

BARRIER-FREE WASHROOM PLANNING GUIDE

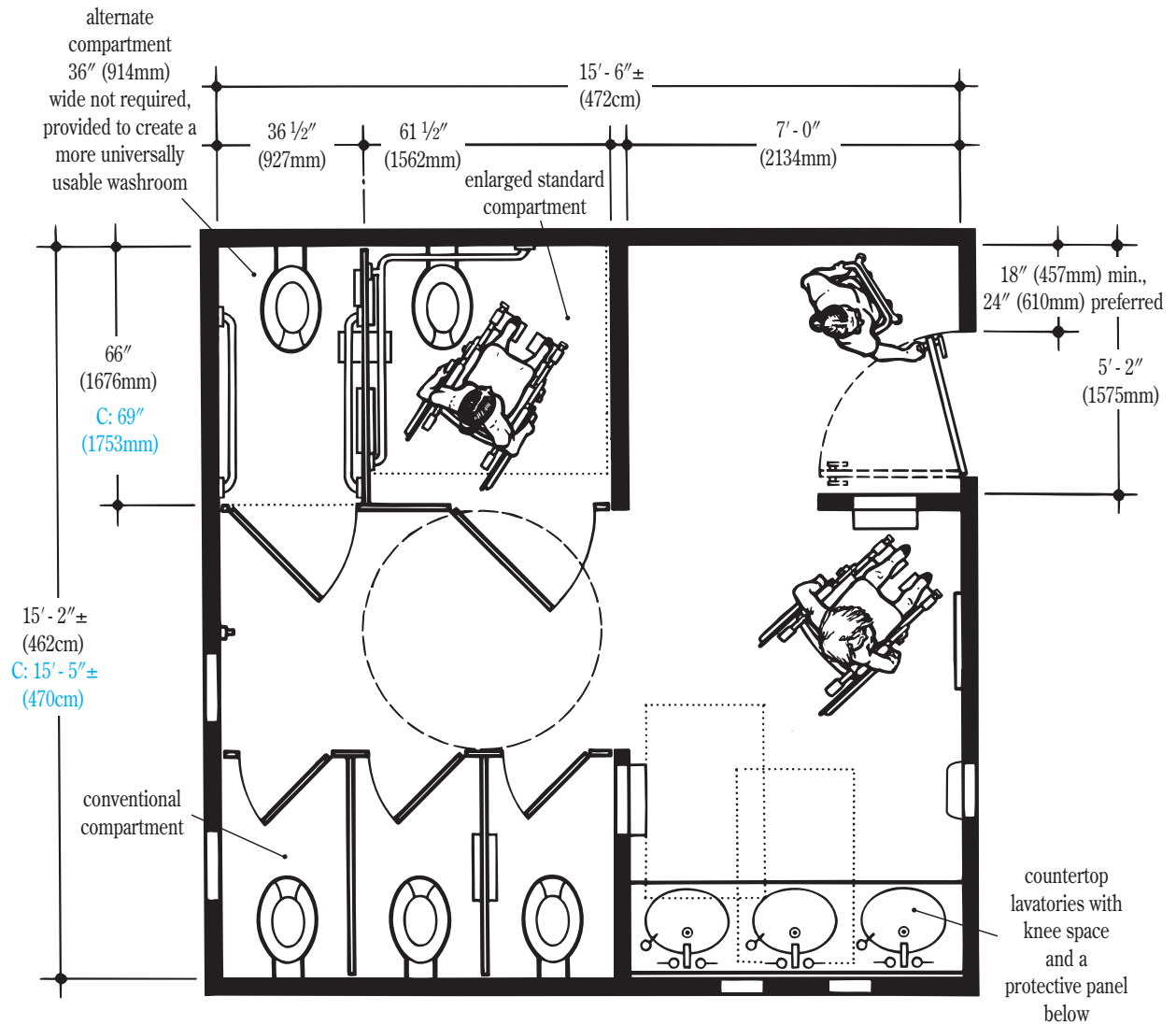


Fig. 18 Small Public Washroom Provides Standard Compartment and Alternate Compartment 36" (914mm) Wide.

INCORPORATING:
ADAAG (REV 7/94)
U.S. ACCESS BOARD'S BUILDING ELEMENTS
DESIGNED FOR CHILDREN'S USE (1/98)
ICC/ANSI A117.1 (98)
ADA-ABA ACCESSIBILITY GUIDELINES (7/04)

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BUILDING ELEMENTS DESIGNED FOR CHILDREN'S USE

Final guidelines for making facilities accessible to children have been published by the Access Board (U.S. Architectural and Transportation Barriers Compliance Board), but not yet adopted by the U.S. Department of Justice. While they are not yet "enforceable," they offer guidance. Please refer to blue notations beginning with "C:" in several of the figures.

THE GUIDE INCLUDES ICC/ANSI A117.1-1998 STANDARDS

These standards replace CABO/ANSI A117.1-1992 which have been adopted by many states. A transition to the new standards is expected; please check with the appropriate agency in your state.

THE ADA HAS OPENED THE DOORS OF ALL FACILITIES

The *Americans with Disabilities Act* (ADA) is a federal civil rights law that prohibits discrimination against people with disabilities by ensuring them equal access to goods and services. It recognizes inaccessible facilities as one form of discrimination, since these facilities can prohibit participation by people with disabilities. The regulations for implementing the ADA include detailed design specifications, originally known as *ADA Accessibility Guidelines for Buildings and Facilities* (ADAAG). The Guidelines were developed by the US Architectural and Transportation Barriers Compliance Board (the Access Board) using sections of the *American National Standard for Buildings and Facilities—Providing Accessibility and Usability for Physically Handicapped People* (ANSI A117.1-1986) and the *Uniform Federal Accessibility Standards* (UFAS), with additional text for amplification and some new guidelines. In order to make the ADAAG enforceable, the Guidelines were subsequently amended and adopted by the US Department of Justice as the ADA Standards for Accessible Design (the Standards). The law applies to most buildings and facility types nationwide regardless of state or local code requirements, but it is not a building code in and of itself.

While Canada has a single nationwide building code, the United States until now has had a federal standard for federal buildings and programs only, and each state and local government has established its own building codes. The ADA has changed that by setting federal standards for all public accommodations, including transportation systems, and portions of commercial facilities. Authority has been left with each state and local government to adopt and enforce its own building codes, but the office of the U.S. Assistant Attorney General for Civil Rights has the authority under the ADA to certify that a state or local building code meets or exceeds the minimum requirements of ADA, and such *certification of equivalency* can be used as rebuttable evidence in any subsequent litigation. To help everyone with legal compliance, the federal government has established *Disability and Business Technical Assistance Centers* (DBTAC) in each region of the country.

Public washrooms are one of the most critical building amenities with regard to accessibility and function for people with disabilities. With one in four persons becoming disabled sometime during their life, washrooms need to be responsive to a wide range of human needs and abilities: including people without disabilities as well as those using wheelchairs and walking aids, people with sight or hearing disabilities, impaired coordination, cardiac or pulmonary disorders, and even people affected by temporary illness, pregnancy, or advanced age.

The ADA requires that all washrooms, whether newly constructed or re-modeled, be usable by people with disabilities. This means that some of each type of fixture or feature must meet barrier-free requirements. Therefore, Bobrick Washroom Equipment, Inc. has prepared this Guide for use by planners, architects, designers, specifiers, and building owners. In addition, Bobrick's Architectural Representatives are available to assist with code interpretation and

application of appropriate product specifications and installation criteria. **All building plans, however, should be confirmed with local jurisdictions to ensure job compliance.** For public accommodations and commercial facilities, the ADAAG, or a state or local building code that has been certified as equivalent to ADAAG by the Assistant Attorney General must be used. For state or local government buildings, either ADAAG or UFAS standards must be used. Since many states have adopted all or parts of UFAS, ANSI A117.1-1986, or CABO/ANSI A117.1-1992 into their building codes there will be significant overlap on some projects. The ADAAG, UFAS, and ANSI standards are similar; however, there are significant differences in the scope of their requirements and some differences in technical specifications. Therefore, unless working from a certified local code, it is imperative that all relevant standards be used in conjunction with this advisory planning guide to ensure legal compliance. The dimensions in this Planning Guide are taken from the ADAAG. However, because the ICC/ANSI A117.1-1998 is the least similar in technical specifications to the other standards, ICC/ANSI dimensions are also shown where they deviate significantly or where complying with the ADAAG would not accomplish the same result. Of interest, ICC/ANSI A117.1-1998 washroom requirements tend to be in between ADAAG and CABO/ANSI 92.

THE ADA AND UNIVERSAL DESIGN

The ADA Title III requires all new construction of public accommodations and commercial facilities meet or exceed ADAAG specifications. All additions and substantial alterations to functional spaces in existing public accommodations are considered new construction and subject to the same ADAAG requirements; and the entrances, toilet facilities, and accessible routes that service the additions or altered spaces may also have to be brought up to ADAAG standards.

Existing public accommodations are required by the ADA Title III to remove barriers that are "readily achievable" based on an organization's size, resources, and the type and complexity of the barriers in question. The regulations for the law do not precisely define the term *readily achievable*; however, they do provide details on how to modify existing buildings and they give building owners logical flexibility in coming up with alternative solutions to providing equal services for people with disabilities if it is deemed that removal of existing barriers is *not* readily achievable.

Since the ADA mandates widespread accessibility nationwide, it supports the concept of *universal design* that suggests designers and manufacturers include the necessary characteristics and/or options in all products, building elements, and spaces to ensure that they are usable to the greatest extent possible by people with all types and levels of ability. This more *universally usable* design approach would include and surpass the minimum requirements of current standards and guidelines. **UNIVERSAL DESIGN** can be accomplished in some instances by simply using the same item for everyone; sometimes by positioning an item differently; at other times by modifying or replacing a single manufactured feature of an item; and in some circumstances by replacing an item with one that is more adjustable or adaptable. Universal design eliminates radically different looking items and special labels (e.g., handicapped), and the stigma associated with them, while providing choices for all users.

SPECIAL ISSUE OF LEFT- AND RIGHT-HAND ACCESSIBILITY Some people with disabilities can only use certain features if they can approach them from the left or right side. This limitation affects the usability of toilet and shower compartments and washroom accessories that are not symmetrical. The ADAAG standards do not require that both left- and right-handed facilities be available in all washrooms; however, the concept of universal design suggests that when washrooms are planned, both left- and right-handed versions should be provided to the greatest extent possible (see *Clear Floor Space* on following page).



SPACE FOR PEOPLE IN WHEELCHAIRS IS A FUNDAMENTAL DESIGN CONSIDERATION

The needs of a person seated in a wheelchair are commonly used as the standard of accessibility for barrier-free washrooms in terms of entrance, exit, and the proximity of equipment. By using the wheelchair perspective you can also accommodate a person using a walker, cane, or crutches. Consideration must also be given to the mounting heights of common accessories, such as mirrors, paper towel dispensers, waste receptacles, soap dispensers, napkin/tampon vendors, and toilet partition-mounted equipment, including grab bars, toilet tissue, and seat-cover dispensers, and sanitary napkin disposals.

CLEAR FLOOR SPACE to accommodate a single wheelchair must be at least 30" x 48" (760 x 1219mm). The space can be positioned for a *forward* or *parallel approach* to equipment (see ADAAG 4.2.4). A portion of the clear floor space may be located under fixtures, lavatories, or accessories as long as the required knee and toe clearance is provided (Fig. 4a). If properly centered in front of controls and operating mechanisms, the clear floor space will allow both left- and right-hand access. Floor spaces may have to be wider if elements are placed in alcoves.

MOUNTING HEIGHT REQUIREMENTS for washroom accessories may vary within a facility depending on the location of individual accessories and the direction of reach required for their use. To allow *side reach* by people in wheelchairs, it is recommended that accessories be mounted with their dispensing mechanisms, start buttons, coin slots, or dispenser openings located 38" to 54" (965-1372mm) above the finish floor; and to ensure *forward reach* also, they must be located no more than 48" (1219mm) above the finish floor (Fig. 1). Note that the ICC/ANSI 98 Standard requires 48" (1219mm) maximum for both side and forward reaches. Where elements are mounted over obstructions, such as counters, it is recommended that they be located no more than 44" (1118mm) above the finished floor. However, depending on the depth of the obstruction, these can be mounted as high as 48" (1219mm) for forward approach and 54" (1372mm) for side approach. Mounting heights for children vary depending on age. The age groups are 3-4, 5-8 and 9-12 years.

TURNING SPACE at least 60" (1524mm) in diameter is required by a single wheelchair to make a 180-degree turn (Fig. 2a). A 60" x 60" (1524 x 1524mm) T-shaped turning space with 36" (914mm) wide aisles to allow a three-point-turn

(Fig. 2b) is also acceptable and may be used to conserve space in some installations. A portion of the 60" (1524mm) diameter or T-shaped turning spaces may be located under fixtures, lavatories, or accessories as long as the required knee and toe clearance is provided (Fig. 4a).

Children's Reach Ranges

Note: Refer to these charts to find the best locations within the given overall ADAAG ranges that are most appropriate for the specific children's age group for which you are designing.

Forward or Side Reach	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
High (maximum)	36" (915mm)	40" (1015mm)	44" (1120mm)
Low (minimum)	20" (510mm)	18" (455mm)	16" (405mm)

Specifications for Water Closets Serving Children Ages 3 through 12

	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
Water Closet Centerline	12" (305mm)	12" to 15" (305 to 380mm)	15" to 18" (330 to 455mm)
Toilet Seat Height	11" to 12" (280 to 305mm)	12" to 15" (305 to 380mm)	15" to 17" (380 to 430mm)
Grab Bar Height	18" to 20" (455 to 510mm)	20" to 25" (510 to 635mm)	25" to 27" (635 to 685mm)
Toilet Tissue Dispenser Height	14" (355mm)	14" to 17" (355 to 430mm)	17" to 19" (430 to 485mm)

Fig. 1 Bobrick's Recommended Mounting Heights for Washroom Accessories.

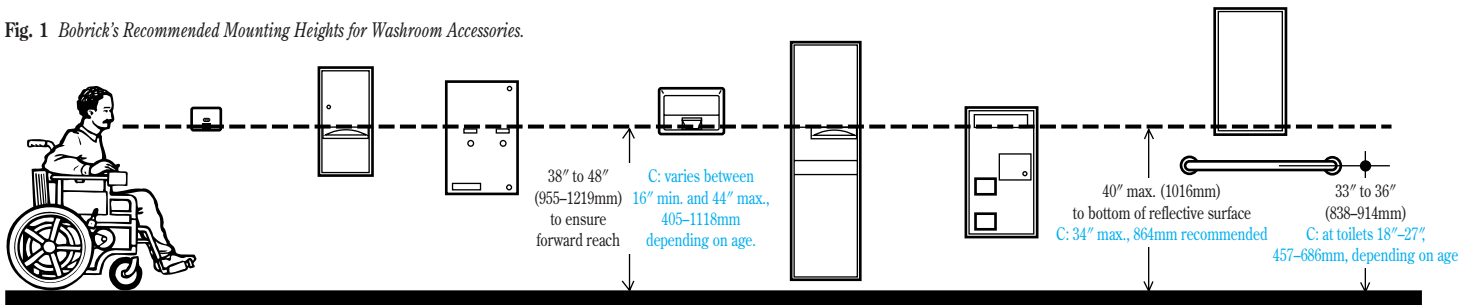
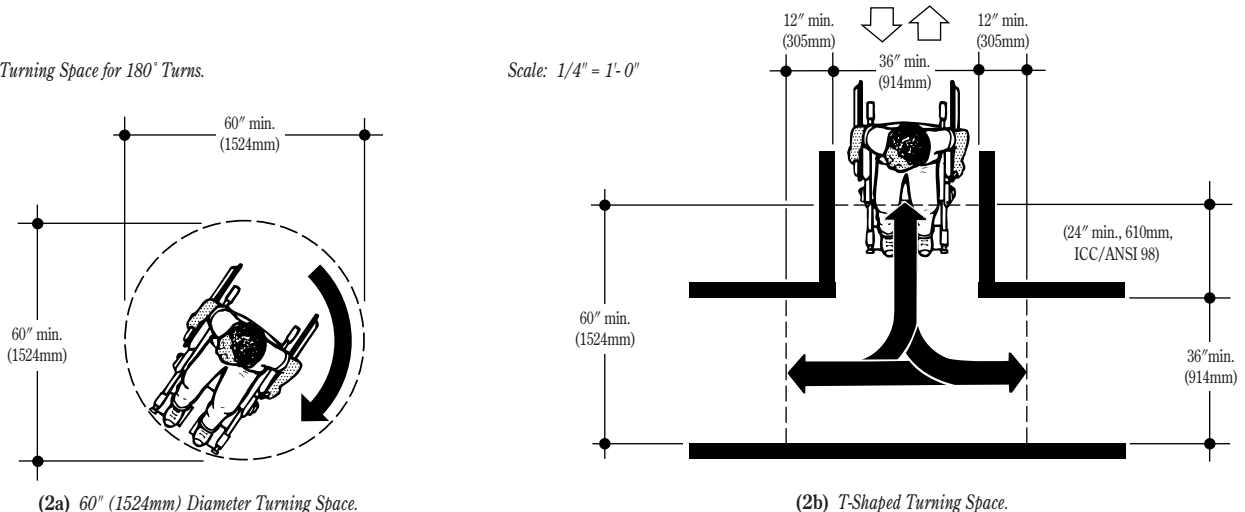


Fig. 2 Wheelchair Turning Space for 180° Turns.



(2a) 60" (1524mm) Diameter Turning Space.

(2b) T-Shaped Turning Space.

PLANNING A BARRIER-FREE WASHROOM

BEGIN WITH WASHROOM ENTRANCE AND EXIT

SINGLE-DOOR ENTRIES (Figs. 3a, 13), wherein the door swings into the washroom, are the most popular layouts. A level and clear corridor or passageway leading to the door is recommended to be at least 48" (1219mm) wide. The doorway must have a minimum clear opening 32" (813mm) wide when the door is open 90 degrees. The door should swing into a recommended minimum 60" x 60" (1524 x 1524mm) level, clear space that has at least 18" (457mm) (24"; 610mm preferred) of clear floor space adjacent to the latch doorjamb. A minimum access aisle 48" (1219mm) wide is also recommended inside the washroom to allow people in wheelchairs to get around obstructions, such as sight-barriers, and to accommodate simultaneous in and out traffic.

OPPOSING DOORS (Fig. 3b), one for entrance and the other for exit with an alcove between them, is another popular configuration. In this instance, make sure that no hazard is created in the alcove by the simultaneous entry and exit of two wheelchairs. The width of the alcove must be a minimum of 48" (1219mm) plus the width of the door. It is difficult for a person in a wheelchair or using crutches to back up and pull open a door, so it is preferred that opposing doors swing in the same direction. This opposing door layout is unique because it provides doors that always open in the direction of travel, whether the patron is entering or exiting.

ALCOVES, with either single doors or double doors, need not be large if they are properly planned. Just be sure that when the doors are in an open position, they do not diminish the minimum 48" (1219mm) wide access aisle required for a wheelchair to get around a sight-barrier (Fig. 3a & b).

OPEN VESTIBULES (Figs. 3c, 14, 15), free of doors, are by far the most universally usable because they are the least likely to cause problems for or prohibit use by people with disabilities. It is recommended that the entire passageway be at least 48" (1219mm) wide to accommodate simultaneous in and out traffic.

RAISED THRESHOLDS at doorways should be avoided wherever possible. If it is necessary to include them, then they should be no higher than 1/2" (13mm) and should be beveled with a slope no greater than 1:2.

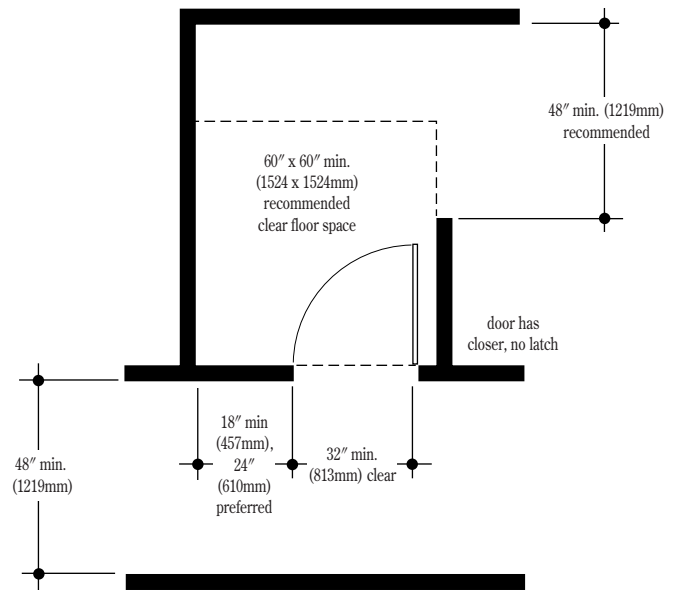
DOORS for interior use must push or pull open with a maximum of 5 pounds of force (lbf) (22.2 N). Door handles, pulls, latches, locks, and other opening devices should have a shape that is easy to operate with one hand, without tight grasping, pinching, or twisting of the wrist; and they should be mounted no higher than 48" (1219mm) above the finish floor. Lever-operated mechanisms, push-type mechanisms, and U-shaped handles are acceptable designs. If a door has a closer, it must be adjusted to provide a sweep period of at least three seconds for the door to move from an open position of 70 degrees to a position 3" (76mm) from the latch.

SPECIAL CONSIDERATIONS FOR LAVATORIES

LAVATORIES are important to public washrooms in providing convenient hygienic facilities for all people. At least one area in each washroom must meet or exceed ADAAG requirements for accessible lavatories. A barrier-free lavatory must not exceed a height of 34" (864mm), must extend at least 17" (432mm) from the rear wall, and have a clearance of at least 29" (737mm) from the bottom of the apron to the finish floor (Fig. 4a). To allow forward approach by people in wheelchairs, provide clear floor space in front of the lavatory that is at least 30" wide x 48" deep (760 x 1219mm), with no more than 19" (483mm) of the 48" (1219mm) extending underneath the lavatory (Fig. 4b). Complete the design by providing the required amount of knee and toe clearance underneath the lavatory. A minimum knee clearance 27" (686mm) above the finish floor must extend at least 8" (203mm) under the front edge of the lavatory. Toe clearance at least 9" (229mm) above the finish floor must be provided for the full depth of the lavatory. If the lavatory is to be installed in a countertop, place it as close as possible to the front edge so it is accessible to even more people. If a washfountain is installed in a facility, it is recommended that at least one barrier-free lavatory also be installed to accommodate those who may have difficulty using the washfountain.

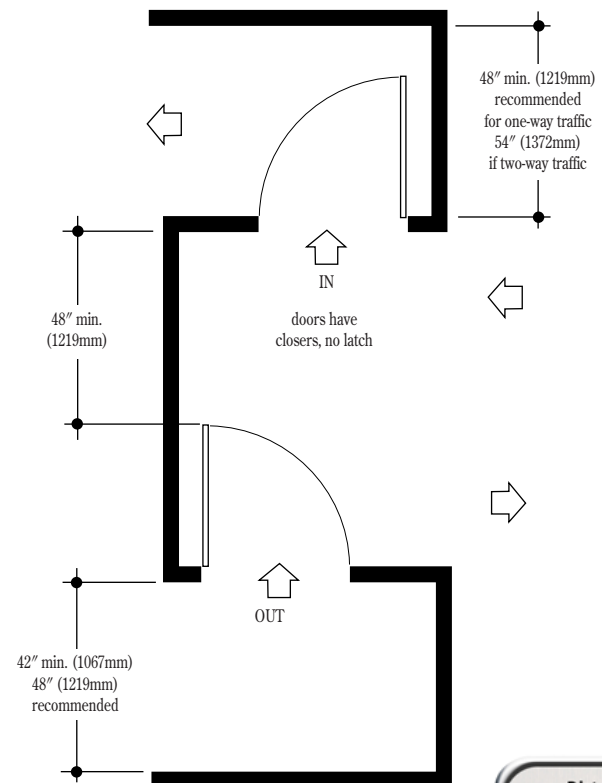
EXPOSED PLUMBING under barrier-free lavatories must be insulated or otherwise configured to eliminate possible contact, and there should be no sharp edges or rough surfaces. This is important in order to prevent burns and other injuries to people who have no sensation in their legs. Since existing installations can be difficult to remove and replace, a good alternative is to install a removable protective panel under the lavatory (Fig. 5).

Fig. 3 Washroom Entrance and Exit Maneuvering Clearances.



(3a) Single Door.

Scale: 1/4" = 1'-0"



(3b) Opposing Doors.

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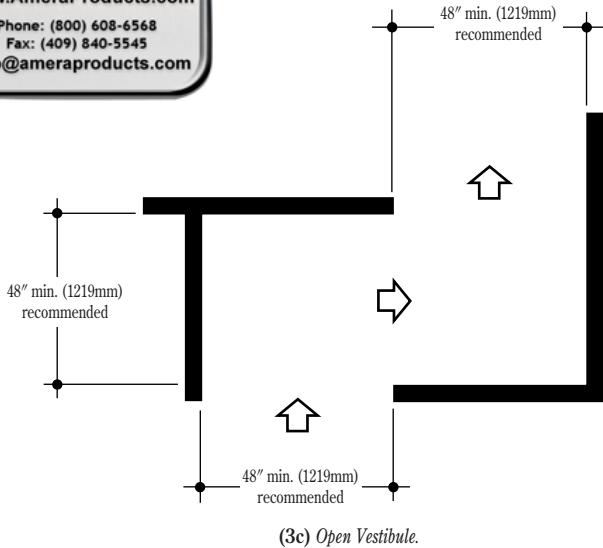


Fig. 4 Lavatory Clearances.

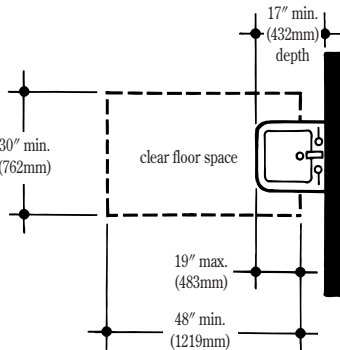
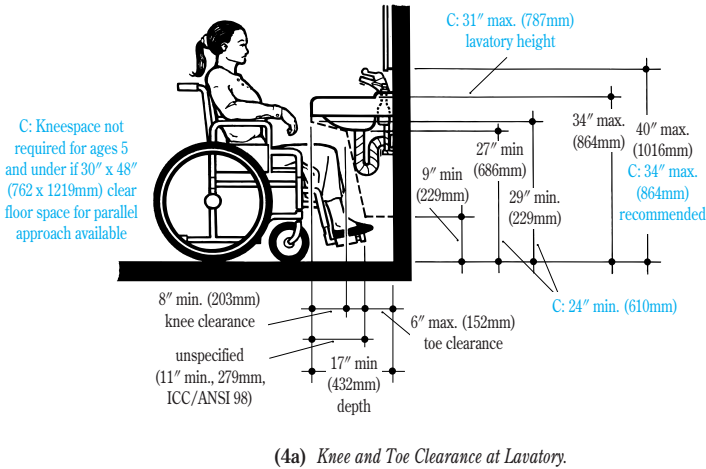
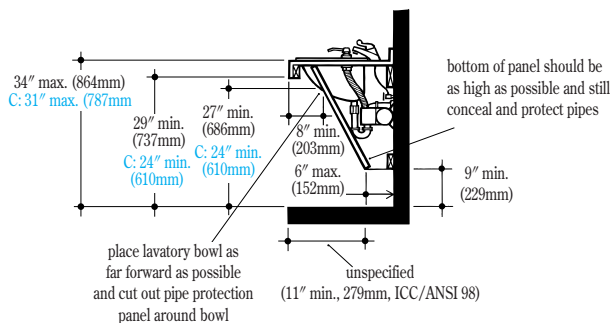


Fig. 5 Protective Panel Under Lavatory.



CONTROLS AND OPERATING MECHANISMS

Faucets, toilets, and washroom accessories to be used by physically disabled people must meet ADAAG specifications for controls and operating mechanisms (push buttons, valves, knobs, and levers): *operable with one hand, without tight grasping, pinching, or twisting of the wrist, and with a force that does not exceed 5 pounds of force (lbf) (22.2 N)*. Self-closing faucet valves are acceptable if they remain open at least 10 seconds. It is recommended that controls and operating mechanisms project from surrounding material and be a contrasting color so visually impaired people can find them easily. Controls should also be centered over sufficient clear floor space to ensure both left- and right-hand approaches; or two of the same accessory should be provided, one for each type of approach.

ACCESSORIES PROVIDE ADDITIONAL SERVICE AMENITIES TO WASHROOM INSTALLATIONS

Washroom accessories must not project more than 4" (102mm) into a clear access aisle if their leading edge is between 27" and 80" (686–2032mm) above the finish floor; if their leading edge is at or below 27" (686mm), then they may project any amount as long as the required minimum width of an adjacent clear access aisle is maintained. This standard is specifically designed to ensure detection by visually impaired people. It is recommended that all floor-standing and surface-mounted units projecting more than 4" (102mm) be located in corners, alcoves, or between other structural elements so as not to be a hazard to visually impaired people or interfere with access aisles or wheelchair turning areas. *Fully recessed accessories are the preferred choice throughout universally designed washrooms.* **MIRRORS** must be installed with the bottom edge of the reflecting surface no higher than 40" (1016mm) above the finish floor (Fig. 4a). A single full-length mirror is recommended in each washroom because it can be used by everyone, including children.

SOAP DISPENSERS installed over lavatories must be mounted so their push buttons are no higher than 44" (1118mm) above the finish floor. Lavatory-mounted soap dispensers and lever-handle faucets should be spaced far enough apart to avoid interference with their operations. It is recommended that soap dispensers that meet ADAAG specifications for controls and operating mechanisms be used throughout washrooms to provide universal usability.

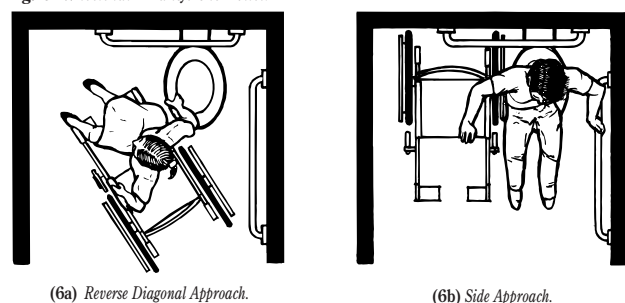
PAPER TOWEL DISPENSERS AND WASTE RECEPTACLES OR WARM-AIR HAND DRYERS should be conveniently located in an area that is accessible to wheelchairs, preferably adjacent to a barrier-free lavatory. It is recommended that one hand dryer be mounted with sufficient clear floor space to allow both left- and right-hand wheelchair approaches; or provide two dryers, one for each type of approach. When a single hand dryer is installed in a washroom, it is recommended that the start button be located 38" to 40" (965–1016mm) above the finish floor; when two or more dryers are installed, mount one dryer so its button is 38" to 40" (965–1016mm) above the finish floor; locate others 41" to 48" (1041–1219mm).

SANITARY NAPKIN/TAMPON VENDORS are recommended in all public women's washrooms to provide essential hygienic products. It is recommended that all units meet ADAAG specifications for operating mechanisms and accessible mounting heights to provide universal usability.

TOILET COMPARTMENTS ARE A MAJOR SERVICE AMENITY IN ALL PUBLIC WASHROOMS

There are five accessible toilet compartments specified in the ADAAG. Four are intended for use by wheelchair users and the fifth is designed for walking mobility-impaired people who need the support of parallel grab bars when sitting and rising. Two of the compartments have a minimum width of 60" (1524mm) and are termed *standard*, including one that has an *alcove* configuration. The two *alternate* compartments are narrower; one is 36" (914mm) wide, the other at least 48" (1219mm)

Fig. 6 Wheelchair Transfers to Toilet.



wide. Alternate compartments are acceptable only in alteration work where it can be demonstrated that it is technically infeasible to install standard compartments, or where plumbing codes do not allow the reduction in fixtures that result from combining, for example, two conventional 30" (762mm) wide compartments into one standard 60" (1524mm) wide compartment. The fifth ADAAG (walk-in) compartment is 36" (914mm) wide and is similar to a 36" (914mm) alternate compartment. It has two parallel grab bars and an out-swinging self-closing door, but its length and door width are not specified (because they are not intended for wheelchair users).

Each washroom must have at least one standard compartment, and ADAAG specifies that washrooms with six or more compartments must also have at least one (walk-in) compartment, 36" (914mm) wide of any length with parallel grab bars and an out-swinging door. Some wheelchair users can use 36" (914mm) wide toilet compartments but many cannot and that is why they are not allowed as standard in washrooms. It is recommended that wherever 36" (914mm) wide (walk-in) compartments are required to meet the six-or-more rule, they be made the same lengths and given the same door width as the 36" (914mm) wide alternate compartments. In this way they can be used by both walking mobility-impaired people and those wheelchair users who can or prefer to use them.

The ADAAG, UFAS, and earlier ANSI Standards basically have the same compartment layouts. However, ICC/ANSI 98 represents a departure. The compartment names are different and do not include the alternate compartment layouts. The titles and drawing notes below reflect these changes.

STANDARD COMPARTMENTS (Fig. 7, for all new construction and alterations) (ICC/ANSI 98 Wheelchair Accessible Compartment), with an out-swinging door no more than 4" (102mm) from the corner diagonally from the toilet must be at least 60" (1524mm) wide. The depth must be at least 56" (1422mm) with wall-mounted toilets or 59" (1499mm) with floor-mounted toilets. The toilet must be offset on the back wall with its centerline 18" (457mm) from the nearest side wall or partition. This configuration and size allows a person using a wheelchair the option of a front or side approach to the toilet (Fig. 6) and enough space for an assistant if necessary. Horizontal grab bars must be mounted behind the toilet and on the nearest side wall or partition.

STANDARD ALCOVE (END-OF-ROW) COMPARTMENTS (Fig. 8, for all new construction and alterations) (ICC/ANSI 98 Wheelchair Accessible Compartment), with a side-entry in-swinging door, are also acceptable and often the preferred choice as end-of-row compartments wherever space is available. They require the same 60" (1524mm) minimum width as the standard compartments, and they must have a depth of at least 92" (2337mm) with wall-mounted toilets or 95" (2413mm) with floor-mounted toilets.

ALTERNATE COMPARTMENTS 36" (914mm) WIDE (Fig. 9, acceptable only in alterations where standard compartments are technically infeasible) (no ICC/ANSI 98 equivalent), with a front-entry, out-swinging, self-closing door, must be at least 66" (1676mm) deep with wall-mounted toilets or 69" (1753mm) with floor-mounted toilets. The toilet must be centered on the back wall, and there must be a horizontal grab bar on each side wall or partition. These compartments must not be wider or narrower than 36" (914mm) because they are designed for and best used by walking mobility-impaired people who need the support of the parallel grab bars when sitting and rising. They can be made more universally usable by increasing their depth to at least 72" (1829mm).

ALTERNATE 48" (1219mm) MIN. WIDE COMPARTMENTS (Fig. 10, acceptable only in alterations where standard compartments are technically infeasible) (No ICC/ANSI 98 equivalent), with an out-swinging door near one corner, must be at least 48" (1219mm) wide and 66" (1676mm) deep with wall-mounted toilets or 69" (1753mm) with floor-mounted toilets. The toilet must be offset on the back wall with its centerline 18" (457mm) from the nearest side wall or partition. This alternate compartment is the least usable of the five accessible compartments specified in ADAAG. It has neither the maneuvering space of the standard compartments for wheelchair users nor the parallel grab bars of the alternate compartment 36" (914mm) wide for walking mobility-impaired people.

36" (914mm) WIDE (WALK-IN) COMPARTMENTS (ICC/ANSI 98 Ambulatory Accessible Compartment) (Figs. 9, 11) for washrooms with 6 or more toilets can be the same length as typical toilet compartments but must be 36" (914mm) wide, have parallel grab bars and an out-swinging door. The ICC/ANSI 98 *ambulatory accessible stall* serves the same purpose as it too is intended for people who walk with mobility impairments. However, it does have a specified length and more extensive door requirements.

Fig. 7 Standard Compartment (ICC/ANSI 98 Wheelchair Accessible Compartment).

Scale: 1/4" = 1'-0"

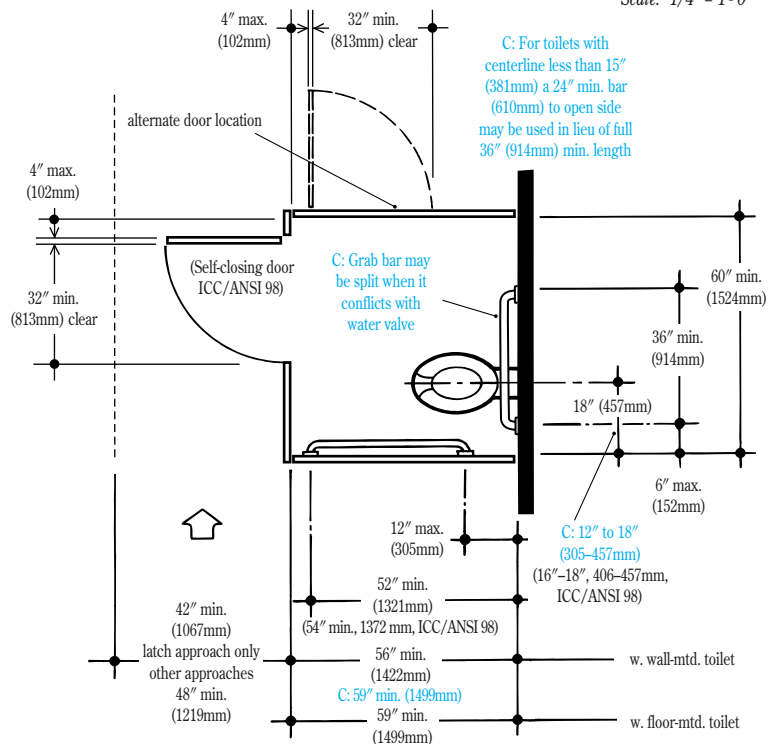


Fig. 8 Standard Alcove (End of Row) Compartment (ICC/ANSI 98 Wheelchair Accessible Compartment).

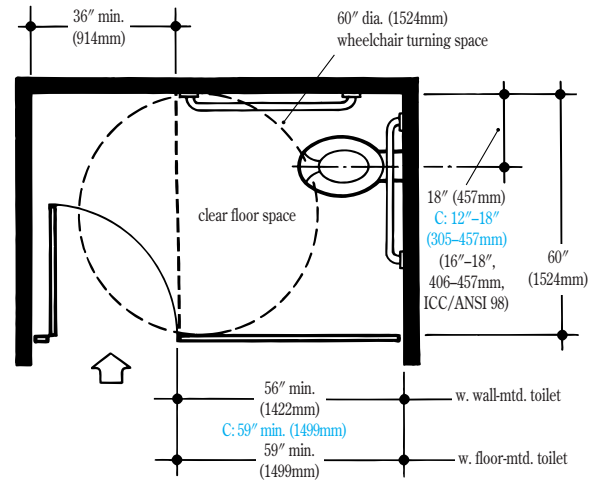


Fig. 9 Alternative Compartment 36" (914mm) Wide (No ICC/ANSI 98 equivalent).

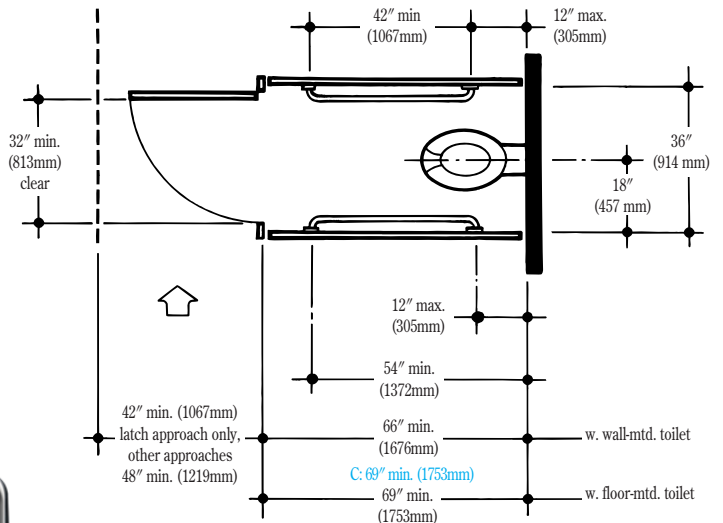


Fig. 10 Alternate 48" Min. (1219 mm) Wide Compartment (No ICC/ANSI equivalent).

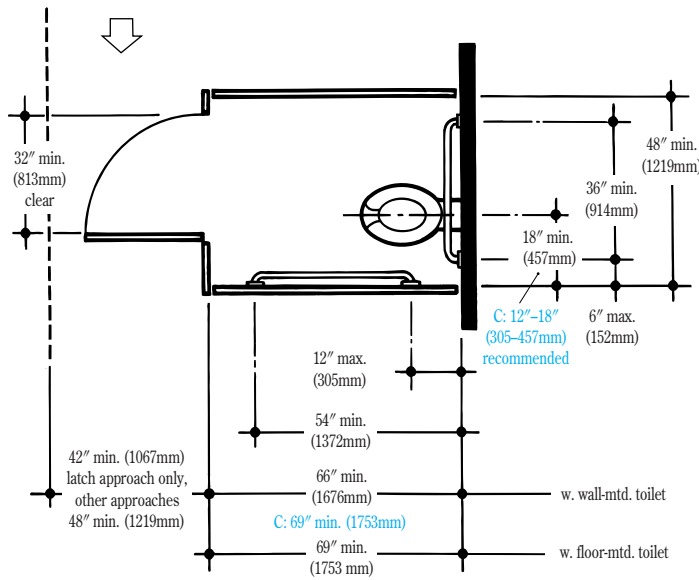


Fig. 11 36" Wide (914mm) (Walk-In) Stall (ICC/ANSI 98 Ambulatory Accessible Stall).

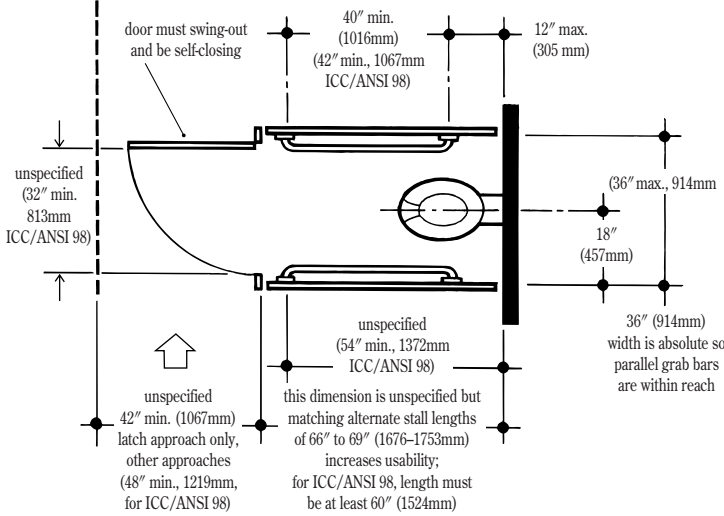
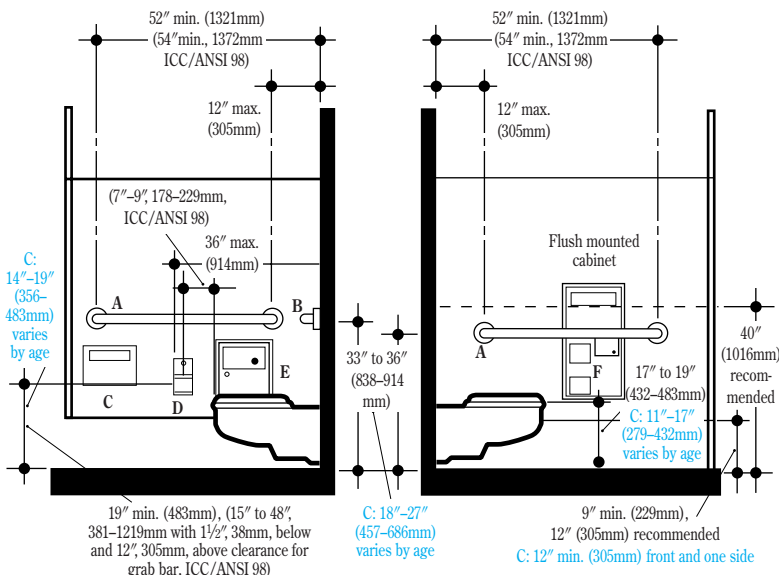


Fig. 12 Positioning of Toilets and Accessories.



(12a) Side Wall or Partition of Standard Compartments.

(12b) Side Wall or Partition of Alternate Compartments.

TOE CLEARANCE at least 9" (229mm) above the finish floor is required under the front partition and one side partition of all accessible compartments (Fig. 12b). Toe clearance is not required if the depth of the compartment is greater than 60" (1524mm). Some wheelchair users must position their feet higher than 9" (229mm). The ICC/ANSI 98 requirements for toe clearance in wheelchair accessible compartments are more stringent and detailed. In addition to the vertical height, the toe clearance must extend 6" out from the compartment. The partition on the side of the compartment with open clear floor space is required to have the toe clearance. Toe clearance is not required at a front partition when the compartment depth is greater than 62" for a wall-hung toilet and 65" for a floor-mounted toilet. Compartments deeper than 66" do not require any toe clearances.

DOORS on all accessible toilet compartments must meet ADAAG specifications for doors, including door hardware (see *Doors* on page 4). There must be a clear opening at least 32" (813mm) wide when the doors are open 90 degrees. Out-swinging doors approached from the latch side must have an access aisle at least 42" (1067mm) wide; other approaches require an access aisle at least 48" (1219mm) wide. It is recommended that all out-swinging doors close completely because a partially open door may interfere with access aisles, ensuring privacy for disabled people who cannot readily pull doors closed and latch them.

TOILETS (Fig. 12) with undercut bowls are preferred. Either hand-operated lever or automatic flush controls may be used as long as they are mounted no higher than 44" (1118mm) (for children 36" max., 914mm) above the finish floor and are placed on the side of the toilet with the most clear floor space. Flush controls must meet the ADAAG specifications for controls and operating mechanisms. The height of the toilet seat is perhaps the most critical factor. It is almost impossible to provide an ideal seat height in multi-use facilities because people with different abilities have different needs. The height of toilet seats must be 17" to 19" (432-483mm) above the finish floor. Moderate heights of 17" to 18" (432-457mm) work well in standard compartments, while upper-range heights of 18" to 19" (457-483mm) work best in the alternate 36" (914mm) wide compartment and 36" (914mm) wide (walk-in) compartments. For children heights of 11" to 17" (279- 432mm) vary by age. Toilet seats cannot be sprung to return to lifted position.

GRAB BARS ARE REQUIRED IN ALL ACCESSIBLE TOILET COMPARTMENTS

GRAB BARS must have a diameter of 1 1/4" to 1 1/2" (32-38mm) and a clearance between the grab bar and wall and/or accessory surface(s) of 1 1/2" (38mm). Required mounting heights are universally 33" to 36" (838-914mm) from the centerline of the grab bar to the finish floor. The structural strength of all grab bars and their mounting devices must withstand more than 250 pounds of force (lbf) (1112 N). Straight horizontal grab bars are the minimum specified by ADAAG. A few localities may require a combination of horizontal and vertical grab bars. *Standard compartments* require one grab bar at least 40" (1016mm) long to be mounted on the side wall or partition nearest the toilet, no more than 12" (305mm) from the back wall. A second grab bar at least 36" (914mm) long must be mounted on the back wall, no more than 6" (152mm) from the side wall or partition nearest the toilet (Figs. 7, 8). *Alternate compartments 36" (914mm) wide* require parallel grab bars at least 42" (1067mm) long to be mounted on each side of the toilet, no more than 12" (305mm) from the back wall, to provide a place for elbow and forearm leverage (Figs. 9, 11). *Alternate 48" (1219mm) min. wide compartments* require one grab bar at least 42" (1067mm) long to be mounted on the side wall or partition nearest the toilet, no more than 12" (305mm) from the back wall. A second grab bar at least 36" (914mm) long must be mounted on the back wall no more than 6" (152mm) from the side wall or partition nearest the toilet (Fig. 10). In ICC/ANSI 98, horizontal grab bars mounted on side partitions or walls must always be at least 42" (1067mm) long.

LEGEND

- A B-5806 x 42 Horizontal Grab Bar
- B B-5806 x 36 Horizontal Grab Bar
- C B-221 Surface-Mounted Toilet-Seat-Cover Dispenser
- D B-2888 Surface-Mounted Multi-Roll Toilet Tissue Dispenser
- E B-354 Partition-Mounted Sanitary Napkin Disposal (serves two compartments)
- F B-3571 Partition-Mounted Toilet-Seat-Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle (serves two compartments)

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ACCESSORIES COMPLETE THE SPECIFICATION OF TOILET COMPARTMENT INSTALLATIONS

A number of accessories should be included in every toilet compartment. All accessories must be located on a side wall or partition, preferably the one nearest the toilet in accessible compartments, and just in front of the leading edge of the toilet seat to ensure universal usability (Fig. 12). Accessories that project from the wall or partition must be installed so as not to interfere with maneuvering space or access of grab bars. If mounted above grab bars, the accessories should be flush against the wall or partition; if mounted below grab bars, the accessories should be limited to small projections wherever possible. The operating mechanisms and accessible openings of all units should be located 19" to 48" (483–1219mm) above the finish floor.

ROLL TOILET TISSUE DISPENSERS that do not control delivery are required in all accessible toilet compartments. Dispensers for folded toilet tissue are not acceptable because their use requires a finger-pinching action. Toilet tissue rolls should be located so their leading edge is just in front of the toilet seat, no more than 36" (914mm) from the back wall, and their horizontal centerline is at least 19" (483mm) above the finish floor to ensure universal usability.

SANITARY NAPKIN DISPOSALS are recommended in all women's toilet compartments. They should be within reach from a sitting position, and it is recommended that they be mounted below grab bars.

TOILET-SEAT-COVER DISPENSERS are an optional hygienic amenity that can easily be provided in all toilet compartments. It is recommended that they be mounted below grab bars.

COMBINATION UNITS can organize and unify installations by incorporating several accessories at one convenient location, such as toilet tissue dispensers, toilet-seat-cover dispensers, sanitary napkin disposals, and ashtrays. Only recessed units should be installed in side walls or partitions with grab bars.

CONSIDER URINALS TO COMPLETE MEN'S WASHROOM FACILITIES

If urinals are provided, at least one wall-hung or stall-type urinal must be installed that has an elongated bowl with its rim no more than 17" (432mm) above the finish floor. The bowl should project at least 14" (356mm) from the wall. Flush controls must be no more than 44" (1118mm) above the finish floor and meet ADAAG specifications for controls and operating mechanisms. A minimum clear floor space 30" wide x 48" deep (762 x 1219mm) must be provided to allow forward approach.

DESIGN SOLUTIONS FOR LARGE PUBLIC WASHROOMS



When designing large washrooms with multiple compartments and lavatories, follow this simple check list:

- Entrances and exits are properly laid out for universal access;
 - Passageways and access aisles are at least 48" (1067mm) wide;
 - 80" (2032mm) minimum clear height throughout all circulation routes, passageways and access aisles;
 - Wheelchair turning spaces wherever required;
 - Accessories are fully recessed into the walls wherever possible;
 - Each type of accessory meets or exceeds ADAAG specifications;
- 30" x 48" (760 x 1219mm) minimum clear floor space is provided for each accessory;
 - Lavatories, urinals, and toilet compartments meet or exceed ADAAG specifications;
 - If 6 or more toilet compartments, there is a 36" (914mm) compartment similar to the alternate compartment 36" (914mm) wide in addition to the standard accessible compartment.

Figures 13, 14, and 15 illustrate barrier-free washrooms with suggested universal-design features that meet or exceed ADAAG specifications.

Fig. 13 Women's: Large Washroom with Single-Door Entry (Legend on page 9).

Scale: 3/16" = 1'-0"

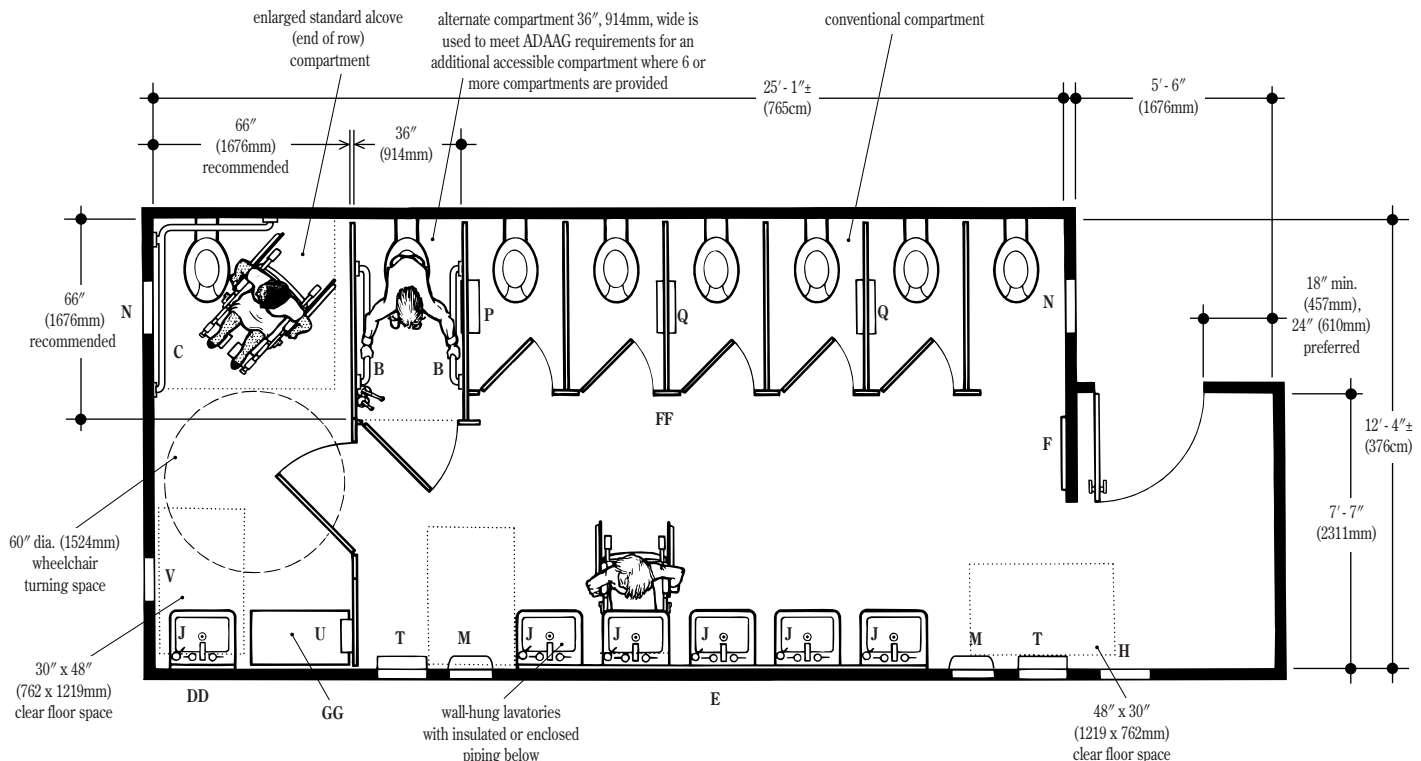
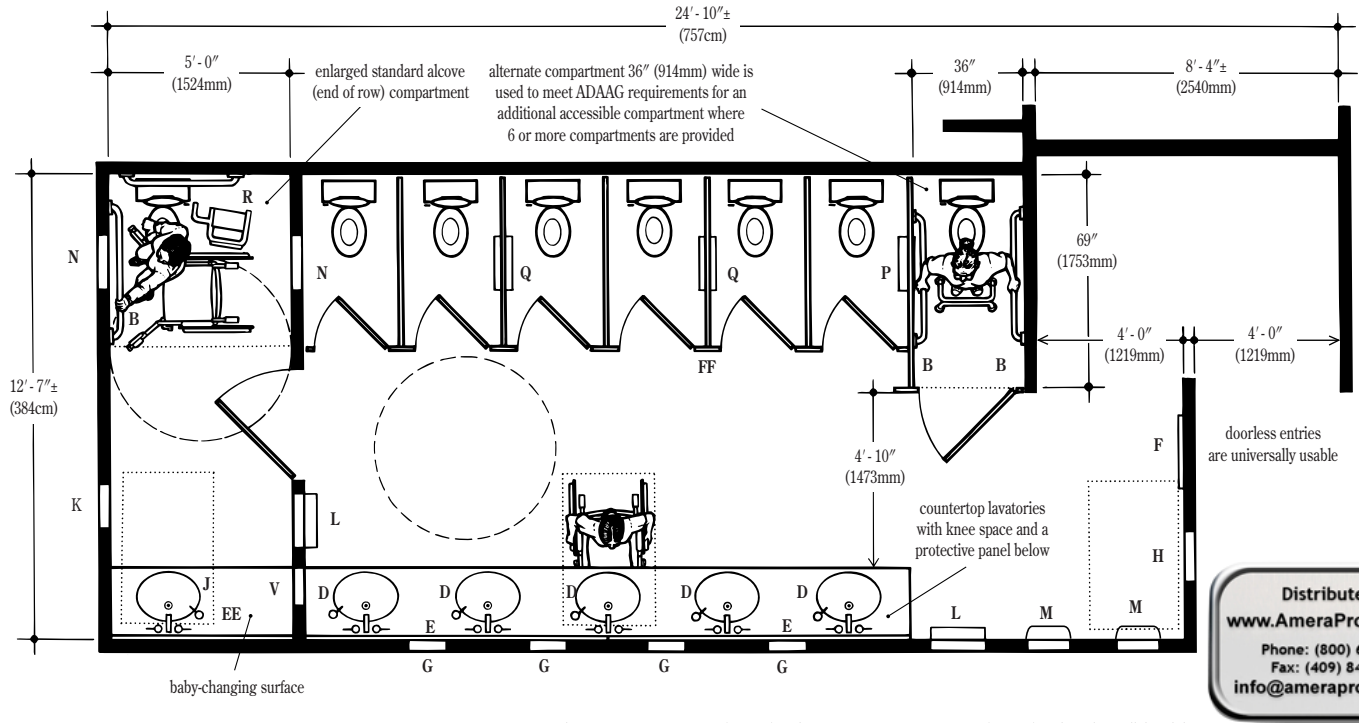


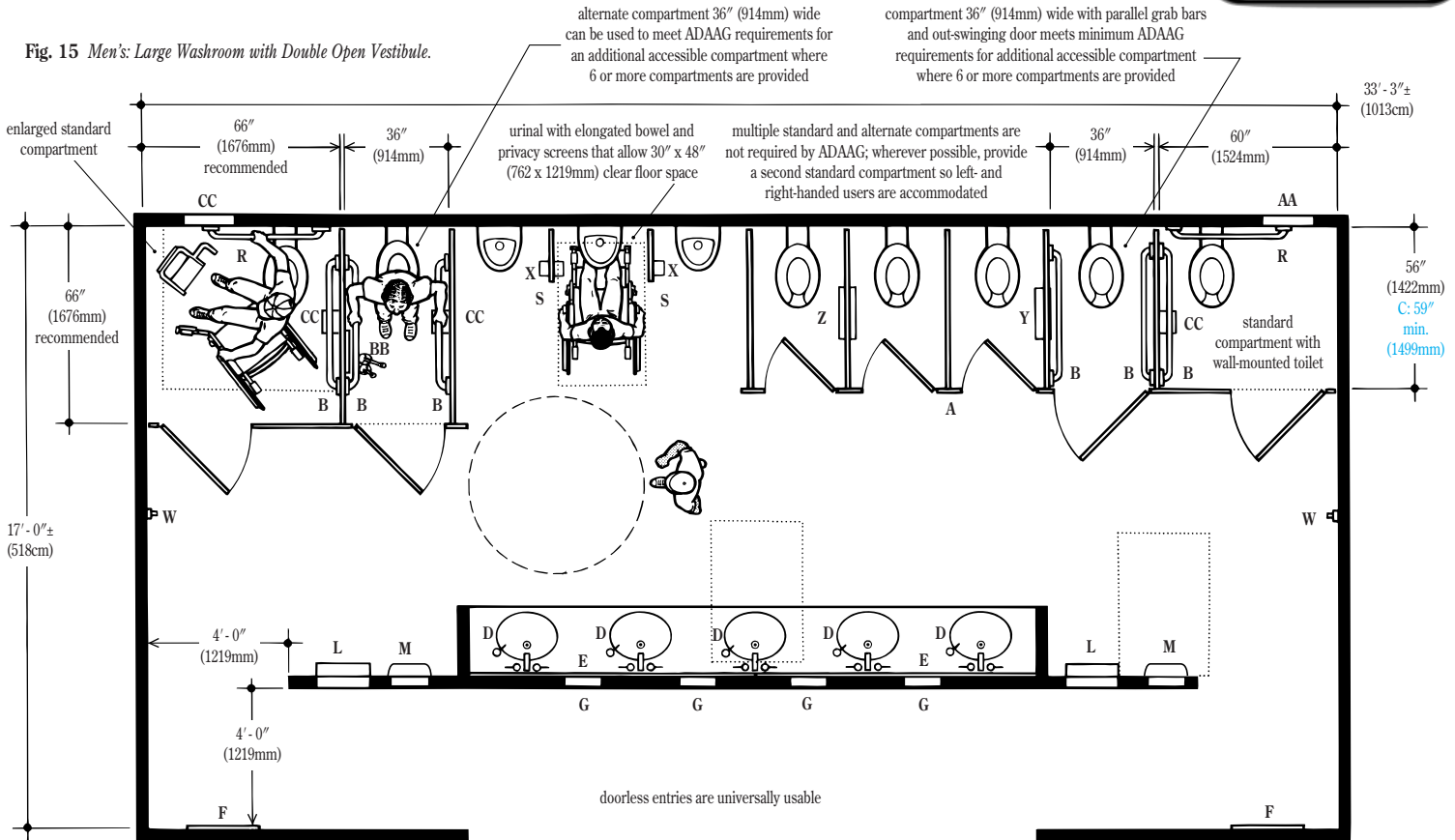
Fig. 14 Women's: Large Washroom with Open Vestibule.

Drawings not to scale.



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Fig. 15 Men's: Large Washroom with Double Open Vestibule.



LEGEND

- A 1541 Series Floor-Anchored Laminated Plastic Toilet Compartments
- B B-5806 x 42 Horizontal Grab Bar
- C B-5837 Horizontal Two-Wall Grab Bar, 36" x 54" (914 x 1372mm)
- D B-830 Series SureFlo® Lavatory-Mounted Soap Dispensing System
- E B-165 Series Mirror
- F B-165 Series Full-Length Mirror, 24" W x 60" H (610 x 1524mm)
- G B-357 Recessed Paper Towel Dispenser
- H B-3500X2 Recessed Sanitary Napkin/Tampon Vendor
- J B-822 Lavatory-Mounted Soap Dispenser

- K B-369 Recessed Paper Towel Dispenser and Waste Receptacle
- L B-3644 Recessed Waste Receptacle
- M B-750 Recessed Hand Dryer
- N B-3574 Recessed Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle
- P B-3571 Partition-Mounted Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle (serves two compartments)
- Q B-357 Partition-Mounted Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle (serves two compartments)

- R B-5806 x 36 Horizontal Grab Bar
- S 1545 Series Wall-Hung Urinal Screen
- T B-3944 Convertible Paper Towel Dispenser and Waste Receptacle
- U B-262 Surface-Mounted Paper Towel Dispenser
- V B-369 Recessed Paper Towel Dispenser and Waste Receptacle
- W B-687 Door Bumper
- X B-240 Wall-Mounted Ashtray
- Y B-3471 Partition-Mounted Toilet Seat Cover Dispenser, Toilet Tissue Dispenser with Theft-Resistant Spindle (serves two compartments)
- Z B-347 Partition-Mounted Toilet Seat Cover Dispenser, Toilet Tissue Dispenser with Theft-Resistant Spindle (serves two compartments)

- AA B-301 Recessed Toilet Seat Cover Dispenser (mounts below grab bar)
- BB B-221 Surface-Mounted Toilet Seat Cover Dispenser (mounts below grab bar)
- CC B-2888 Surface-Mounted Multi-Roll Toilet Tissue Dispenser (mounts below grab bar)
- DD B-165 Series Mirror, 24" W x 36" H (610 x 914mm)
- EE B-165 Series Wall-to-Wall Mirror
- FF 1542 Series Overhead-Braced Laminated Plastic Toilet Compartments
- GG KB100-00 Wall-Mounted Baby Changing Station

DESIGN SOLUTIONS FOR SMALL PUBLIC WASHROOMS AND INDIVIDUAL TOILET ROOMS

SMALL PUBLIC WASHROOMS (Figs. 16, 17, 18) require one standard 60" (1524mm) wide toilet compartment because it is the most universally usable. Minimum 60" (1524mm) diameter or T-shaped turning spaces are also required, as well as a barrier-free lavatory, accessories, and access aisles that meet ADAAG specifications. Entry doors should swing into vestibules, not directly into corridors, access aisles, or clear floor spaces required by lavatories and other washroom equipment.

INDIVIDUAL TOILET ROOMS Under ADAAG, the minimum size of individual toilet rooms (Fig. 19) is determined by combining the clear floor spaces required for each feature or fixture, the turning space, and maneuvering clearances at doors. In-swinging entry doors must not swing into any clear floor space required for lavatories and other washroom equipment. Out-swinging entry doors may be used only if they swing into another room, such as a patient's room or a private office, vestibule or alcove, but never into a corridor. Locating the lavatory next to the toilet will eliminate the option of a parallel approach to the toilet by people using wheelchairs; therefore, to maximize usability, design individual toilet rooms so there is a minimum clearance of 60" (1524mm) from side wall of toilet to the adjacent lavatory, or locate lavatory on a different wall altogether. This 60" (1524mm)

minimum dimension is a requirement in the ICC/ANSI 98 Standard. Additionally, the clear floor space required for toilets not located in compartments is larger than those in the ADAAG. In ICC/ANSI 98 no fixture can obstruct the 60" x 56" (1524-1422mm) minimum clear floor space for toilets. These differences may result in larger minimum room sizes when following the ICC/ANSI 98 Standard than may result from ADAAG specifications. Figure drawings in this section of the Planning Guide reflect these differences. Because individual toilet rooms provide privacy for a physically disabled person who needs the help of an attendant (or even a child who needs the help of a parent), especially when they are of the opposite sex, it may be useful to provide this type of *unisex* or *family* toilet room (Fig. 19) in addition to multi-compartment washrooms in many large public buildings.

As in all barrier-free facilities, small public washrooms and individual toilet rooms should meet or exceed ADAAG specifications for entrance and exit, lavatories, toilets, grab bars, accessories, controls, and operating mechanisms. Refer to previous sections, *Space for People in Wheelchairs* and *Planning a Barrier-Free Washroom*, for information on specific ADAAG requirements and universal-design features.

Fig. 16 Small Barrier-Free Public Washrooms (Legend on page 11).

Scale: 1/4" = 1' - 0"

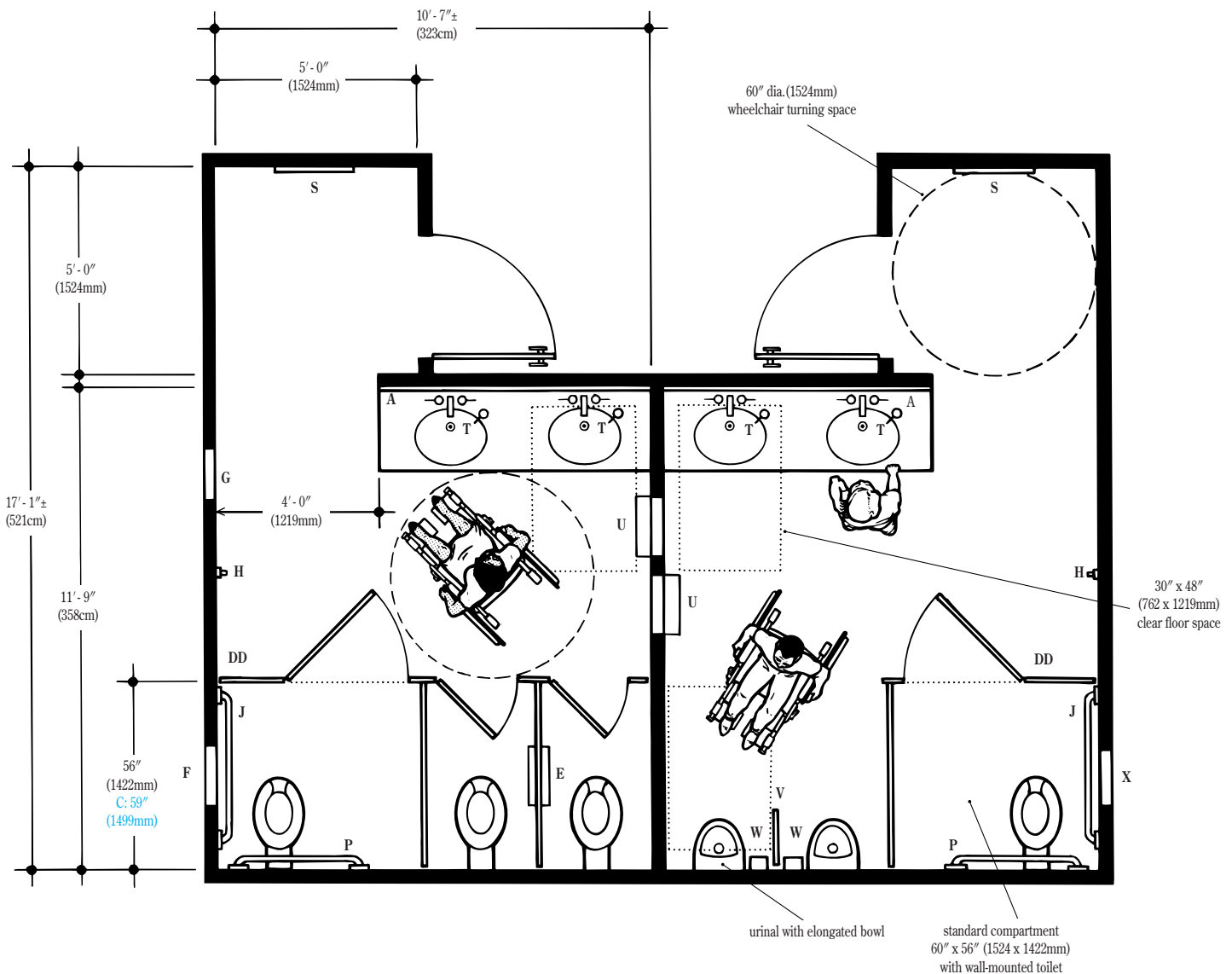
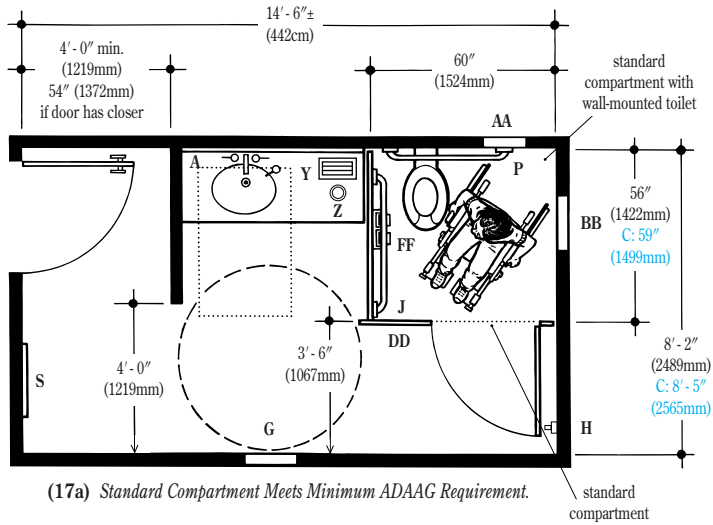


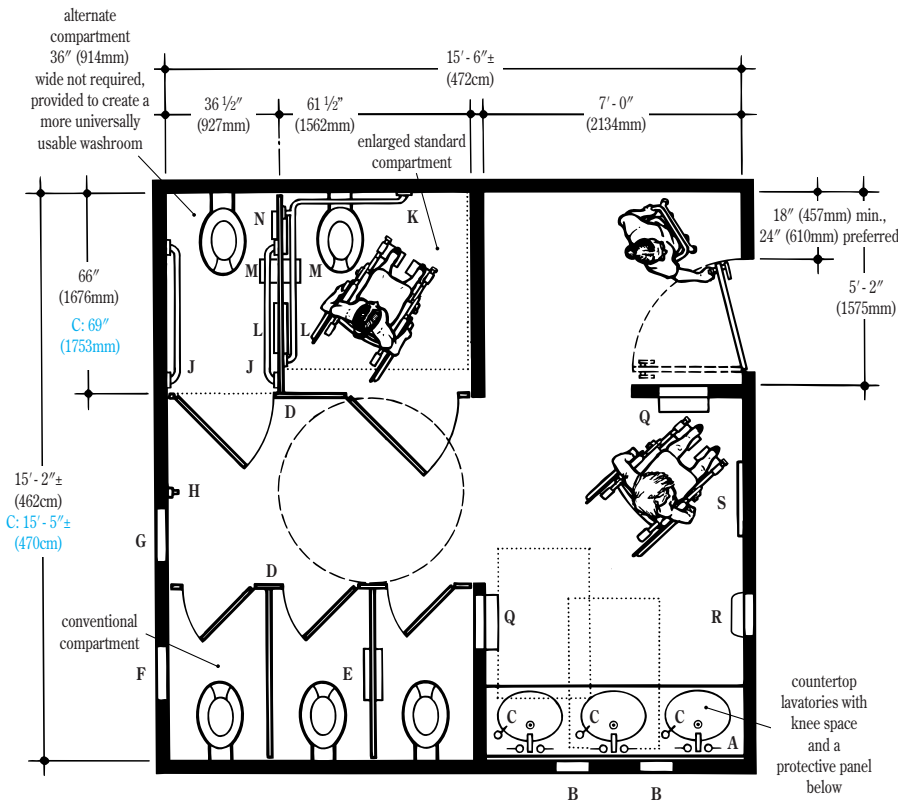
Fig. 17 Small Public Washroom with Single Compartment.



(17a) Standard Compartment Meets Minimum ADAAG Requirement.

Scale: 3/16" = 1' - 0"

Fig. 18 Small Public Washroom Provides Standard Compartment and Alternate Compartment 36" (914mm) Wide.



LEGEND

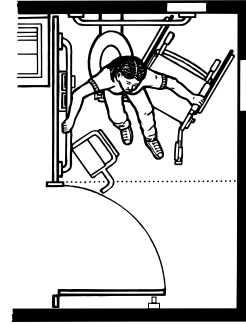
- A B-165 Series Wall-to-Wall Mirror
- B B-318 Recessed Paper Towel Dispenser
- C B-830 Series SureFlo® Lavatory-Mounted Soap Dispensing System
- D 1542 Series Overhead-Braced Laminated Plastic Toilet Compartments
- E B-357 Partition-Mounted Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle (serves two compartments)
- F B-3574 Recessed Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle

- G B-3500X2 Recessed Sanitary Napkin/Tampon Vendor
- H B-687 Door Bumper
- J B-5806 x 42 Horizontal Grab Bar
- K B-5837 Horizontal Two-Wall Grab Bar, 36" x 54" (914 x 1372mm)
- L B-221 Surface-Mounted Toilet Seat Cover Dispenser (mounts below grab bar)
- M B-2888 Surface-Mounted Multi-Roll Toilet Tissue Dispenser (mounts below grab bar)
- N B-354 Partition-Mounted Sanitary Napkin Disposal (mounts below grab bar, serves two compartments)
- P B-5806 x 36 Horizontal Grab Bar

- Q B-3644 Recessed Waste Receptacle
- R B-750 Recessed Hand Dryer
- S B-165 Series Full-Length Mirror, 24" W x 60" H (610 x 1524mm)
- T B-822 Lavatory-Mounted Soap Dispenser
- U B-3944 Convertible Paper Towel Dispenser and Waste Receptacle
- V 1545 Series Wall-Hung Urinal Screen
- W B-240 Wall-Mounted Ashtray
- X B-3474 Recessed Toilet Seat Cover Dispenser, Toilet Tissue Dispenser with Theft-Resistant Spindle
- Y B-526 Paper Towel Dispenser
- Z B-529 Circular Waste Chute

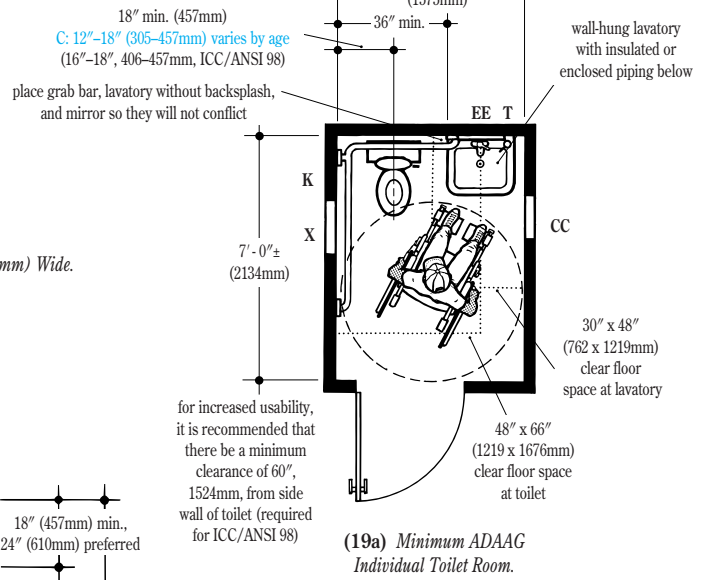
- AA B-353 Recessed Sanitary Napkin Disposal (mounts below grab bar)
- BB B-301 Recessed Toilet Seat Cover Dispenser
- CC B-369 Recessed Paper Towel Dispenser and Waste Receptacle
- DD 1541 Series Floor-Anchored Laminated Plastic Toilet Compartments
- EE B-165 Series Mirror, 18" W x 36" H (457 x 914mm)
- FF B-2740 Surface-Mounted Double-Roll Toilet Tissue Dispenser, no controlled delivery (mounts below grab bar)

by positioning the partition layout, additional space can be added to the toilet compartment, providing more maneuvering space without adding additional square footage to the room



(17b) Standard Alcove Compartment Provides Greater Accessibility.

Fig. 19 Individual Toilet Rooms.

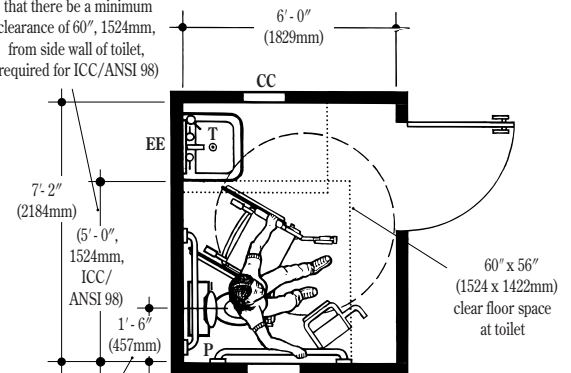


(19a) Minimum ADAAG Individual Toilet Room.

for increased usability, it is recommended that there be a minimum clearance of 60", 1524mm, from side wall of toilet, (required for ICC/ANSI 98)

for increased usability, it is recommended that there be a minimum clearance of 60", 1524mm, from side wall of toilet, (required for ICC/ANSI 98)

countertop lavatories with knee space and a protective panel below



(19b) Recommended Enlarged Individual Toilet Room, (Minimum ICC/ANSI 98 Individual Toilet Room).

BARRIER-FREE BATHING FACILITIES REQUIRED IN A WIDE VARIETY OF BUILDINGS

Hotels, athletic clubs, school gymnasiums and dormitories, parks and camp grounds, nursing homes, and hospitals are examples of the many buildings that must meet accessible bathing requirements for people with physical disabilities. Barrier-free bathing facilities fall into two basic categories: individual shower stalls or combination tub/shower units. Shower stalls may be constructed of conventional water-resistant wall and flooring materials, or shower dividers may be specified that are manufactured of solid phenolic, fiberglass, acrylic, or other water-resistant material. If more than one shower stall is provided in a facility, it is recommended that the control and seat locations be alternated for left- and right-hand use to ensure universal usability. In buildings for transient lodging, a percentage of the sleeping rooms (see ADAAG 9.1.2) must be accessible and equipped with either an individual shower stall or combination tub/shower unit.

INDIVIDUAL SHOWER STALLS

TRANSFER SHOWER STALLS (Figs. 21, 25) are the most common type of individual shower stall used to accommodate people with disabilities. They must be 36" x 36" (914 x 914mm) with a fixed or folding L-shaped shower seat mounted on a side wall opposite the shower head and controls. The size must not be altered because the 36" x 36" (914 x 914mm) inside dimension is optimum for both reach and safety of adult users. Curbs may be installed, but they must be no higher than 1/2" (13mm). When equipped with a folding seat, this shower stall can also be used comfortably by standing people, and some people using wheelchairs can use it as a roll-in shower (see following paragraph) because of its maximum 1/2" (13mm) curbs. Minimum clear floor space 48" x 36" (1219 x 914mm) must be positioned outside the shower stall to allow proper wheelchair positioning for transfer to shower seat.

ROLL-IN SHOWER STALLS (Figs. 22a, 26, 27) are needed by some people in wheelchairs who cannot transfer to a shower seat or tub. ADAAG requires roll-in shower stalls to be at least 60" x 30" (1524 x 762mm), which was selected primarily for remodeling purposes to allow replacement of an existing tub with a roll-in shower stall. This minimum size, though, is truly inadequate in most cases because it is too difficult to contain water within the 30" (762mm) depth. If the minimum size is used, it is recommended that the floor of the entire room be waterproofed (also referred to as a *wet-area shower*). Curbs should not be used; instead, warped tile, grout berms, trench drains, and sloping floor surfaces are acceptable methods for containing water. 48" x 60" (1219 x 1524mm) and 60" x 60" (1524 x 1524mm) are good sizes to use where space is limited for the wet area. Minimum clear floor space 60" x 36" (1524 x 914mm) must be positioned outside the shower stall to allow wheelchair maneuvering space. This space may incorporate knee clearance under adjacent lavatories or countertops, and may be part of the total floor space in wet-area showers.

COMBINATION ROLL-IN/TRANSFER SHOWER STALLS (Figs. 22d, 28, 29) are required in all buildings with more than 50 rooms providing sleeping accommodations (see ADAAG 9.1.2), such as hotels, resorts, motels, inns, boarding houses, and dormitories. They must meet the ADAAG specifications for roll-in showers and have a folding shower seat that does not interfere with wheelchair access.

COMBINATION TUB/SHOWER UNITS

Combination tub/shower units located in accessible bathrooms must have either a portable in-tub seat or an integral seat at the head of the bathtub. In-tub seats should attach to the rim of standard 60" x 30" (1524 x 762mm) bathtubs (Figs. 23, 30). This type of seat is generally used to sit on while showering. Seats at the head of the bathtub must be 15" (381mm) wide and are usually built-in structural extensions, making the total width of the bathtub at least 75" (1905mm) (Figs. 24, 31). They are used only while transferring into the bathtub. Adjacent clear floor space must extend the full width of the bathtub (possibly more for ICC/ANSI 98) and be at least 30" (762mm) deep.

CONTROLS AND ACCESSORIES COMPLETE SHOWER AND BATHTUB INSTALLATIONS

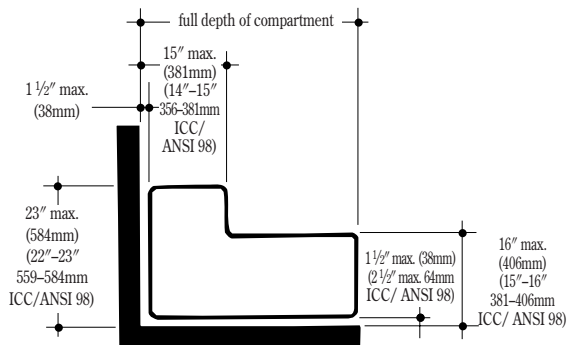
CONTROLS must meet ADAAG specifications (refer to *Controls and Operating Mechanisms* on page 5 of this guide). The control area must be located on the side wall opposite the shower seat in transfer shower stalls; on the back or side walls of roll-in shower stalls; on the wall adjacent to the shower seat in combination roll-in/transfer shower stalls; and on the wall at the foot of bathtubs (Figs. 21d, 22c, 23c, 24b). Controls with anti-scald, pressure balanced or similar features should be used. ICC/ANSI 98 standards require water to be thermal shock protected to 120°F maximum.

SHOWER HEADS in accessible bathing facilities must be hand-held models with 60" minimum (1524mm) long hoses (Figs. 21d, 22c, 23c, 24b). It is recommended that a slide-bar or a series of wall clips be provided to attach the shower head to the wall and allow it to be used as a fixed shower head at various heights. In facilities where vandalism is a problem, a fixed shower head mounted 48" (1219mm) above the finish floor may be installed in lieu of a hand-held unit; or vandal-prone showers may be equipped with a secondary quick connection for optional hand-held shower heads that can be assigned to patrons as needed.

GRAB BARS must be installed in all accessible bathing facilities. They must have a diameter of 1 1/4" to 1 1/2" (32–38mm) and a clearance of 1 1/2" (38mm) between the grab bar and wall. Two horizontal grab bars or a single two-wall grab bar must be installed on the walls next to and opposite the folding shower seat in transfer and combination roll-in/transfer shower stalls (Figs. 21a, 22d). Roll-in shower stalls must have a single three-wall grab bar or three single grab bars with ends mounted as close as possible to the corners (Fig. 22a). All grab bars must be mounted 33" to 36" (838–914mm) (for children mounting heights are 18" to 27", 457–686mm) above the finish floor (Figs. 21c & d, 22b & c). Bathtubs must have a horizontal grab bar mounted at the foot that extends at least 24" (610mm) from the front edge of the tub, 33" to 36" (838–914mm) above the finish floor (Figs. 23c, 24b); and two parallel, horizontal grab bars, 24" to 48" (610–1219mm) long depending on total width of tub, mounted on the back wall: one 9" (229mm) above the rim of the bathtub and

Fig. 20 Folding shower seat.

Scale: 3/8" = 1' - 0"



the other 33" to 36" (838–914mm) above the finish floor (Figs. 23e, 24d). Bathtubs with in-tub seats must have a fourth grab bar mounted at the head that extends at least 12" (305mm) from the front edge of the tub (Figs. 23d & e).

FOLDING SHOWER SEATS (Fig. 20) must meet the specific dimensions required by ADAAG and must be mounted with the top surface of the seat 17" to 19" (432–483mm) above the finish floor. Upholstered, cushioned seats are preferred by many physically disabled people and the elderly. Water-resistant solid phenolic seats are vandal-resistant and more sanitary.

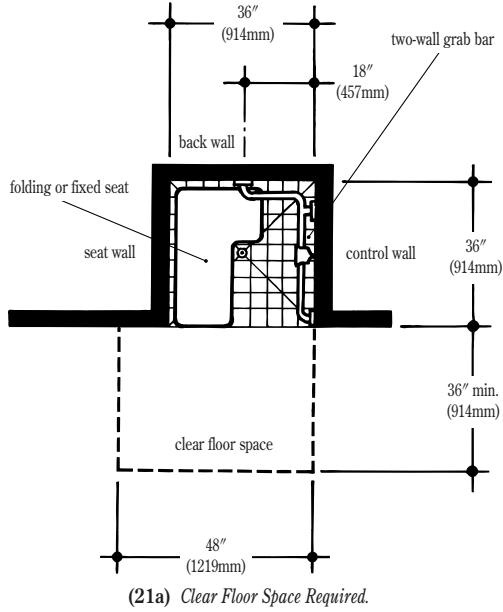
SOAP DISHES are normally placed on the same wall as the shower head and controls where they are least likely to collect standing water. It is recommended that they be recessed and mounted 38" to 48" (965–1219mm) above the finish floor when installed in shower stalls, or they should be mounted between the grab bar and the rim of the bathtub.

SHOWER CURTAINS generally work the best as enclosures for wheelchair users in all types of shower installations. If other types of shower enclosures are used, they should fold back completely out of the way so as not to obstruct transfer to shower seats or interfere with controls, and they must not incorporate a track along the rim of bathtubs.

MEDICINE CABINETS installed in bathrooms must be mounted so that at least one accessible shelf is no higher than 44" (1118mm) above the finish floor and the bottom edge of the mirror is no higher than 40" (1016mm) above the finish floor.



Fig. 21 Transfer Shower Stall.



Drawings not to scale.

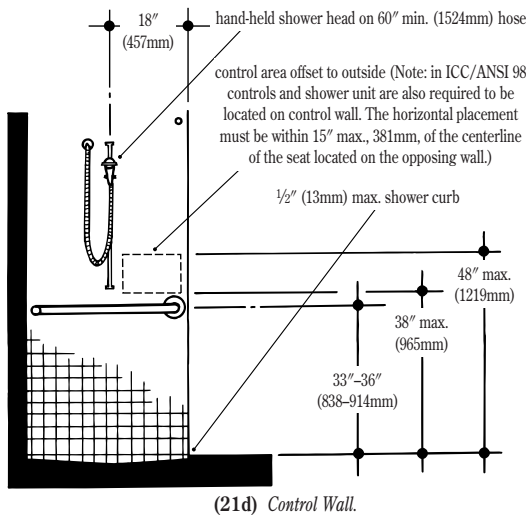
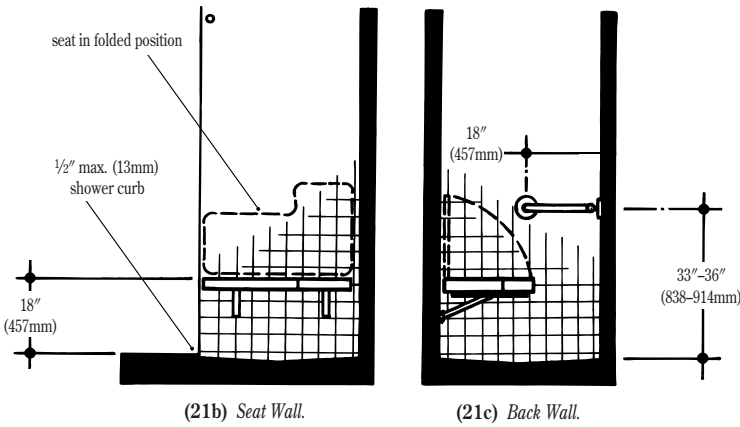
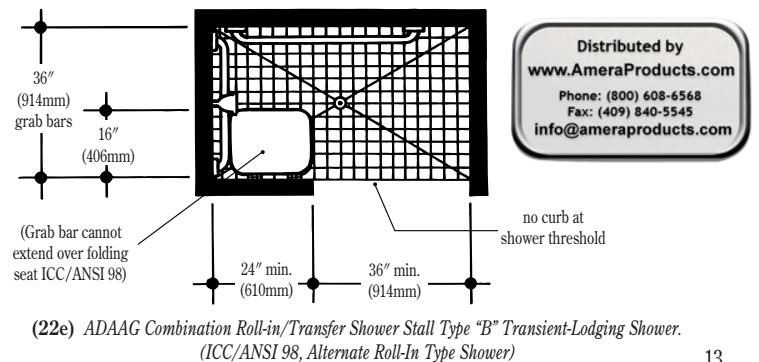
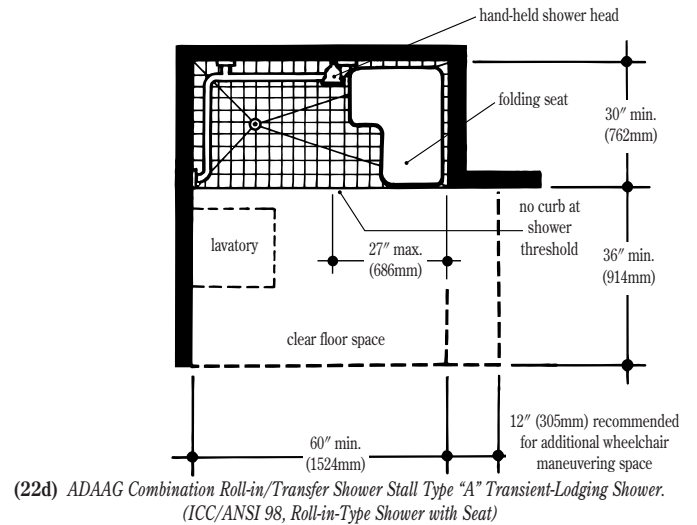
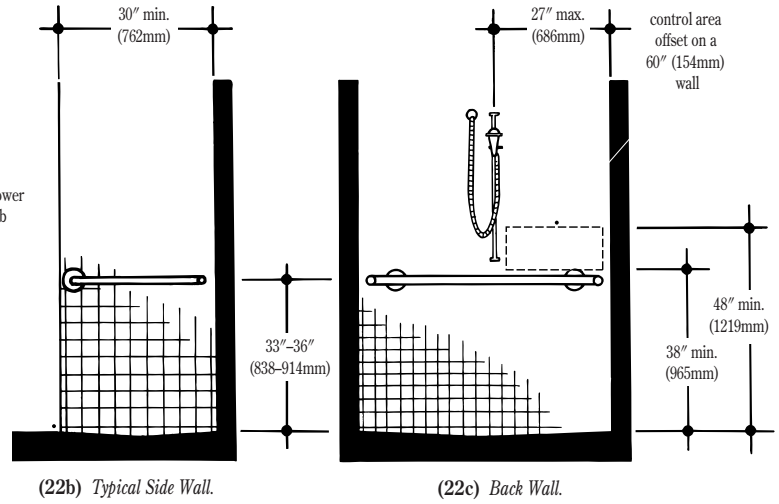
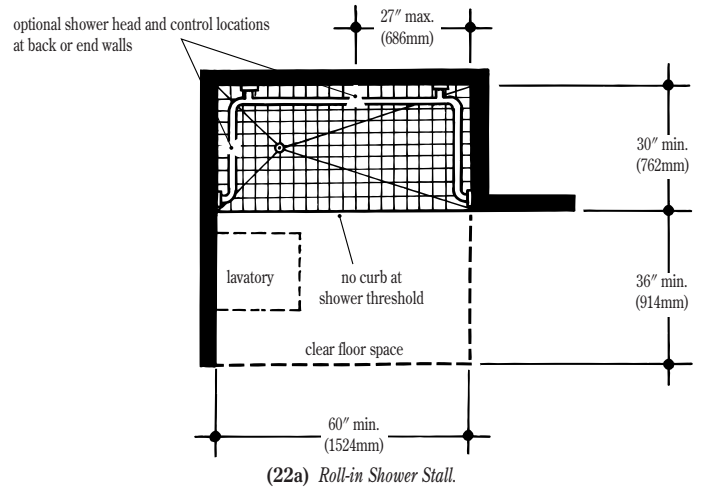
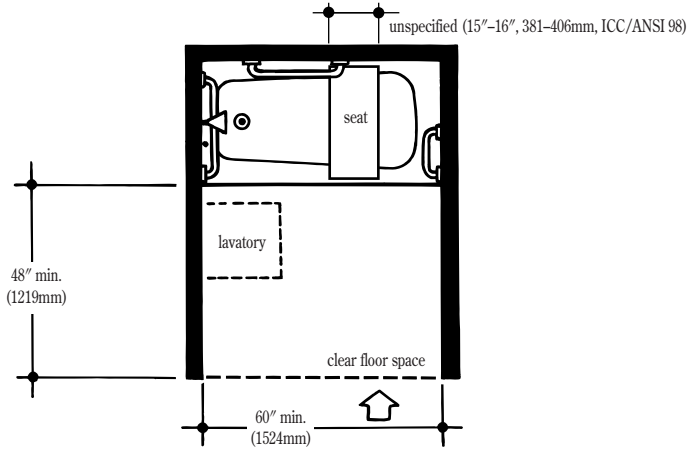


Fig. 22 60" (1524mm) Wide Shower Stalls.



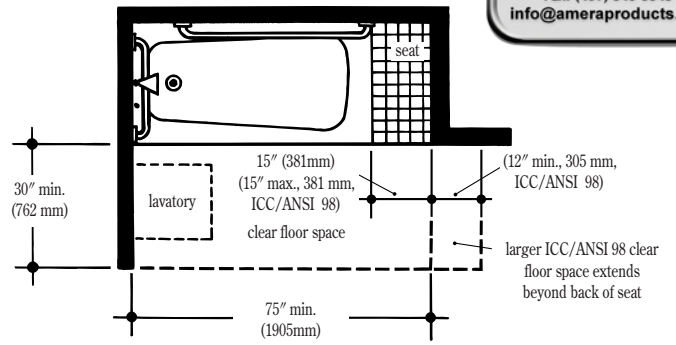
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Fig. 23 Bathtub with Portable Seat in Tub.

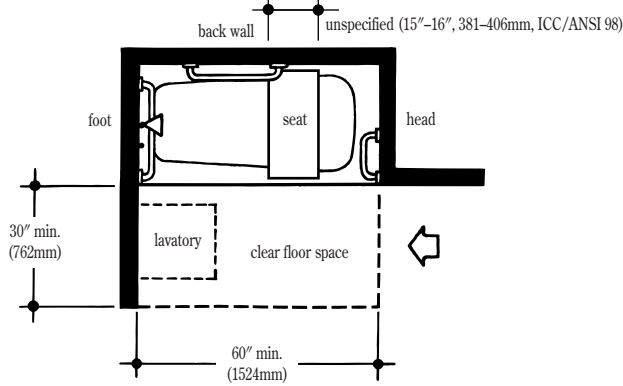


(23a) Clear Floor Space Required for Forward Approach.

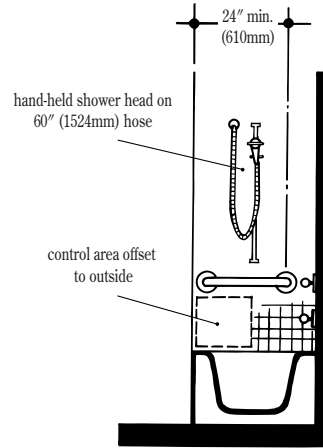
Fig. 24 Bathtub with Integral Seat at Head of Tub.



(24a) Clear Floor Space Required for Side Approach.

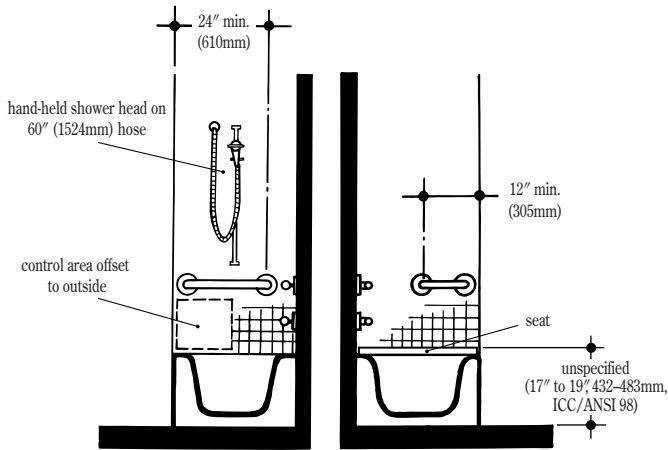


(23b) Clear Floor Space Required for Side Approach.



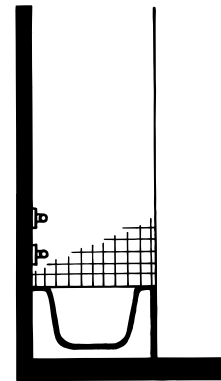
(24b) Foot of Tub.

Drawings not to scale.

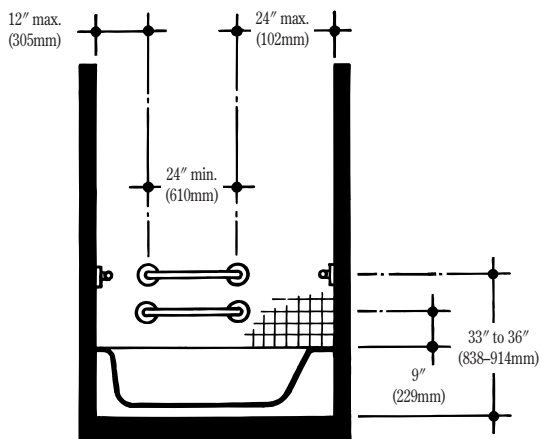


(23c) Foot of Tub.

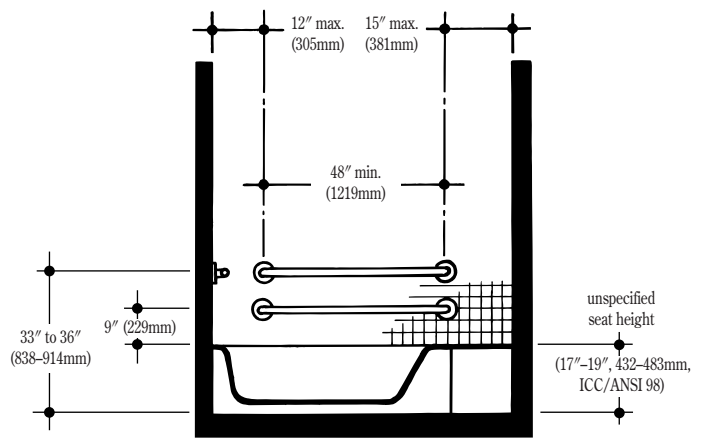
(23d) Head of Tub.



(24c) Head of Tub.



(23e) Back Wall.



(24d) Back Wall.

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DESIGN SOLUTIONS FOR BATHROOMS WITH SHOWER STALLS

Fig. 25 Bathtub with Transfer Shower Stall.

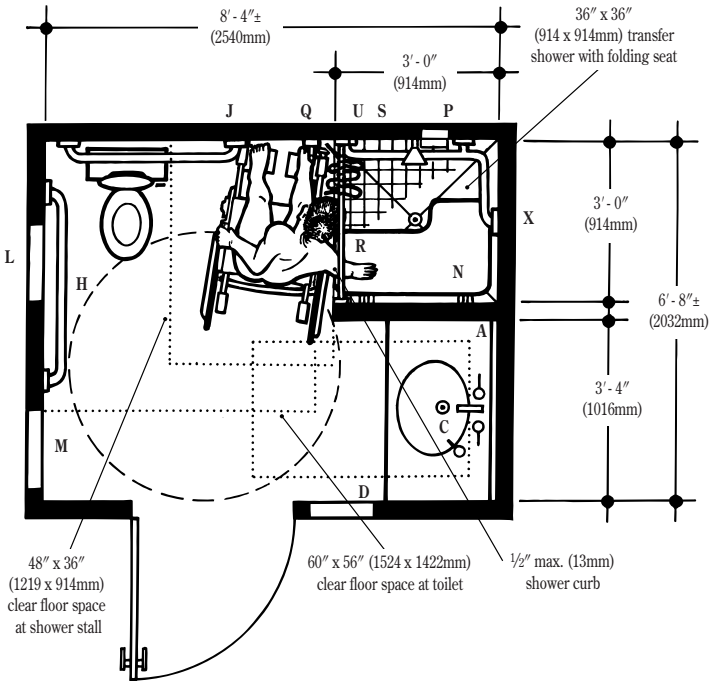
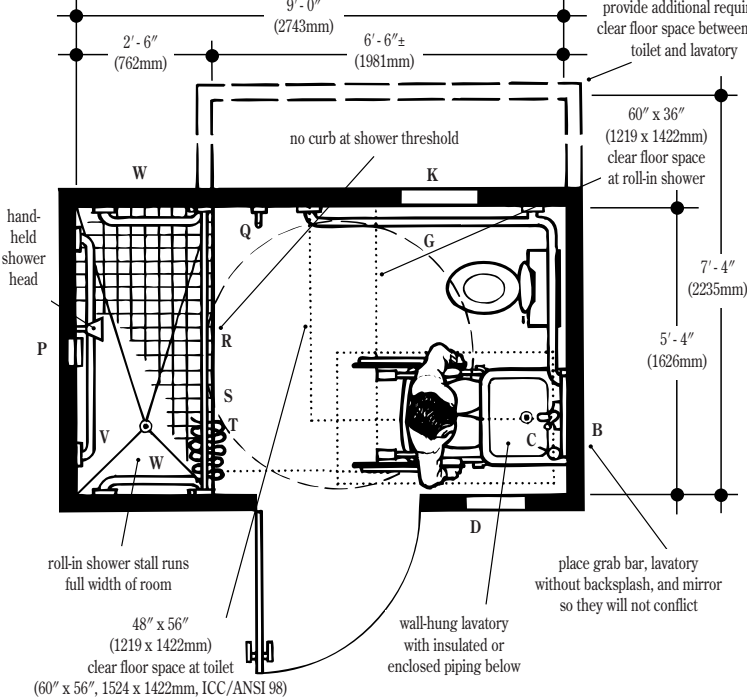


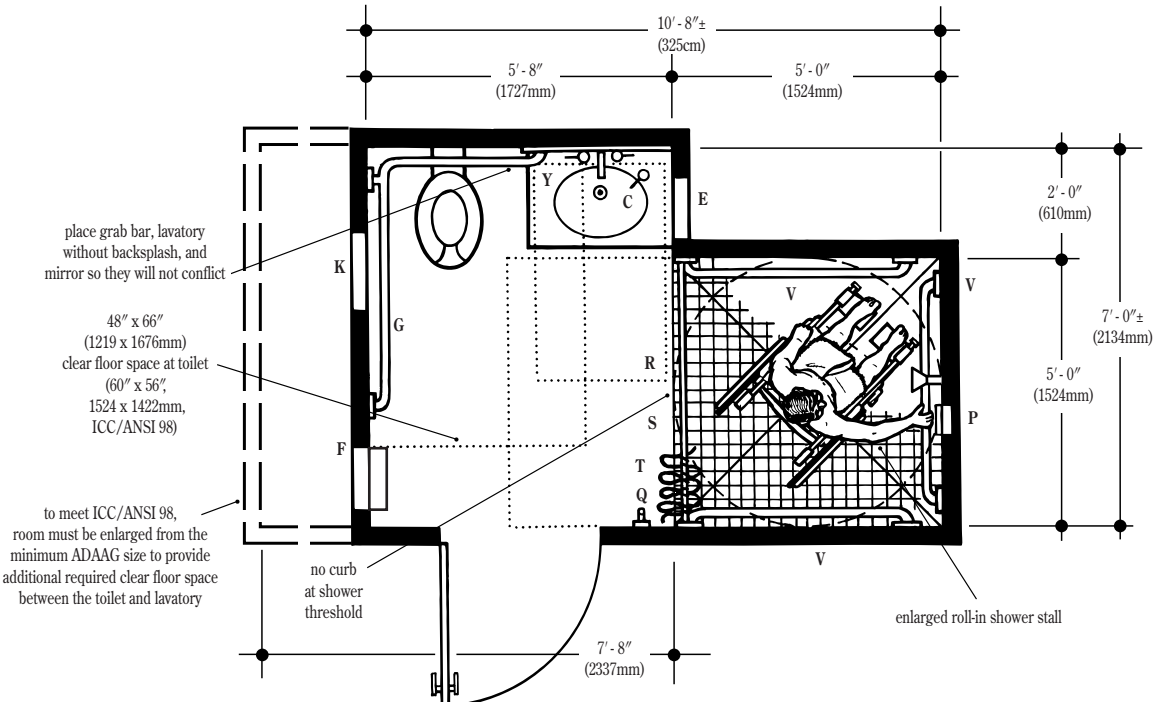
Fig. 26 Bathroom with Wet-Area Shower Stall.



to meet ICC/ANSI 98, room must be enlarged from the minimum ADAAG size to provide additional required clear floor space between the toilet and lavatory

Fig. 27 Bathroom with Enlarged Roll-in Shower Stall.

Drawings not to scale.



LEGEND

- A B-165 Series Wall-to-Wall Mirror
- B B-165 Series Mirror, 18" W x 36" H (457 x 914mm)
- C B-822 Lavatory-Mounted Soap Dispenser
- D B-369 Recessed Paper Towel Dispenser and Waste Receptacle
- E B-359 Recessed Paper Towel Dispenser
- F B-3644 Recessed Waste Receptacle
- G B-5837 Horizontal Two-Wall Grab Bar, 36" x 54" (914 x 1372mm)
- H B-5806 x 42 Horizontal Grab Bar
- J B-5806 x 36 Horizontal Grab Bar
- K B-3474 Recessed Toilet Seat Cover Dispenser, Toilet Tissue Dispenser with Theft-Resistant Spindle
- L B-3574 Recessed Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle
- M B-3500X2 Recessed Sanitary Napkin/Tampoon Vendor
- N B-517 Folding Shower Seat, Padded Seat, Right-Hand Seat
- P B-4380 Recessed Soap Dish
- Q B-2116 Single Robe/Clothes Hook with Concealed Mounting
- R B-6107 Shower Curtain Rod
- S 204-1 Shower Curtain Hooks
- T 204-3 Vinyl Shower Curtain, 70" W x 72" H (1778 x 1829mm)
- U 204-2 Vinyl Shower Curtain, 42" W x 72" H (1067 x 1829mm)
- V B-5806.99 x 48 Horizontal Grab Bar with Peened Grip
- W B-5806.99 x 24 Horizontal Grab Bar with Peened Grip
- X B-6861.99 Shower Grab Bar with Peened Grip, 15 7/8" x 30 7/8" (403 x 784mm)
- Y B-165 Series Mirror, 33" W x 36" H (838 x 914mm)

Fig. 28 Bathroom with Wet-Area Roll-in/Transfer Shower Stall.

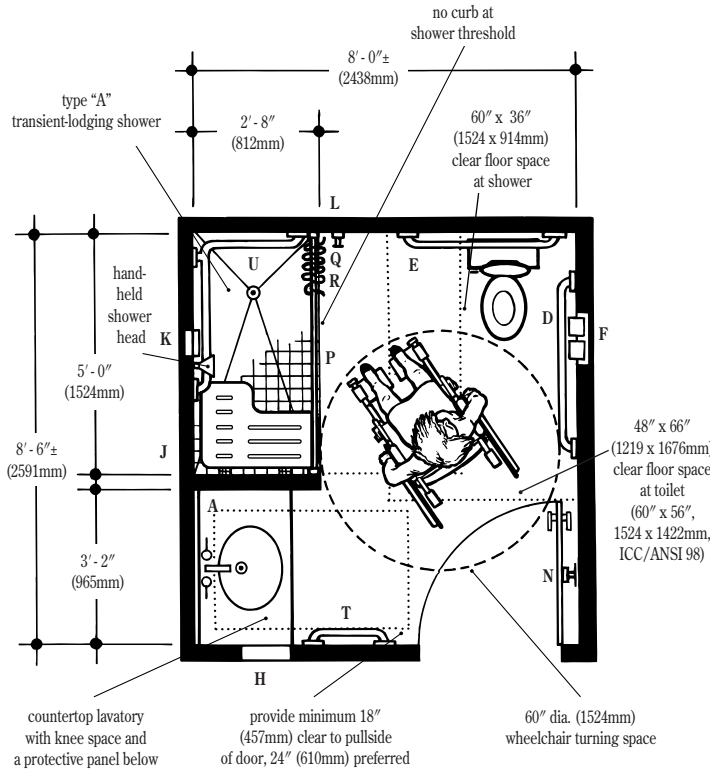
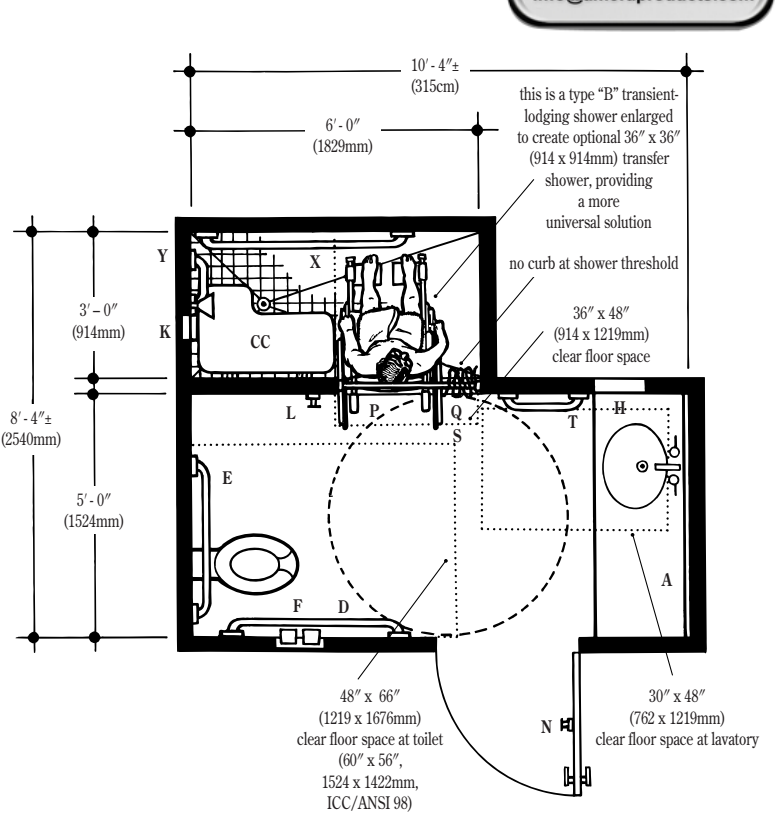


Fig. 29 Bathroom with Enlarged Roll-in/Transfer Shower Stall.



Scale: 1/4" = 1'-0"

DESIGN SOLUTIONS FOR BATHROOMS WITH TUB/SHOWER UNITS

Fig. 30 Bathroom with Combination Tub/Shower Unit and In-Tub Seat.

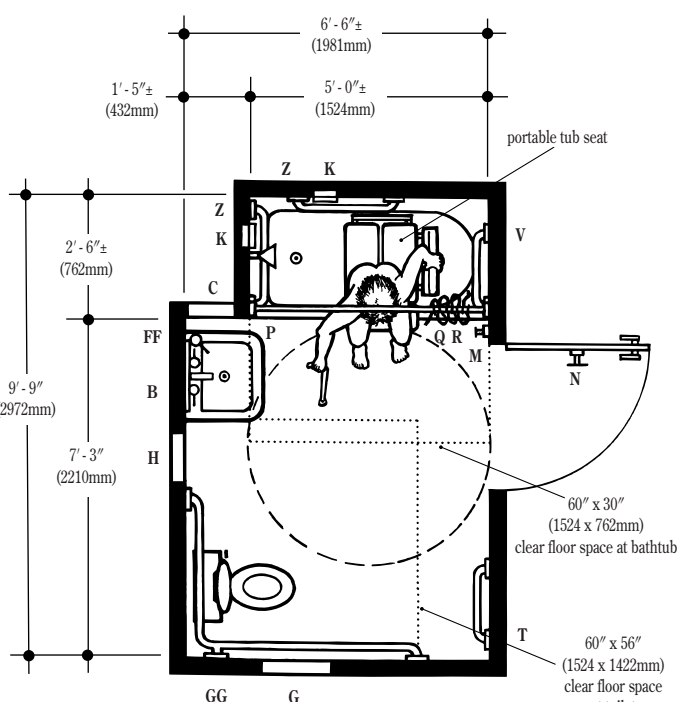
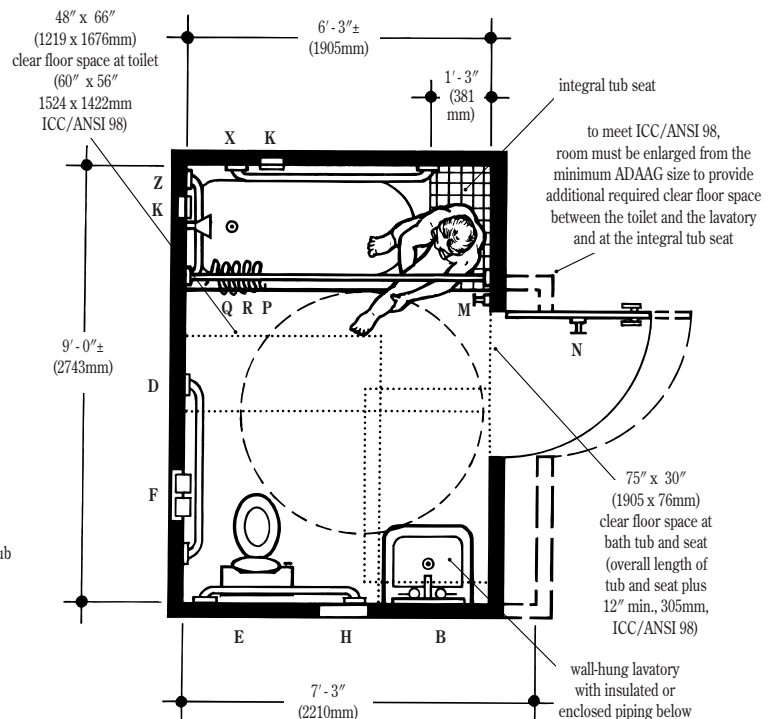


Fig. 31 Bathroom with Combination Tub/Shower Unit and Integral Seat.



DESIGN SOLUTIONS FOR MULTIPLE SHOWER STALLS AND DRESSING COMPARTMENTS

Fig. 32 Multiple Shower Installation with Enlarged Roll-in Shower Stall and Dressing Compartment.

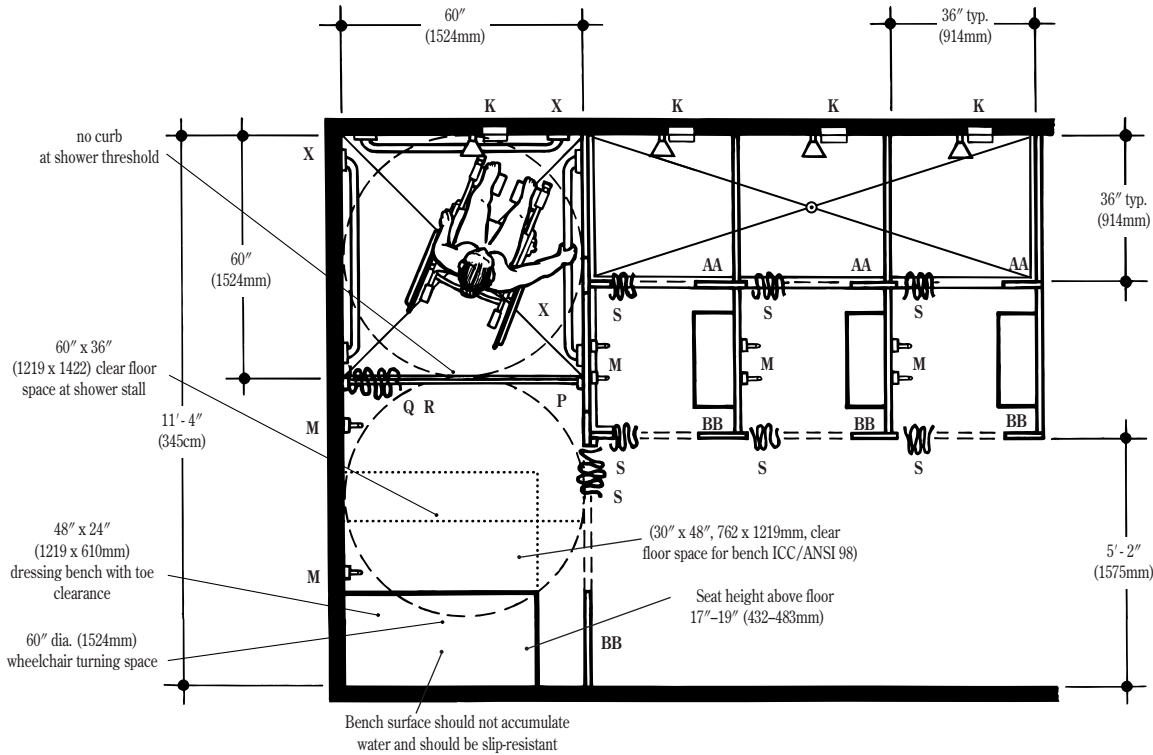
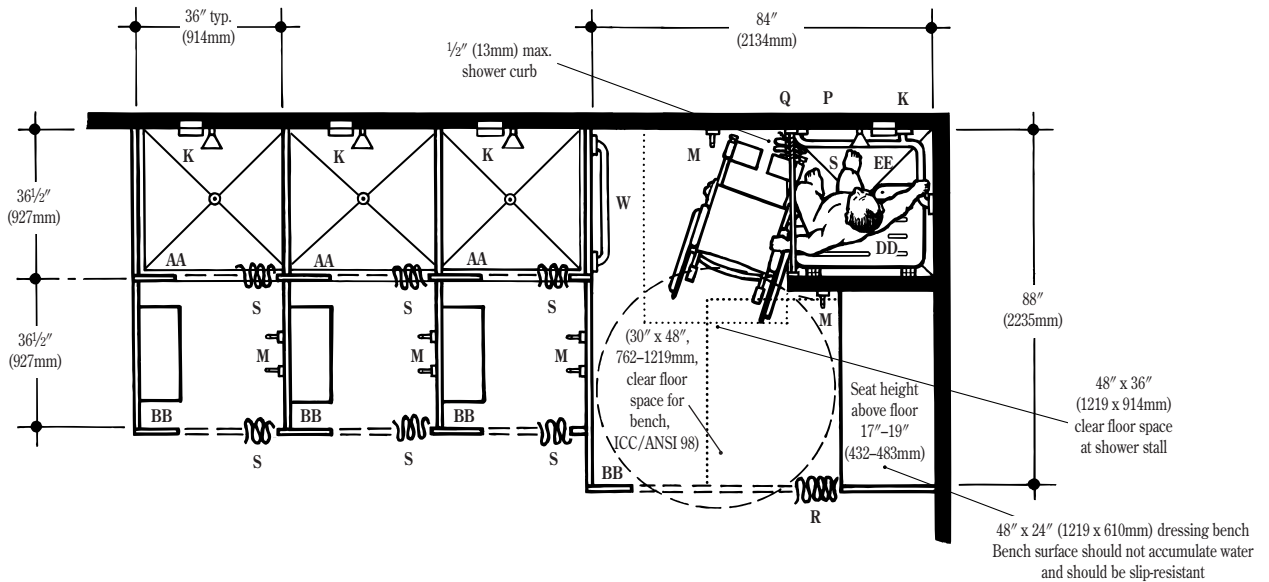


Fig. 33 Multiple Shower Installation with Transfer Shower Stall and Dressing Compartment.



LEGEND

- A B-165 Series Wall-to-Wall Mirror
- B B-165 Series Mirror, 18" W x 36" H (457 x 914mm)
- C B-369 Recessed Paper Towel Dispenser and Waste Receptacle
- D B-5806 x 42 Horizontal Grab Bar
- E B-5806 x 36 Horizontal Grab Bar
- F B-6977 Recessed Toilet Paper Dispenser for Two Rolls
- G B-3574 Recessed Toilet Seat Cover Dispenser, Sanitary Napkin Disposal, Toilet Tissue Dispenser with Theft-Resistant Spindle
- H B-355 Recessed Facial Tissue Dispenser

- J B-5181 Reversible Folding Shower Seat, Solid Phenolic, Left-Hand Seat
- K B-4380 Recessed Soap Dish
- L B-76717 Single Robe/Clothes Hook
- M B-2116 Single Robe/Clothes Hook with Concealed Mounting
- N B-76727 Double Robe/Clothes Hook
- P B-6107 Shower Curtain Rod
- Q 204-1 Shower Curtain Hooks
- R 204-3 Vinyl Shower Curtain, 70" W x 72" H (1778 x 1829mm)
- S 204-2 Vinyl Shower Curtain, 42" W x 72" H (1067 x 1829mm)
- T B-5806 x 18 Horizontal Grab Bar used as towel bar

- U B-58616.99 Shower Grab Bar with Peened Grip, 24" x 36" (610 x 914mm)
- V B-5806.99 x 18 Horizontal Grab Bar with Peened Grip
- W B-5806.99 x 30 Horizontal Grab Bar with Peened Grip
- X B-5806.99 x 48 Horizontal Grab Bar with Peened Grip
- Y B-5806.99 x 12 Grab Bar with Peened Grip
- Z B-5806.99 x 24 Horizontal Grab Bar with Peened Grip
- AA 1082 Series Solid Phenolic Shower Dividers with Shower Curtain Track in underside of headrail

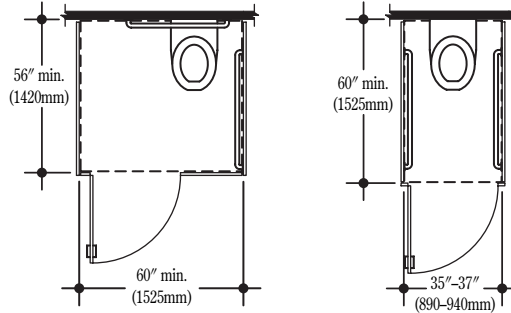
- BB 1082 Series Solid Phenolic Dressing Compartments with Bench, Curtain Track in underside of headrail
- CC B-518 Folding Shower Seat, Padded Seat, Left-Hand Seat
- DD B-5181 Reversible Folding Shower Seat, Solid Phenolic, Right-Hand Seat
- EE B-6861.99 Shower Grab Bar with Peened Grip, 15 7/8" x 30 7/8" (403 x 784mm)
- FF B-822 Lavatory-Mounted Soap Dispenser
- GG B-5837 Horizontal Two-Wall Grab Bar, 36" x 54" (914 x 1372mm)

KEY CHANGES IN THE REVISED AMERICANS WITH DISABILITIES ACT ACCESSIBILITIES GUIDELINES (ADAAG) FOR PUBLIC WASHROOM DESIGN

The “new” or “revised” ADAAG issued by the Access Board and published in the Federal Register on July 23rd, 2004 is now called the ADA-ABA Accessibility Guidelines as it now also incorporates requirements for the Architectural Barriers Act (ABA). The ABA applies to facilities designed, built, altered, or leased with Federal funds. Until this document is adopted as the enforceable ADA Standards for Accessible Design, the present ADAAG stand as the most authoritative design compliance document for the Americans with Disabilities Act. However, where the ADA-ABA Accessibility Guidelines exceed this document, it is recommended that it be implemented.

This section covers key changes of relevance to public washroom design and is provided to give an overview of how the Guidelines are changing from the previous version. Refer to the complete ADA-ABA Accessibility Guidelines for guidance. Copies can be downloaded in PDF format at www.access-board.gov/ada-aba/. Figures shown are from the ADA-ABA Accessibility Guidelines and were developed by the Access Board.

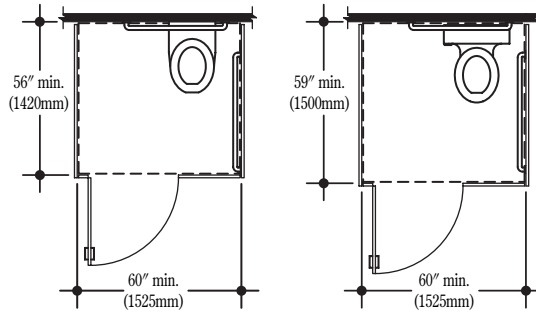
TOILET COMPARTMENTS



Wheelchair Accessible Toilet Compartment

Ambulatory Accessible Toilet Compartment

Alternate toilet compartment layouts have been dropped. Like the ICC/ANSI 98 Standard there are now only two compartment designs that are named and shown, the *Wheelchair Accessible Toilet Compartment* and the *Ambulatory Accessible Toilet Compartment*.

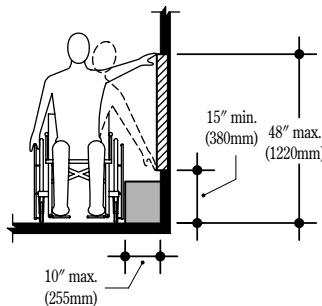


Adult Wall Hung Water Closet

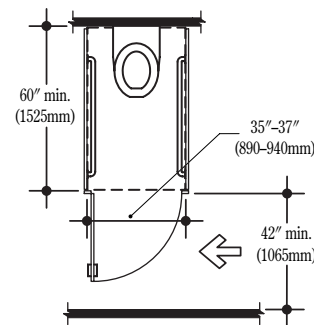
Adult Floor Mounted Water Closet And Children's Water Closet

Wheelchair accessible compartments are now equivalent to the former standard compartment layout.

REACH RANGE



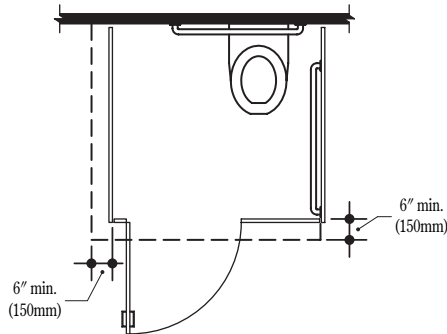
Side reach is no longer 54" (1370mm) maximum, as in the ICC/ANSI 98 Standard; it is now the same as the forward reach of 48" (1220mm) maximum.



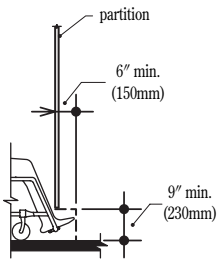
Ambulatory Accessible Compartment

The *Ambulatory Accessible Compartment* serves the same purpose as the former “six or more” walk-in compartment except it is more defined with a minimum depth of 60" (1525mm) and a range of 35" to 37" (890-940mm) for width instead of a 36" (915mm) absolute dimension.

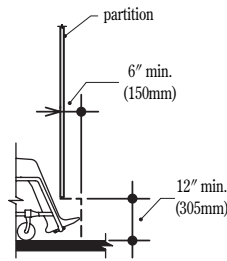
TOILET COMPARTMENT TOE CLEARANCES



Plan



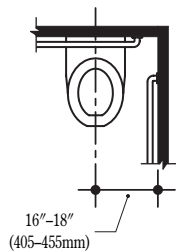
*Elevation
Adult*



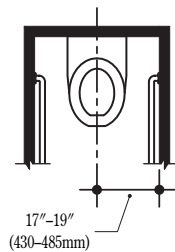
*Elevation
Children*

As in the ICC/ANSI 98 Standard, the toe space required in wheelchair accessible toilet compartments less than 60" (1525mm) deep must now extend at least 6" (150mm) beyond the compartment-side face of the partition.

TOILET FIXTURE LOCATIONS



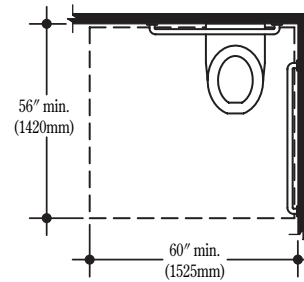
*Wheelchair
Accessible
Water Closets*



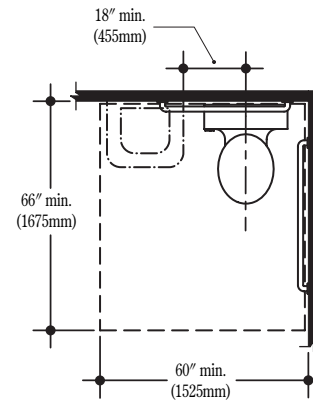
*Ambulatory
Accessible
Water Closets*

The centerlines of toilet fixtures are no longer required to be set at an absolute dimension of 18" (455mm) from sidewalls and partitions. Now a range of 16" to 18" (405-455mm) is given as in the ICC/ANSI 98 Standard. For *Ambulatory Accessible Water Closets* a range of 17" to 19" (430-485mm) is now listed.

CLEAR FLOOR SPACE FOR TOILETS

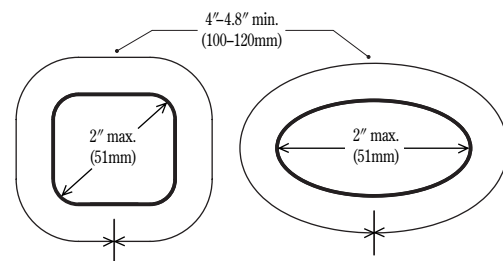


Like the ICC/ANSI 98 Standard, there is now only one clear floor space, 56" (1420mm) minimum by 60" (1525mm) minimum, for accessible toilets not located in compartments. The other two clear floor spaces for a forward and a side approach have been eliminated.



Except in residential dwelling units, a lavatory with a knee space can no longer overhang the clear floor space for an accessible toilet. Note that the clear floor space in this exception must be extended out 10" (255mm) for a total depth of 66" (1675mm).

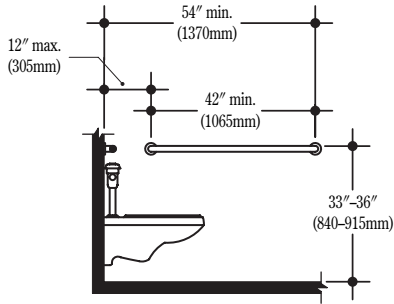
GRAB BARS



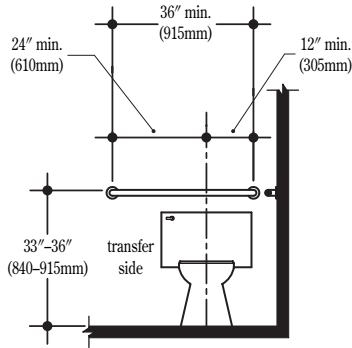
Grab bar diameter can be as much as 2" (51mm), previously 1 1/2" (38mm) maximum, and non-circular profiles such as ovals and rounded rectangles are now allowed. Also note that the maximum/minimum mounting heights of grab bars are now set at the top of the gripping surface instead of the centerline of the bar as before (except for the lower grab bar on the backwall of bathtubs).

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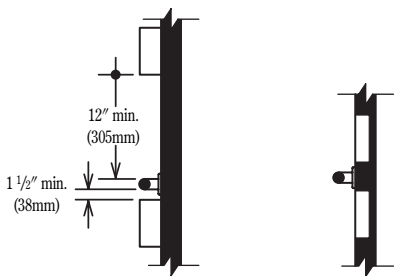
GRAB BARS (Cont'd)



As in the ICC/ANSI 98 Standard, the grab bar on the sidewall next to an accessible toilet in a compartment must be longer by 2" (51mm), now 42" (1065mm) minimum with the far end set at 54" (1370mm) minimum from the rear wall. Grab bar length and location are now the same regardless of whether the installation is in or outside of a toilet compartment.



The location of the 36" (915mm) grab bar required to be mounted on the rear wall behind an accessible toilet is now more clearly defined with the inclusion of a 24" (610mm) minimum requirement to one side of the fixture centerline. Grab bar length and location are now the same regardless of whether the installation is in or outside of a toilet compartment.

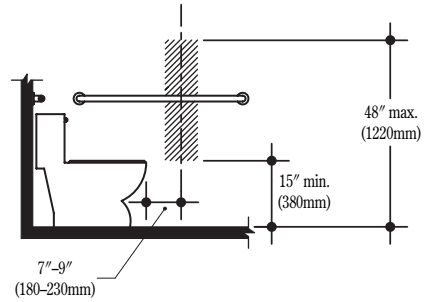


Projecting Objects

Recessed Objects

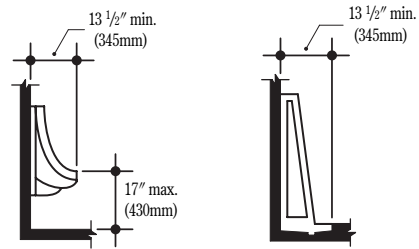
Additional specifications are now given for the location of objects that protrude and recess above and below horizontally mounted grab bars.

TOILET PAPER DISPENSERS



The location of the toilet paper dispenser has changed and is now defined by its location to the front of the toilet fixture and a minimum/maximum range above the finished floor.

URINALS

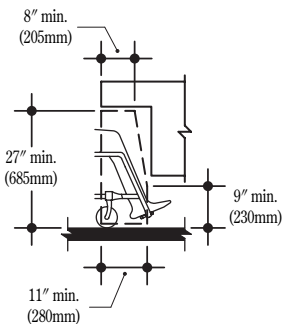


Wall Hung Type

Stall Type

Accessible urinals now must have an elongated rim of at least 13 1/2" (345mm).

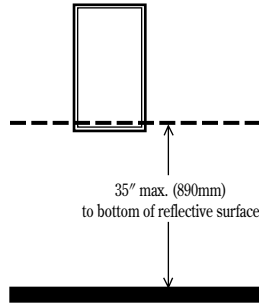
LAVATORIES



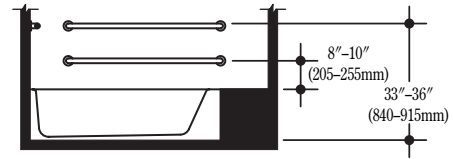
Elevation

The 29" (735mm) minimum dimension to the bottom of the apron of a lavatory or counter has been eliminated. Like the ICC/ANSI 98 Standard, the same knee space requirements are now applied to several different building elements in addition to lavatories and sinks.

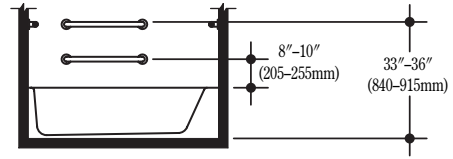
MIRRORS



One mirror not located over a lavatory must now be mounted with the bottom edge of the reflecting surface no more than 35" (890mm) above the finished floor.



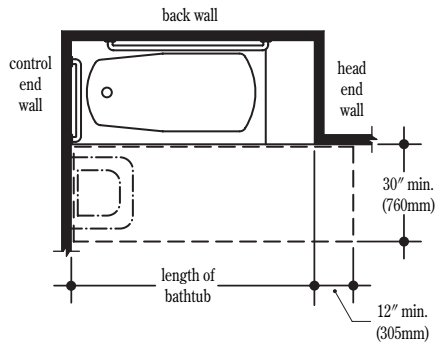
Elevation
Bathtub With Permanent Seat



Elevation
Bathtub With Removable In-Tub Seat

The lower grab bar on the back wall of bathtubs is no longer required to be set at an absolute dimension of 9" (230mm) and can now be located within a range of 8" to 10" (205-255mm) instead.

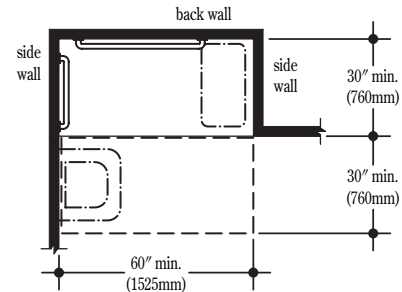
BATHTUBS



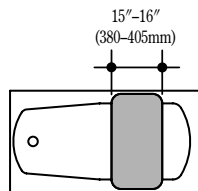
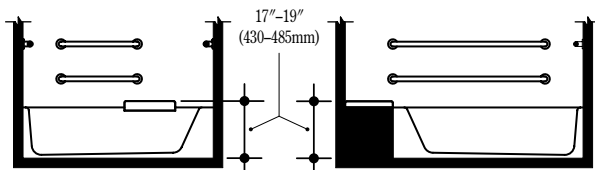
Permanent Seat

As in the ICC/ANSI 98 Standard, the clear floor space for fixtures with permanent seats at the head of the bathtub must now extend at least 12" (305mm) beyond the back of the built-in seat.

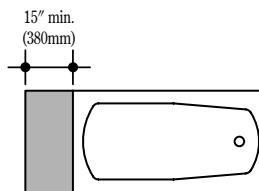
ROLL-IN TYPE SHOWER COMPARTMENTS



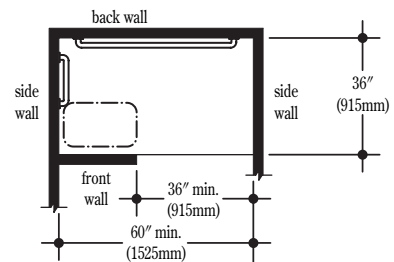
Standard Roll-In Type
Shower Compartment



Removable
In-Tub Seat



Permanent
Seat



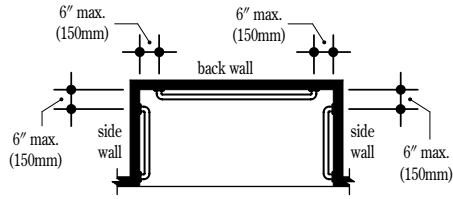
Alternate Roll-In Type
Shower Compartment

There are now more detailed specifications for the design of bathtub seats. Seat width and height are defined and consistent with the ICC/ANSI 98 Standard.

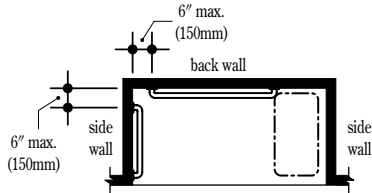
The same basic roll-in shower designs remain but have now been revised. Like the ICC/ANSI 98 Standard, there is the *Standard Roll-In Type Shower Compartment* with and without a seat and the *Alternate Roll-In Type Shower Compartment*. The alternate compartment used to be one of the roll-in shower designs with a folding seat for transient lodging facilities. Roll-in showers with seats are no longer restricted to transient lodging facilities and can be considered a viable alternative for any roll-in compartment application.



ROLL-IN TYPE SHOWER COMPARTMENTS (Cont'd)

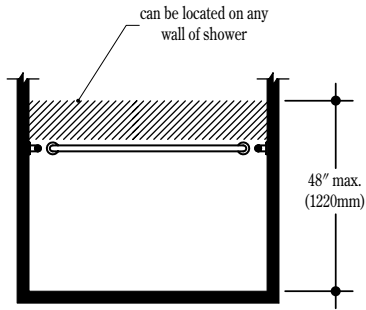


Without Seat

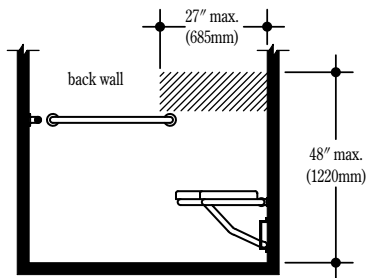


With Seat

While grab bar locations in *Standard Roll-In Type Shower Compartments* remain essentially the same, more detail has now been added. Like the ICC/ANSI 98 Standard, the end placements of non-continuous “straight” bars are now more defined with 6” (150mm) maximum dimensions from a side or the back wall of the compartment.

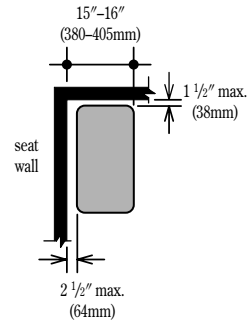


Without Seat



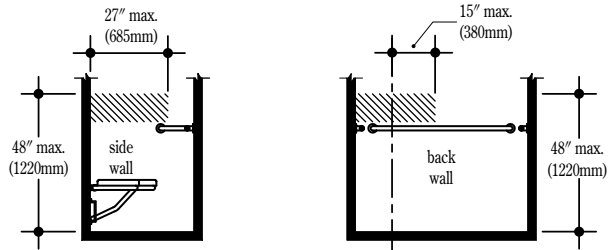
With Seat

There are now some differences in control locations between *Standard Roll-In Type Shower Compartments* with and without seats. In compartments without seats the controls can be located on any wall of the shower within the specified height range. In compartments with seats the control must be located on the back wall above the seat and no more than 27” (685mm) from the adjacent side wall. Note that the 38” (965mm) maximum lower height dimension is no longer required, however the control location must still be above the grab bar.



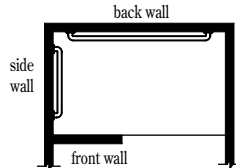
Like the ICC/ANSI 98, *Roll-In Type Shower Compartment* with seats can now use a rectangular seat design as well as the previously required “L”-shaped design.

Alternate Roll-In Type Shower Compartment Control Locations

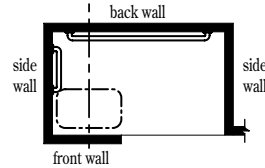


With Seat
(Elevation)

With Seat
(Elevation)

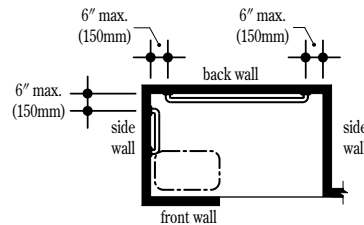


Without Seat
(Plan)



With Seat
(Plan)

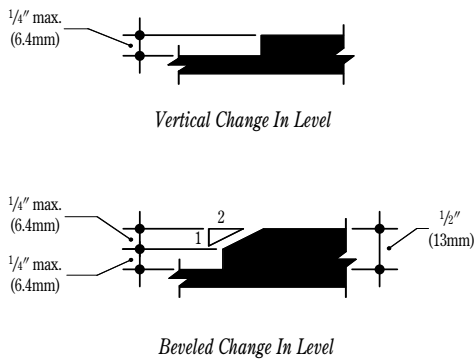
Alternate Roll-In Type Shower Compartment Grab Bar Locations



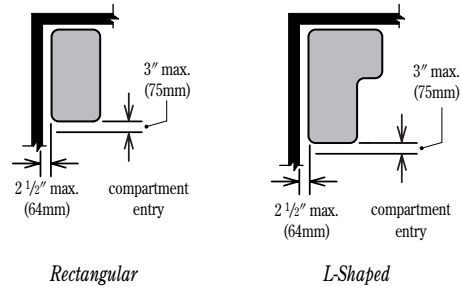
Control and grab bar locations in the *Alternate Roll-In Type Shower Compartment* are now more clearly defined than in the previous iteration of this design when it was limited only to transient lodging facilities. Specific locations for control and grab bar placements are now shown in plan and elevation views.

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ROLL-IN TYPE SHOWER COMPARTMENTS (Cont'd)



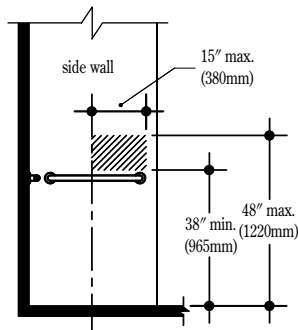
SHOWER SEATS



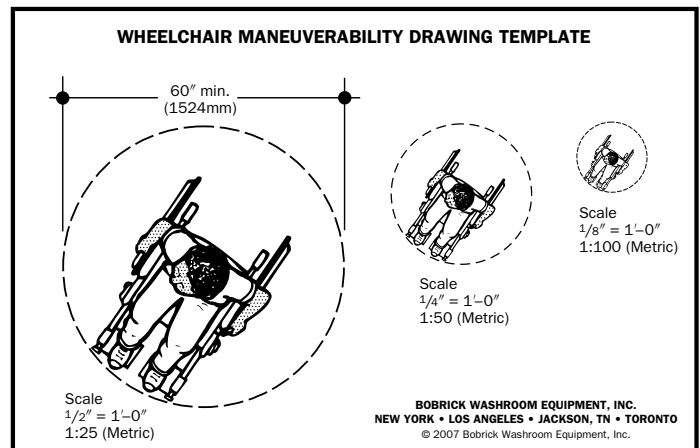
Additional clarity is now provided for the design of roll-in type shower thresholds. Similar to ICC/ANSI 98, thresholds are now permitted to be as high as a 1/2" (13mm) provided they conform to the change of level requirements for accessible routes. Note that thresholds higher than 1/4" (6.4mm) will need to incorporate a bevel no steeper than 1 in 2.

There are now some small but important adjustments in the dimensions for shower seats for both roll-in and transfer compartments. They include a 3" (75mm) maximum space between the seat edge and compartment entry opening and a larger permissible 2 1/2" (64mm) maximum gap between the seat and seat wall. These changes are consistent with the ICC/ANSI 98 Standard.

TRANSFER TYPE SHOWER COMPARTMENTS



The 36" x 36" (915 x 915mm) transfer shower design essentially remains the same and as in the ICC/ANSI 98 Standard is now called the *Transfer Type Shower Compartment*. The only change is that the outer edge of the control location is now required to be no more than 15" (380mm) from the centerline of the compartment toward the unit entry side.



BOBRICK'S WHEELCHAIR MANEUVERABILITY DRAWING TEMPLATE

Three plan views of a person in a wheelchair are illustrated in scales of 1/8" = 1'-0" (1:100 metric), 1/4" = 1'-0" (1:50 metric), and 1/2" = 1'-0" (1:25 metric). The template is printed on clear rigid plastic so it can be placed over drawings to confirm proper clearance and maneuverability within the installation plans. It is especially helpful in designing entrances, lavatory areas, and toilet compartments.





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