onto a landing, does the landing have a length measured in the direction of travel through the doorway of at least 60 inches (1524 mm)?	☐	☐	☐	UBC 1003.3.4.4
3.7	**Illumination**				
3.7.2	Is the area illuminated by at least 1 foot-candle illumination (11 lux) at floor level? Exception: For auditoriums and other similar use facilities, the illumination at floor level may be reduced during performances to not less than .2 foot-candle (2.15 lux), provided that the required illumination be automatically restored upon activation of a fire alarm system.	☐	☐	☐	UBC 1003.2.9.1 IBC 1006.2
3.7.b	If the ramp serves an occupant load of 100 or more, is emergency lighting provided?	☐	☐	☐	UBC 1003.2.9.2
3.8	**Outdoor Conditions**				
3.8.a	Are outdoor ramps and landings designed so that water will not accumulate on walking surfaces?	☐	☐	☐	BOCA 1016.6.2 ADA 4.8.8 IBC 1010.7.2
3.8.b	Are outdoor stairs, landings and approaches protected to prevent accumulation of snow and ice?	☐	☐	☐	BOCA 1014.12 ADA 4.9.6 IBC 1010.7.2

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 9

Item	Requirement	Yes	No	NA	Reference
3.9	**Edge Protection**				
3.9a	If a ramp or landing has a drop off, does it have either a curb with a minimum height of 4 inches (102 mm) above the walking surface or a barrier to prevent people from falling off? Note: ADA requires a wall, railings, projecting surfaces or a curb of 2 inches (51 mm) or more. (ADA) 4.8.7) Exception: Edge protection is not required on ramps not required to have handrails, provided they have flared sides that comply with the ICC A117.1 curb ramp provisions. (IBC 1010.9)	☐	☐	☐	BOCA 1016.5.1 IBC 1010.9.2
3.9.b	If the ramp is located more than 30 inches (762 mm) above the floor or grade below, is a guard installed?	☐	☐	☐	IBC 1012.1
3.9.c	If a guard is required, does it form a protective barrier 42 inches (1067 mm) or more measured vertically above the ramp surface?	☐	☐	☐	IBC 1012.2 IBC 1012.3
	Is a 4-inch (102 mm) diameter sphere prevented from passing through any guard opening up to a height of 34 inches (864 mm)? From a height of 34 inches (864 mm) or more, is an 8-inch (204 mm) diameter sphere prevented from passing through?	☐	☐	☐	
3.9.d	Is a rail mounted below the handrail, 17 inches (432 mm) to 19 inches (483 mm) above the ramp or landing surface?	☐	☐	☐	IBC 1010.9.1

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 12

Item	Requirement	Yes	No	NA	Reference
3.10	**Handrail Location**				
3.10.a	If the ramp has a slope steeper than 1:20 (2.8 degrees, 5 percent), does it have a handrail on each side? Note: BOCA specifies handrails be provided on both sides of every ramp having a slope greater than 1:20 (2.8 degrees), but not on ramps where the vertical rise between landings is 6 inches (152 mm) or less. (BOCA 1016.5) ADA requires a handrail on each side of ramps with rises of more than 1:12 (8.3 degrees). (ADA 4.8.4)	☐	☐	☐	UBC 1003.3.4.5
3.10.b	If the ramp has a rise of greater than 6 inches (152 mm), does it have a handrail on both sides?	☐	☐	☐	IBC 1010.8
3.10.c	Are the handrails uniform and continuous the full length of the ramp, including the landings?	☐	☐	☐	IBC 1009.11
3.10.d	Are intermediate handrails installed so that every location along the ramp is within 30 inches (762 mm) of a handrail?	☐	☐	☐	IBC 1009.11.2
3.11	**Handrail Height** Is the top of the handrail at least 34 inches (864 mm) but no more than 38 inches (965 mm) above the ramp or landing surface? Exception: Ramps open on one or both sides shall have guardrails. Handrails that form part of a guard shall have a height of at least 36 inches (914 mm) but no more than 42 inches (1067 mm). (BOCA 1022.2.2) Refer to checklist 4 for Guardrail requirements.	☐	☐	☐	UBC 1003.3.3.6 BOCA 10221.2.2 ADA 4.9.4(5) IBC 1009.11.1

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 13

Item	Requirement	Yes	No	NA	Reference
3.12	**Handrail Extension** (**Figure 3-1)**				
3.12.a	Do the handrails return to a wall, guard, walking surface, or continue to the handrail of an adjacent ramp?	☐	☐	☐	IBC 1009.11.5
3.12.b	Does at least one handrail extend at least 12 inches (305 mm) horizontally beyond the top of the ramp? Note: IBC requires both handrails to extend 12 inches (305 mm) beyond the top of the ramp. (IBC 1009.11.5)	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.3 ADA 4.8.5
3.12.c	Does at least one handrail extend at least 12 inches (305 mm) beyond the bottom of the ramp? Note: IBC requires both handrails to extend 12 inches (305 mm) beyond the top of the ramp. (IBC 1009.11.5)	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.3 ADA 4.8.5 IBC 1003.3.3.11.5
3.12.d	If the handrail extension protrudes into an accessible route, is the extension rounded to be 27 inches (686 mm) or less above the floor?	☐	☐	☐	ADA 4.9.4(2) ADA 4.4.1
3.12.e	Is the end of the handrail rounded or returned smoothly to the floor, wall or terminate in a newel post or safety terminal?	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.3 ADA 4.9.4(6)

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 14

Item	Requirement	Yes	No	NA	Reference
3.13	**Handrail Graspability**				
3.13.a	If the handrail is circular, does the circular cross-section have an outside diameter of at least 1.25 inches (32 mm) and no greater than 2 inches (51 mm)? (Figure 3-2) Note: ADA requires the outside diameter of the handrail to be between 1.25 inches and 1.5 inches (32 and 38 mm). (ADA 4.9.4)	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.4 IBC 1009.11.3
3.13.b	If the handrail is not circular, does it have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6.25 inches (159 mm) with a maximum cross section dimension of 2.25 inches (57 mm)?	☐	☐	☐	UBC 1003.3.3.6 BOCA 1022.2.4 IBC 1009.11.3
3.13.c	Does the edge of the handrail have a minimum radius of .125 inch (3.2 mm)?	☐	☐	☐	BOCA 1022.2 IBC 1009.11.3
3.13.d	Does the grip portion have a smooth surface with no sharp corners?	☐	☐	☐	UBC 1003.3.3.6 ADA 4.9.4
3.13.e	Is the grip surface continuous, uninterrupted by newel posts, construction elements or other obstructions?	☐	☐	☐	BOCA 1022.2 ADA 4.9.4(4) IBC 1009.11.4
3.13.f	Is the handrail fixed so that it does not rotate within the fittings?	☐	☐	☐	ADA 4.9.4(7)

CHECKLIST 3: RAMPS
Codes and Requirements

Measurements required from Data Sheet: 15, 16

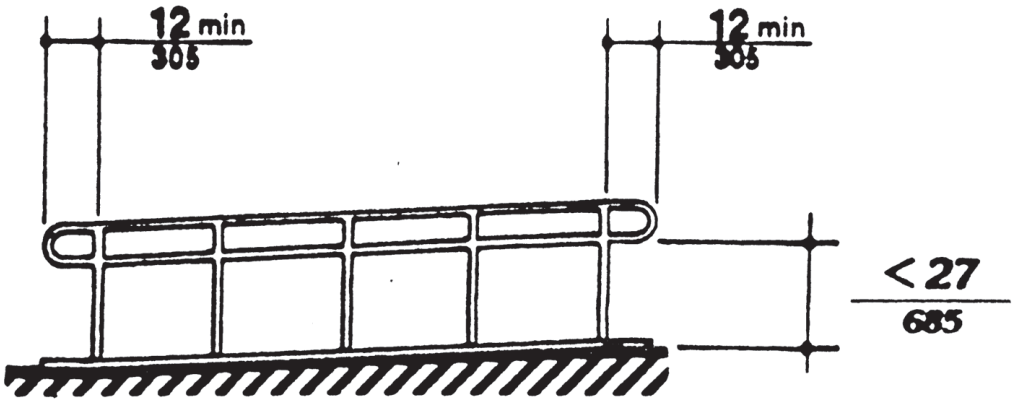
Item	Requirement	Yes	No	NA	Reference
3.14	**Handrail Clearance (Figure 3-3)**				
3.14.a	Is the clear space between the handrail and the adjacent wall surface 1.5 inches (38 mm) or more? Note: ADA requires the clearance between walls and handrails to be exactly 1.5 inches (38 mm). (ADA 4.9.4(3)) BOCA requires the clear space to be at least 2.25 inches (57 mm). (BOCA 1022.2)	☐	☐	☐	UBC 1003.3.3.6 IBC 1009.11.6
3.14.b	Are handrails, walls and other surfaces adjacent to the stairway free of sharp or abrasive elements?	☐	☐	☐	BOCA 1022.2 ADA 4.9.4 IBC 1009.11.6
3.14.b	If a handrail is located in a recess, is the recess no more than 3 inches (76 mm) deep extending at least 18 inches (460 mm) above the top of the rail?	☐	☐	☐	ADA 4.26.2
3.15	**Handrail Projections**				
3.15.a	Do handrails project 3.5 inches (89 mm) or less into the required ramp width on each side? Note: BOCA requires handrails extend 4.5 inches (114 mm) or less into the required ramp width, at or below handrail height. (BOCA 1014.3.1, 1022.2.1)	☐	☐	☐	UBC 1003.3.4.2 BOCA 1022.2.1
3.15.b	Are any projections into the required width at each handrail less than or equal to 4.5 inches (114 mm) at or below the handrail height?	☐	☐	☐	IBC 1009.11.7

CHECKLIST 3: RAMPS
Guidelines

Measurements required from Data Sheet: 4

Item	Guideline	Yes	No	NA	Reference
3.16	**Layout**				
3.16.a	Does the ramp exit into an area free from congestion or hazards?	☐	☐	☐	
3.16.b	Is the slope of the ramp at least 1:16? Note: If the slop is too gradual it may not be easily discerned by the visually impaired.	☐	☐	☐	
3.17	**Visual Cues**				
3.17.a	Is the ramp, including the edges, clearly discernible (e.g., it does not blend into the texture or pattern of the surrounding walking surface)?	☐	☐	☐	
3.17.b	Is the ramp free from distracting forward or side views?	☐	☐	☐	
3.17.c	Is the illumination reasonably uniform over the entire ramp without a lot of shadows?	☐	☐	☐	
3.18	**Ramp Sides**				
3.18.a	Are the slopes of the ramp sides less than or equal to the slope of the ramp?	☐	☐	☐	
3.18.b	Are the sides of the ramps clearly marked, preferably painted with stripes and/or contrasting color?	☐	☐	☐	

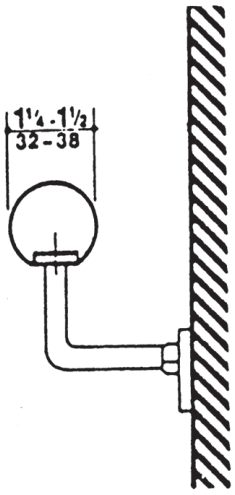
CHECKLIST 3: RAMPS
Figures



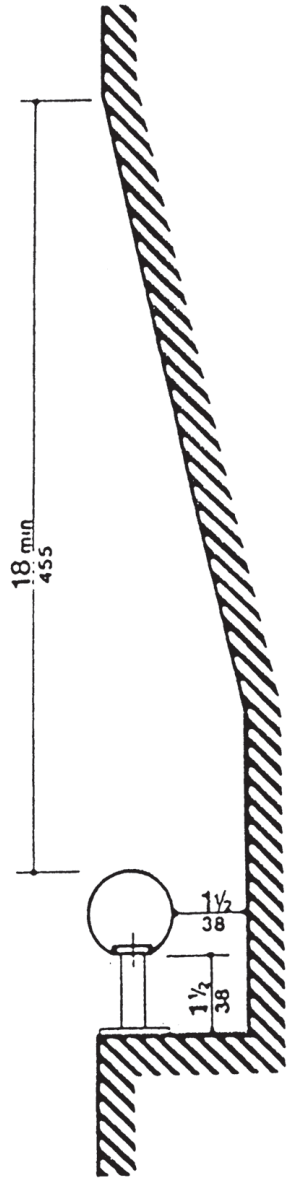
Handrail Extension at the Top and Bottom of Ramp
Figure 3-1

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 3: RAMPS
Figures



Handrail Grip
Figure 3-2



Handrail Clearance
Figure 3-3

(Source: Americans with Disabilities Act Handbook, 1992)

CHECKLIST 4: GUARDRAILS AND TOEBOARDS

TERMINOLOGY

Guard/Guardrail	A building component or a system of building components located at or near the opening sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.
Guardrail Height	The vertical distance from the floor surface or landing to the top of the guardrail.
Toeboard (Toeplate)	A vertical barrier at floor level, erected along exposed edges of a floor or wall opening, platform, landing, runway, or ramp to prevent objects from falling over the edge.

Note: This checklist does not apply to guardrails installed in theaters, reviewing stands, grandstands, bleachers, and folding and telescopic seating.

CHECKLIST 4: GUARDRAILS AND TOEBOARDS
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Location of Guardrail or Toeboard: _____

Equipment needed to complete data sheet: tape measure

Guardrails

1. Number of guardrails: _____

2. Height differential between upper and lower walking surfaces: _____

3. Height of guardrails (the vertical distance from the floor surface or landing to the top of the guardrail) _____

4. Largest opening between the rails and any ornamental pattern in the railing: _____ inches

5. Material of guardrail: _____ (e.g., pipe, wood, etc.)

6. Height of intermediate rail: _____

7. Distance between guardrail and adjacent structure: _____

Toeboards

8. Number of toeboards: _____

9. Height of toeboard: _____

10. Clearance above floor level: _____

11. Largest opening in toeboard: _____

12. Material of toeboard: _____

CHECKLIST 4: GUARDRAILS AND TOEBOARDS
Codes and Requirements

Measurements required from Data Sheet: 4, 5

Item	Requirement	Yes	No	NA	Reference
4.1	**Location**				
	Are the following areas protected by guardrails if they are more than 30 inches (762 mm) above the grade or floor below? Open-sided walking surfaces, Open-sided mezzanines, Open-sided equipment platforms, Open-sided or glazed sides of stairways, Open-sided or glazed sides of ramps, Open-sided or glazed sides of landings, Unenclosed floor openings, Unenclosed roof openings, Balconies, screened porches or decks and Roofs used for other than service of the building? Exception: Loading side of loading docks or piers, or audience side of stages used for entertainment or presentations.	☐	☐	☐	UBC 509.1 IBC 1012.1
4.2	**Height**				
	Is the top of the guardrail at least 42 inches (1067 mm) high?	☐	☐	☐	UBC 509.2 BOCA 1021.2 IBC 1012.2

CHECKLIST 4: GUARDRAILS AND TOEBOARDS
Codes and Requirements

Measurements required from Data Sheet: 1, 2, 3, 4

Item	Requirement	Yes	No	NA	Reference
4.3	**Pattern**				
4.3.a	Does the guardrail have intermediate rails or an ornamental pattern such that a 4-inch (102 mm) diameter sphere cannot pass through any opening? (IBC adds that this requirement is for openings up to a height of 34 inches (864 mm)).	☐	☐	☐	UBC 509.3 BOCA 1021.3 IBC 1012.3
	Does the guardrail have an ornamental pattern such that an 8-inch (203 mm) diameter sphere cannot pass through any opening from a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surface? Exception: Areas of commercial and industrial type occupancies not accessible to public must not allow a 12-inch (305 mm) diameter sphere to pass	☐	☐	☐	IBC 1012.3
4.3.b	Are the triangular openings formed by the riser, tread and bottom rail at the open side of a stairway constructed so as to prevent the passage of a 6-inch (152 mm) diameter sphere?	☐	☐	☐	UBC 509.3 BOCA 1021.3 IBC 1012.3
4.3.b	Is the ornamental pattern on the guardrail free from any ladder effect? Note: Ornamental patterns with ladder effect may encourage children to climb the rail.	☐	☐	☐	BOCA 1021.3
4.4	**Mechanical Equipment**				
4.4.a	Are guards provided where appliance, equipment, fans or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side located more than 30 inches (762 mm) above the grade below?	☐	☐	☐	IBC 1012.5
4.4.b	Is the guard constructed so as to prevent the passage of a 21-inch (533 mm) diameter sphere?	☐	☐	☐	IBC 1012.5

CHECKLIST 4: GUARDRAILS AND TOEBOARDS
Guidelines

Measurements required from Data Sheet: 5, 6, 7

Item	Guideline	Yes	No	NA	Reference
4.5	**Hazards**				
	Regardless of height, are open sided floors, walkways, platforms, or ramps above or adjacent to dangerous equipment, guarded with a guardrail system and toeboard? Note: Where routine access is required, a removable guardrail system should be provided.	☐	☐	☐	ANSI A1264.1(5.3)
4.6	**Guardrail Elements**				
4.6.a	Does the guardrail consist of a top rail, intermediate rail or equivalent protection, and posts?	☐	☐	☐	ANSI A1264.1(5.4)
4.6.b	Is the top rail smooth throughout the length of the railing?	☐	☐	☐	ANSI A1264.1(5.4)
4.6.c	Is the intermediate rail approximately halfway between the top rail and the floor surface?	☐	☐	☐	ANSI A1264.1(5.4)
4.6.d	Do the ends of the rails not overhang the terminal posts? Exception: Overhang of rail ends of bluster railings, scrollwork railings, and panel railings is allowed since it does not constitute a projection hazard. (ANSI A1264.1(5.6.3))	☐	☐	☐	ANSI A1264.1(5.4)
4.7	**Clearance**				
	In the area where a fall hazard exists, is the spacing between the guardrail and the adjacent structure 2 inches (50.8 mm) or less?	☐	☐	☐	ANSI A1264.1(5.4)

CHECKLIST 4: GUARDRAILS AND TOEBOARDS
Guidelines

Measurements required from Data Sheet: 8, 9, 10, 11, 12

Item	Guideline	Yes	No	NA	Reference
4.8	**Toeboards**				
4.8.a	Is the toeboard at least 3.5 inches (87 mm) in height and securely fastened, with no more than .25 inch (6 mm) clearance above floor level? Note: A curb may be used instead of a toeboard.	☐	☐	☐	ANSI A1264.1(5.7)
4.8.b	Is the toeboard made of substantial material, either solid or with opening not over 1 inch (25 mm) in their greatest dimension?	☐	☐	☐	ANSI A1264.1(5.7)
4.8.c	Where objects are piled to such a height that a toeboard does not provide protection, is similar toeboard material or 18 gauge metal screening extending from floor to intermediate rail or to top rail provided?	☐	☐	☐	ANSI A1264.1(5.7)

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE

TERMINOLOGY

Slip Resistant — The ability to provide adequate force to resist the tendency of the shoe or foot to slide along a walking surface. Slip resistance is related to a combination of factors including the walkway surface, the footwear sole, and the presence of any foreign material between them. A static coefficient of friction of .50 or higher is considered adequate for pedestrian safety by most authorities.

Sweep — A procedure which begins with the employee or supervisor looking for liquids, foreign objects or other conditions (i.e., visual sweep) that may cause a fall accident. The actual sweep or cleaning is performed if such a danger is identified.

Sweep Sheet — A signed log documenting the sweeping of areas. An entry is to be made on the sheet each time the area is swept or is observed to be free of foreign material. As a minimum, the person signing the schedule is to record the exact time the floor is swept or observed and his/her name or initial, depending on the maintenance procedures. See Figure 5-1 for an example of a sweep sheet.

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Data Sheet

Date of Inspection: _____

Name of Inspector: _____

Facility Name: _____

Facility Address: _____

Equipment needed to complete data sheet: tape measure

1. Matting

Location of Mat	Dimensions	Condition
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Cleaning and Finishing Products

Product Name	Purpose	Frequency of Use
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Housekeeping and Maintenance Procedures

Is there a written housekeeping policy? _____

Frequency of inspecting premises: _____

Frequency of sweeping premises floor: _____

Frequency of mopping premises floor: _____

Is a sweep sheet or log used to record routine floor housekeeping? _____

If yes, how frequent are inspections or sweeps performed? _____

Are cones or other means of barricades used during cleaning and maintenance: _____

If yes, type of barricade used: _____

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Guidelines

Measurements required from Data Sheet: none

Item	Guideline	Yes	No	NA	Reference
5.1	**Matting**				
5.1.a	In areas where floors are known or expected to be slippery due to frequent spills or weather conditions, is slip-resistant matting used to prevent slips and falls?	☐	☐	☐	
	Note: Such a control measure prevents slipping accidents which may take place before the maintenance personnel have a chance to remove sources of slips.	☐	☐	☐	
5.1.b	Is the matting flat and in good condition—it is not worn and does not have curled edges?				
5.1.c	Is the matting thin enough or beveled on the edges to avoid creating a tripping hazard?	☐	☐	☐	
	Note: ADA requires level changes between .25 inch (6 mm) and .5 inch (13 mm) to be beveled. (ADA 4.5.2)				
5.1.d	Is the matting secured on the floor or equipped with a non-slip bottom so it does not slip when stepped on?	☐	☐	☐	
5.1.e	In areas where mud, ice, snow or water will be on the bottom of a pedestrians shoes, are brush-step or scrape mats used for cleaning the bottoms of shoes?	☐	☐	☐	

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Guidelines

Measurements required from Data Sheet: none

Item	Guideline	Yes	No	NA	Reference
5.1	**Matting (Continued)**				
5.1.f	In high-traffic locations where matting is a permanent fixture, is it recessed into the floor and flush with the surrounding walking surface?	☐	☐	☐	
5.1.g	Does the entrance to the building have a matting system which extends for at least 10 feet (3 m) before the pedestrians foot strikes the building floor?	☐	☐	☐	
5.1.h	Is there matting at the entrance to a set of doors, between a set of doors and after exiting the set of doors?	☐	☐	☐	
5.2	**Absorbency**				
5.2.a	In areas where oil and chemicals may deposit, are special absorbent mats used to absorb such substance? Note: Mats designed for service in the presence of water may be damaged rapidly by grease and chemicals.	☐	☐	☐	
5.2.b	Is the absorbency and drainage of matting adequate to dry footwear and absorb excessive moisture? Example: Fabric mats with rubber backing are adequate for light water loads. Once they get saturated, they not only don't remove wetness from shoes, but they add moisture to dry soles traversing them. Mats of a non-wicking material with rubber underneath for water to drain down should be used for heavy water loads.	☐	☐	☐	

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Guidelines

Measurements required from Data Sheet: none

Item	Guideline	Yes	No	NA	Reference
5.3	**Slip-Resistant Materials**				
	Are slip-resistant materials or strips applied on the walking surface in good condition?	☐	☐	☐	
	Note: Slip-resistant strips curled up at the edges can become tripping hazards themselves.				
5.4	**Wet Conditions**				
5.4.a	Is the walking surface protected from poor weather conditions such as snow and ice?	☐	☐	☐	
5.4.b	Is the ground or floor surface usually dry, not exposed to frequent moisture?	☐	☐	☐	
5.4.c	Whenever wet weather conditions are present, is an employee stationed near the entrance to monitor and clean up wet areas?	☐	☐	☐	
5.5	**Other Floor Conditions**				
5.5.a	Is the area free from debris, spillage, and grease?	☐	☐	☐	
5.5.b	Are spills cleaned up immediately or blocked off to prevent people from slipping?	☐	☐	☐	
5.5.c	Are aisles and passageways in good repair?	☐	☐	☐	
	Note: Broken floors, loose boards, missing tiles, upturned rugs, or other similar problems should be reported and fixed immediately.				

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Guidelines

Measurements required from Data Sheet: none

Item	Guideline	Yes	No	NA	Reference
5.6	**Clutter**				
5.6.a	Are extension cords used only temporarily and fastened on the floor or covered to prevent people from tripping?	☐	☐	☐	
5.6.b	Are aisles and passageways kept clear with no unattended equipment or obstructions that could create a hazard? Note: All areas and passageways should be kept clean, orderly and in a sanitary condition through regular visual sweep or inspection.	☐	☐	☐	
5.6.c	When items are temporarily set aside, are they kept out of the way?	☐	☐	☐	
5.6.d	Are items put away when they are not in use?	☐	☐	☐	
5.7	**Leaks**				
	Is machinery or equipment inspected regularly for leaks?	☐	☐	☐	
5.8	**Cleaning and Finishing**				
	Do the floor finishing products provide a slip resistant finish? Note: Technical assistance should be obtained from suppliers or testing laboratories in determining appropriate materials, equipment and methods.	☐	☐	☐	

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Guidelines

Measurements required from Data Sheet: none

Item	Guideline	Yes	No	NA	Reference
5.9	**Procedures**				
5.9.a	Are there written inspection procedures?	☐	☐	☐	
5.9.b	Is there a written procedure for both finishing and cleaning the floors?	☐	☐	☐	
5.9.c	Are the finishing and cleaning procedures followed by the maintenance personnel?	☐	☐	☐	
5.10	**Warnings**				
	During cleaning and maintenance, is the area roped off or are sufficient warning signs in place?	☐	☐	☐	
	Note: During maintenance, wet floor signs are used to show the area in which the moisture is present; however, they are not substitutes for adequate hazard controls.				
5.11	**Documentation**				
	Are records kept as to who is actually carrying out routine inspections and cleaning operations and when they are being performed?	☐	☐	☐	
	Note: A sweep sheet demonstrating a conscientious effort to monitor the floor condition can help in defending against litigation. (Figure 5-1)				
5.12	**Lighting**				
	Are lights kept clean and burned out bulbs replaced promptly?	☐	☐	☐	
	Note: Dirty bulbs do not give off as much light and can be fire hazards.				

CHECKLIST 5: HOUSEKEEPING AND MAINTENANCE
Figures

Date: _____

Facility Name: _____

Area: _____

Time	Employee	Time	Employee

Example of Sweep Sheet
Figure 5-1