

## **RAYMORE BOARD OF APPEALS AGENDA**

**Wednesday, July 18, 2018 - 6:00 p.m.**

City Hall Council Chambers  
100 Municipal Circle  
Raymore, Missouri 64083

- 1. Call to Order**
- 2. Roll Call**
- 3. Old Business –**
  - A. Minutes of March 31, 2015 meeting**
- 4. New Business –**
  - A. Election of Officers**
  - B. Appeal of Building Official Determination – Renee Kerckhoff, Raymore Historical Society, 103 S. Washington Street**
- 5. Adjournment**

# Meeting Procedures

## **The following rules of conduct apply:**

1. This is not a public hearing. There will be no opportunities for the public to speak at any time during the meeting.
2. Please turn off (or place on silent) any pagers or cellular phones.
3. Please no talking on phones or with another person in the audience during the meeting.
4. Please no public displays, such as clapping, cheering, or comments when another person is speaking.
5. While you may not agree with what an individual is saying to the Board, please treat everyone with courtesy and respect during the meeting.

## **Every case before the Board of Appeals will be reviewed as follows:**

1. Chairperson will open the hearing.
2. City will present their report to the Board, including calling of witnesses.
3. Property owner or appellant may present any pertinent information regarding the case, including calling of witnesses.
4. Cross-examination of witnesses will be permitted.
5. Chairman will close the hearing to all parties except the Board.
6. Board members may deliberate in open session or call for an executive session. Any decision of the Board shall be made in open meeting.
7. Consideration of the request may be continued by the Board. A date and time of a future meeting shall be identified by the Board.
8. Board of Appeals members will vote on the request.

THE **BOARD OF APPEALS** OF THE CITY OF RAYMORE, MISSOURI, MET IN REGULAR SESSION **TUESDAY, MARCH 31, 2015** IN THE CITY COUNCIL CHAMBERS OF CITY HALL, 100 MUNICIPAL CIRCLE, RAYMORE, MISSOURI WITH THE FOLLOWING BOARD MEMBERS PRESENT: CHAD BUCK, RANDY REED, LLOYD BROWN, MIKE COX AND ALTERNATE DICK MAYNARD. ABSENT WAS BOARD MEMBER MEREDITH HAUCK. ALSO PRESENT WERE COMMUNITY DEVELOPMENT DIRECTOR JIM CADORET, BUILDING OFFICIAL JON WOERNER, AND CITY ATTORNEY GEORGE KAPKE.

1. **Call to Order** – Chairman Buck called the meeting to order at 6:00 p.m.

2. **Roll Call** -

3. **Old Business** –

**A. Minutes of December 4, 2013 meeting**

On a motion by Brown, 2nd by Reed the minutes of the December 4, 2013 meeting were approved by a 5-0 vote.

4. **New Business** –

**A. Election of Officers**

Motion by Brown, 2nd by Reed to nominate Chad Buck as Chairperson. Motion passed 5-0.

Motion by Cox, 2nd by Buck to nominate Lloyd Brown as Vice-Chairperson. Motion passed 5-0.

**B. Dangerous Building Order - Delbert Collins, 312 S. Jefferson Street**

Jon Woerner presented his inspection findings and order to demolish the accessory building located at 312 S. Jefferson Street.

City Attorney George Kapke clarified for the Board that the staff recommendation is that the accessory building be demolished within 30 days. Mr. Kapke indicated the Board has the authority to extend the deadline beyond the 30 days.

Marjorie Collins, owner of the property at 312 S. Jefferson Street, indicated that there is no disagreement that the accessory building has to come down. Mrs. Collins indicated that her husband recently

passed away and she was asking for a total of 90 days to demolish the building. She also asked if the concrete slab of the accessory building could remain.

Board member Maynard asked what the size of the concrete slab was. Jon Woerner indicated its size is approximately 14' x 20'.

Chairperson Buck asked if a new shed could be placed upon the existing concrete slab. Mr. Woerner indicated yes, provided setbacks are met and a permit is obtained if the new building is 121 square feet or larger in size.

Mrs. Collins asked the Board what would occur if the City has to demolish the building.

Mr. Woerner indicated the City must obtain bids from qualified contractors and the City Council would award a bid for demolition. All costs associated with the demolition would then be billed to the property owner and if not paid the costs would be added as a special tax assessment against the property.

Chairperson Buck asked if the concrete slab could remain without a structure upon it. Mr. Woerner indicated yes it is allowable.

Board member Brown asked Mrs. Collins if it would be easier for the City to demolish the structure and add the costs to the property taxes.

Mrs. Collins indicated it may be easier for the City to demolish the building, but if 90 days were allowed that she should be able to have the building demolished.

Board member Brown made a motion, seconded by Cox, to order the demolition of the accessory building at 312 S. Jefferson Street within 60 days of the date of the meeting and that the concrete slab could remain. Motion passed 4-1 (Maynard dissenting).

**C. Dangerous Building Order - George Beckwith, 416 S. Washington Street**

Jon Woerner presented his inspection findings and order to demolish the house located at 416 S. Washington Street.

Mr. George Beckwith, owner of the property, indicated the structure was built in the 1880's and he moved in during the 1970's. Mr. Beckwith indicated the house is unsafe and needs to come down.

Chairperson Buck asked Mr. Beckwith how much time he would need or specifically what he was requesting of the Board.

Mr. Beckwith indicated he is unable to demolish the structure.

Board member Maynard asked if there was a mortgage on the structure and Mr. Beckwith indicated no.

Mr. Woerner reviewed the City bidding and demolition process for the Board.

Scott Beckwith, the son of George Beckwith, indicated the sooner the structure was demolished the better. He also indicated the owner would have some interest in working with the South Metropolitan Fire Protection District to use the house for fire training.

Board member Cox made a motion, seconded by Maynard, to order the demolition of the home within 30 days of the date of the meeting. Motion passed 5-0.

**5. Adjournment**

On a motion by Brown and 2<sup>nd</sup> by Cox the meeting was adjourned at 6:45 pm.

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Chad Buck, Chairperson

City of Raymore  
Building Appeals Board

Application of Appeal

Appellant:

Name: Renee Keckhoff  
Company: Raymore Historical Society  
Address: P.O. Box 1483  
City, State, Zip: Raymore, MO 64083  
Phone: 816-813-5162  
Relationship to Property Owner: President of Organization  
(for appeals hearings, list witnesses on witness registration page)

Property Owner:

Name: Raymore Historical Society  
Address: P.O. Box 1483  
City, State, Zip: Raymore, MO 64083  
Phone: 816-813-5162

Project Location:

Address: 103 S. Washington  
City, State, Zip: Raymore, MO 64083

\*\*\*\*\*  
Office Use Only

Date Submitted:	_____	
Received By:	_____	_____
Permit Number:	_____	Clerk of the Board Signature
Meeting/Hearing Date Set:		

**ICC Code or Municipal Code for which appeal is requested:**

[list applicable code section(s) behind code and attach a copy of the text of the code]

- International Building Code: 604.5.1.2 Edition 2018
- International Residential Code: \_\_\_\_\_ Edition \_\_\_\_\_
- International Existing Building Code: \_\_\_\_\_ Edition \_\_\_\_\_
- International Fire Code: \_\_\_\_\_ Edition \_\_\_\_\_
- Uniform Mechanical Code: \_\_\_\_\_ Edition \_\_\_\_\_
- Uniform Plumbing Code: \_\_\_\_\_ Edition \_\_\_\_\_
- National Electrical Code: \_\_\_\_\_ Edition \_\_\_\_\_
- International Energy Code: \_\_\_\_\_ Edition \_\_\_\_\_
- On-Site Sewage Disposal Code: \_\_\_\_\_ Edition \_\_\_\_\_
- [list any applicable section(s) and attach a copy of the text any  
Municipal or State Regulations]

**Supporting Documentation and/ or Relief Requested:**

(use separate sheet if necessary)

we would like to ask for an exception to the installation  
of the verticle bar in our main building

Reasons for the appeal:

1. There is a newly replaced window that will have  
to be eliminated to comply.
  2. MR. WOOBNER viewed the property before we replaced  
the window. He approved the plan and did not  
mention a conflict with the bar and window.
  3. ADA guidelines do not require a verticle bar.
  4. We will have another fully compliant bathroom in  
the annex on the same property. At no time will  
the annex be
- Please use one sheet per code appeal
- closed when the main building is open to the public.

Letter of Authorization

I, Raymore Historical Society, have reviewed the proposed appeal  
(Property Owner)

regarding my property located at 103 S. Washington in  
(Property Address)

Raymore, Missouri, and authorize Renee Kerckhoff to  
(Representative's Name)

Represent me at the Building Code Board of Appeals meeting/ hearing regarding  
this appeal.

If you have any questions, please feel free to contact me at 816-813-5162  
(Phone)

[Signature]  
President, Raymore Historical Society  
(Owner's Signature)

6-26-18  
(Date)

SWORN AND SUBSCRIBED before me

This 26<sup>th</sup> day of June, 20 18

[Signature]  
Notary Public

TERESA KEARNEY  
Notary Public - Notary Seal  
STATE OF MISSOURI  
Cass County  
My Commission Expires: 4/14/2019  
Commission # 15634780

My Commission Expires: 04-14-2019

Certificate Page

I, Renee Kerckhoff herby attest the attached information is true for the property located at 103 S. Washington in Raymore, Missouri.

[Signature] Signature of Appellant

Renee Kerckhoff, president Print Name and Title  
Raymore Historical Society

SWORN AND SUBSCRIBED before me

This 26<sup>th</sup> day of June, 20 18

[Signature]  
Notary Public

TERESA KEARNEY  
Notary Public - Notary Seal  
STATE OF MISSOURI  
Cass County  
My Commission Expires: 4/14/2019  
Commission # 15634780

My Commission Expires: 04-14-2019

I hereby authorize the City of Raymore Board of Appeals and other Officials to view and inspect the property, which is the subject of this Application at any time during the pendency of said Application, and the construction related thereto.

[Signature] Signature of Appellant

[Signature] Signature of Property Owner

❖ The provisions for the length of the side grab bars are split into separate sections for horizontal and vertical grab bars. Vertical grabs located at water closets designed for children are specifically addressed in Section 609.4.2 in order to take their smaller size and reach into consideration.

**604.5.1.1 Horizontal grab bar.** A horizontal grab bar 42 inches (1065 mm) minimum in length shall be located 12 inches (305 mm) maximum from the rear wall and extend 54 inches (1370 mm) minimum from the rear wall.

❖ The grab bar located on the side wall must be properly located and of sufficient length to allow the user to reach the bar while transferring between the water closet and the wheelchair. See Section 609.4.1 for information on grab-bar height.

**604.5.1.2 Vertical grab bar.** A vertical grab bar 18 inches (455 mm) minimum in length shall be mounted with the bottom of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum above the floor, and with the center line of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum from the rear wall.

❖ A vertical bar on the side wall was added to aid a person who may use other types of mobility aids and needs assistance to rise or sit on the water closet. Grabbing the horizontal grab bar to rise provides only limited leverage.

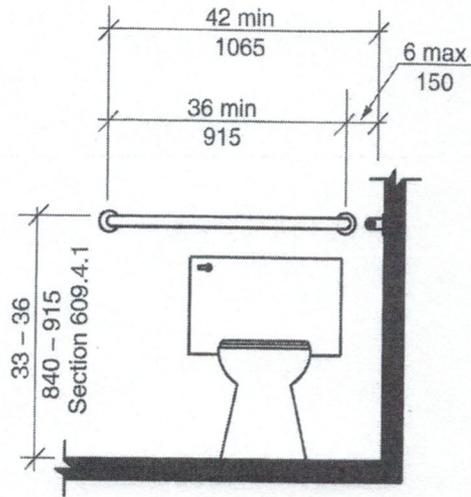
See Section 604.9.2 for vertical grab-bar information specific to toilets designed for children's use.

**604.5.2 Rear-wall grab bars.** The fixed rear-wall grab bar shall

1. Be 36 inches (915 mm) minimum in length,
2. Be located 6 inches maximum (150 mm) from the side wall, and
3. Extend 42 inches (1065 mm) minimum from the side wall.

**Exceptions:**

1. The rear grab bar shall be permitted to be 24 inches (610 mm) minimum in length, centered on the water closet, where wall space does not permit a grab bar 36 inches (915 mm) minimum in length due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, that grab bar shall be permitted to be split or shifted to the open side of the toilet area.



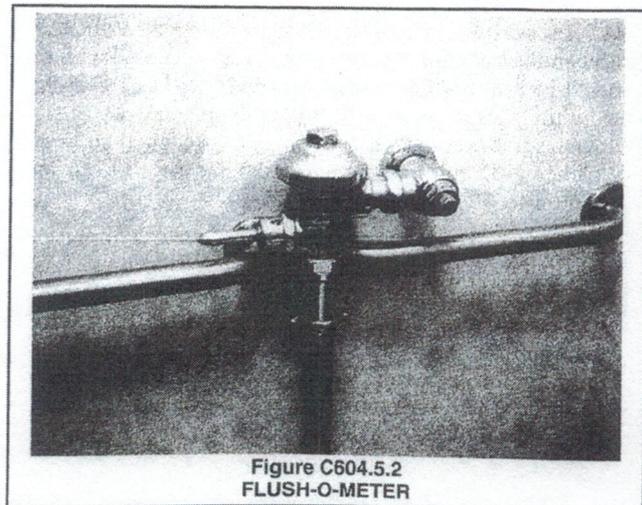
Note: For children's dimensions see Fig. 609.4.2  
**FIGURE 604.5.2**

**REAR-WALL GRAB BAR FOR WATER CLOSET**

❖ A 36-inch-long (915 mm) grab bar will provide 24 inches (610 mm) on the side of the water closet opposite the wall. This will aid the person who must reach across his or her body to reach the grab bar and make a transfer.

Exception 1 permits a 24-inch rear grab bar, centered on the water closet, in the configuration shown in Commentary Figure C604.2(c).

In some public bathrooms with heavy usage, a designer may choose to use a flush-o-meter system rather than a tank system (see Commentary Figure C604.5.2). The system has less maintenance and fewer chances for vandalism than the tank type. The flush-o-meter could possibly conflict with the rear grab bar. In such situations, in accordance with Exception 2, a split rear grab bar would be acceptable.



**Figure C604.5.2**  
**FLUSH-O-METER**

taking off or adding rings would not be an acceptable option. If the seat is adjusted by some type of control, that control must meet the operable parts requirements in Section 309.

Exception 2 is for both the water closet seat height and the sprung seat and is part of the private office toilet room exceptions discussed in the general commentary to Chapter 6.

See Section 604.11.4 for provisions for toilet seat height in toilet rooms or stalls specifically designed for children's use.

**604.5 Grab bars.** Grab bars for water closets shall comply with Section 609 and shall be provided in accordance with Sections 604.5.1 and 604.5.2. Grab bars shall be provided on the rear wall and on the side wall closest to the water closet.

**Exceptions:**

1. Grab bars shall not be required to be installed in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 604.5.
2. In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells or rooms that are specially designed without protrusions for purposes of suicide prevention.

❖ See Section 609 for specific requirements for grab bar size, wall clearance, height and installation requirements. Side and rear grab bars are required at all water closets. Section 604.11.5 references this provision for grab bar length and orientation in toilet rooms or stalls specifically designed for children's use.

A wall immediately adjacent to the water closet provides a solid support for grab bars. Grab bars mounted wall-to-floor without lateral bracing tend to become loose and contribute to a feeling of insecurity in users. Swing-down bars mounted behind the water closet may serve a person wearing leg braces or having a similar mobility impairment but may not be stable enough to provide assistance in a transfer by most wheelchair users. Swing-down grab bars are only permitted in Type B units (see Section 1104.11.1).

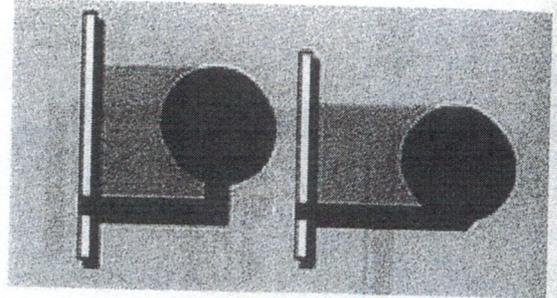
Side and rear grab bars should be horizontally mounted. Grab bars mounted vertically, diagonally or in locations other than on the walls behind and adjacent to the water closet do not provide equivalent stability or graspability for transfer from a wheelchair. A grab bar that is one piece, located along the entire range for the two separate grab bars is acceptable (see Section 609.7). Commentary Figures C604.3.1(a) and C604.3.1(b) show the diagonal and side approaches used to transfer from a wheelchair to a water closet.

There are several exceptions to this section.

Exception 1 allows for just the blocking to be provided for the future installation of grab bars as part of

the private office toilet room exceptions discussed in the general commentary to Chapter 6.

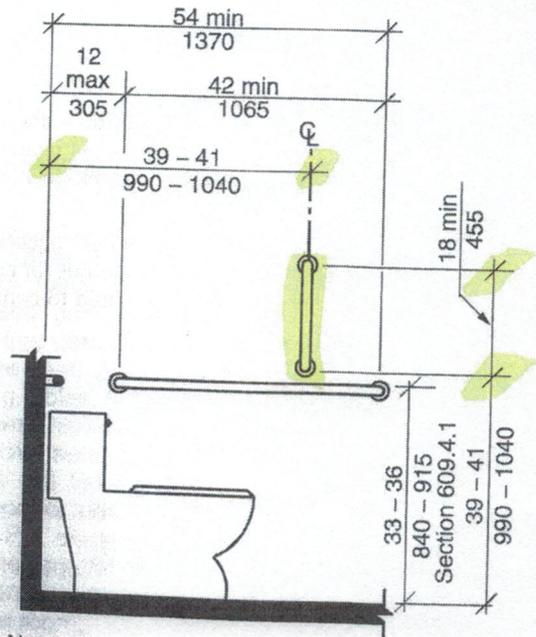
Exception 2 is limited to detention and correctional facilities and to areas within those facilities that are specifically designed for suicide prevention. Even though the exception would specifically exempt grab bars, there are grab bars made that have a continuous support so that there is no "bar" to allow someone to hook something through to potentially strangle themselves (see Commentary Figure C604.5).



PROFILES OF ACCESSIBLE GRAB BARS WITH AN INFILL PLATE OR CONTINUOUS MOUNTING BRACKET FOR SUICIDE PREVENTION.

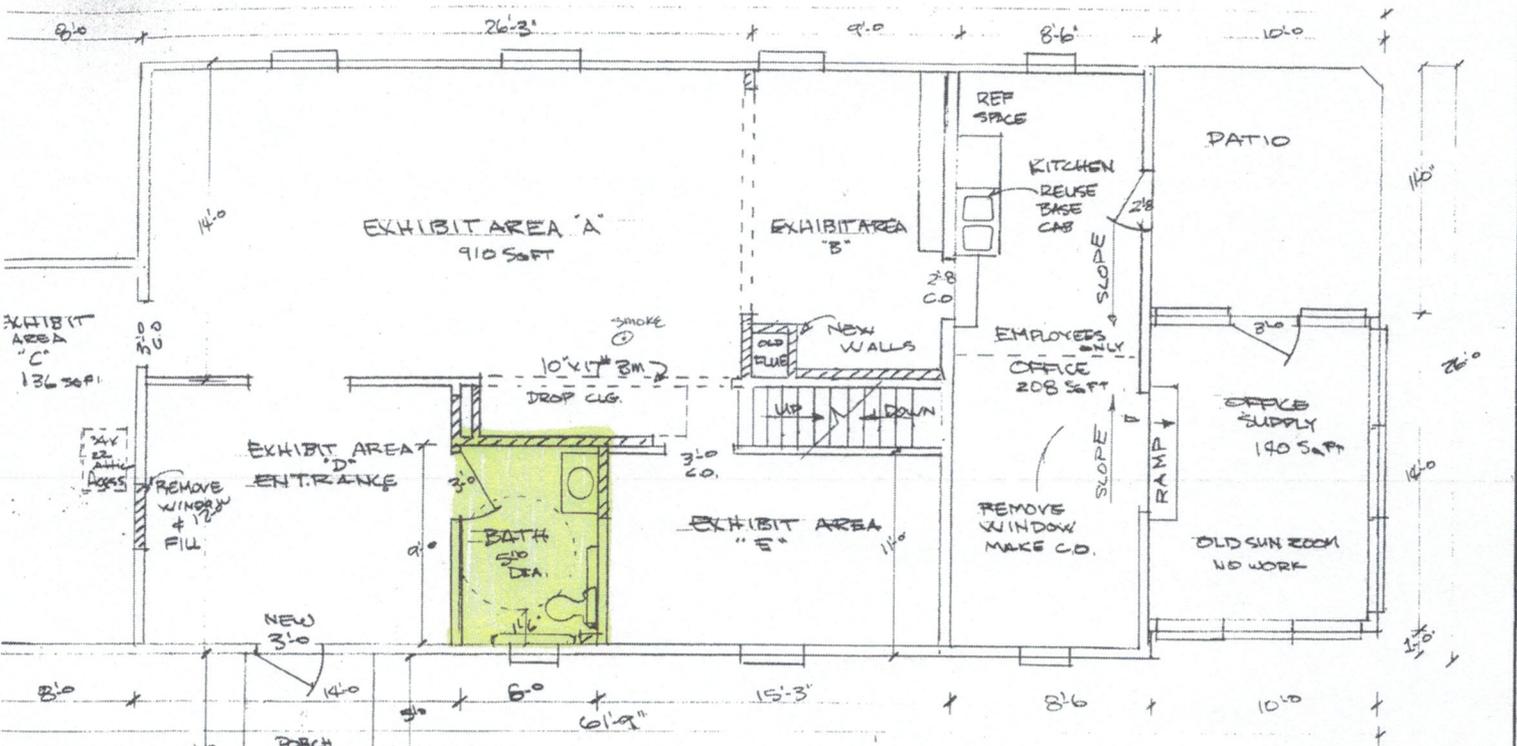
**Figure C604.5**  
**SUICIDE-PREVENTION GRAB BARS**

**604.5.1 Fixed side-wall grab bars.** Fixed side-wall grab bars shall include a horizontal bar complying with Section 604.5.1.1 and a vertical grab bar complying with Section 604.5.1.2. The vertical grab bar at water closets primarily for children's use shall comply with Section 609.4.2.

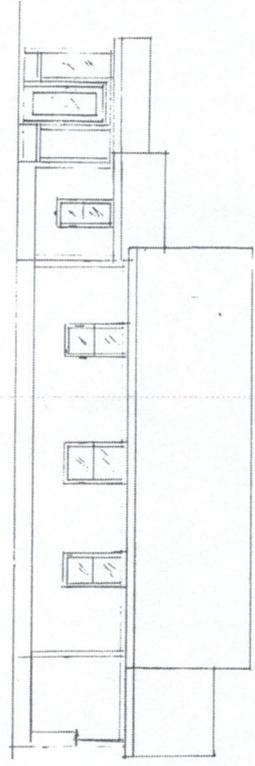


Note: For children's dimensions see Fig. 609.4.2

**FIGURE 604.5.1**  
**SIDE-WALL GRAB BAR FOR WATER CLOSET**



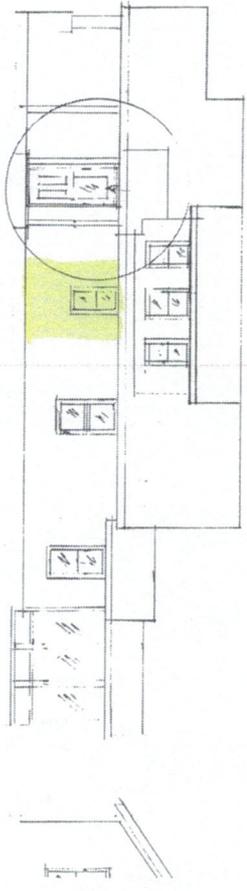
RAYMORE MUSEUM NEW FLOOR PLAN		
SCALE 1/4"	APPROVED BY:	DRAWN BY:
DATE:		REVISED:
DAHMER CONST.		
House		DRAWING NUMBER 3059



NORTH SIDE (NEWWORK)

NEW ENTRY DOOR  
4' TO 8' 1/2"

INSTALL NEW  
ENCLOSE EX  
FOR MORE

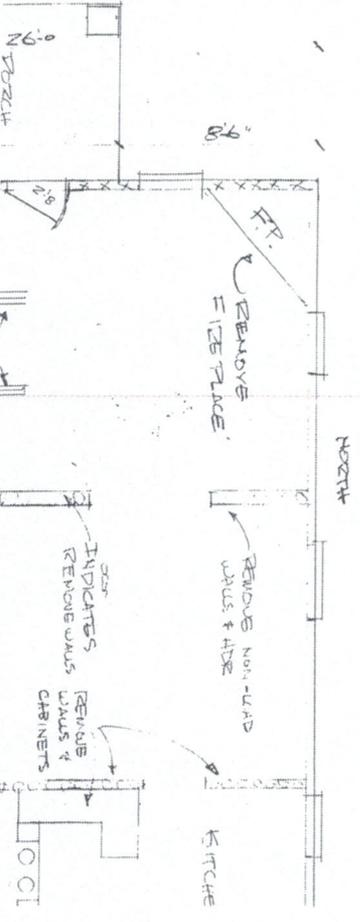


SOUTH SIDE 1/2"

RAYMORE MUSEUM 1/2"



A



## **ADA Guidelines**

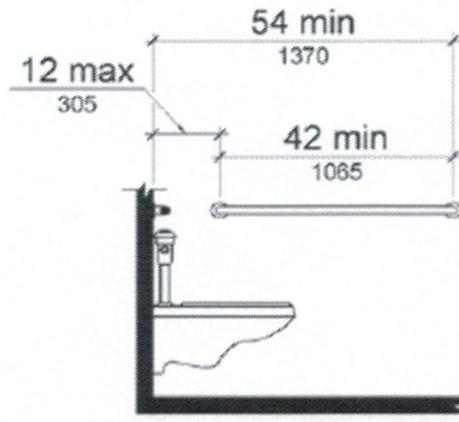
**604.5 Grab Bars.** Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

### **EXCEPTIONS:**

- 1.** Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.
- 2.** In residential dwelling units, grab bars shall not be required to be installed in toilet or bathrooms provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.
- 3.** In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention.

**Advisory 604.5 Grab Bars Exception 2.** Reinforcement must be sufficient to permit the installation of rear and side wall grab bars that fully meet all accessibility requirements including, but not limited to, required length, installation height, and structural strength.

**604.5.1 Side Wall.** The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

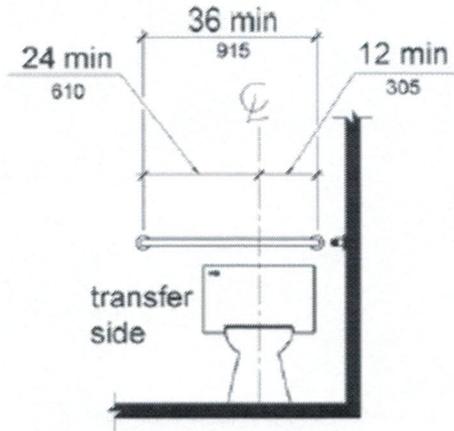


**Figure 604.5.1 Side Wall Grab Bar at Water Closets**

**604.5.2 Rear Wall.** The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

**EXCEPTIONS:**

- 1.** The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
- 2.** Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.



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**609.4 Position of Grab Bars.** Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

**609.5 Surface Hazards.** Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.

**609.6 Fittings.** Grab bars shall not rotate within their fittings.

**609.7 Installation.** Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.

**609.8 Structural Strength.** Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.



June 26, 2018

Dahmer Construction  
18707 E. 191st St  
Pleasant Hill, MO 64080

Property Location: 103 S. Washington St., Raymore, MO 64083  
Building Permit # C01802

Dear Mr. Dahmer,

There have been questions and concerns regarding the accessible restroom at the construction project location above. I wanted to officially give you clarification and a response in writing. Your question by phone was: The owner would like to eliminate the vertical accessible grab bar in the accessible bathroom due to an existing window in this bathroom. Are we allowed to do this? And if not, what are my alternatives?

The City of Raymore is currently enforcing Chapter 500 in the Raymore City Code for all new construction work, where there are references to other code provisions within the Code. City Council adopted the *2012 International Building Code* (IBC) and the *2012 International Existing Building Code* (IEBC) in July 2013. In Chapter 500, Section 500.155, there is a reference to the *American National Standard for Accessible and Useable Buildings and Facilities A117.1-2009*. This standard applies to all projects regarding accessibility to all buildings whether temporary or permanent for new construction work in Raymore.

There is another Standard published by the United States Access Board called *2010 ADA Standards for Accessible Design*. The City did not adopt this publication as a Code Standard. The provisions in the *International Codes* (I-Codes) are intended to meet or exceed the requirements in the federal accessibility requirement found in the *Americans with Disabilities Act and the Fair Housing Act*. In fact, it is a requirement that if a town or city does not have a another source adopted as Code for accessibility, this publication must be used for all new construction projects by federal law.



In accordance with IEBC Chapter 5, the work on your construction project is considered a Level 3 Alteration project, whereas the work area exceeds fifty percent (50%) of the aggregate area of the building, reconfiguration of the egress system and other areas of the building as part of the project. A reclassification of the Occupancy Group for the building from a residential building (R3) to an Assembly Occupancy Group A3 and Offices B. In accordance with the 2012 IEBC, Sections 906, 806 and 705, the provisions send you back to the 2012 IBC for accessibility requirements. IBC Section 1101.2 is the reference for ICC A117.1 whereas, "Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1".

ICC A117.1 Section 604.5 does allow the elimination of grab bars if the toilet room is for a single occupant and accessed only through a private office not for common use or public use and in detention and correctional facilities. Section 604.5.1 and Figure 604.5.1, is the provision regarding the grab bars on fixed side walls. In this provision only one exception allows to eliminate a vertical grab bar primarily for children's use. This and the other exceptions would not apply to your project, therefore by Code the vertical bar would have to be installed.

The City approved construction plans submitted by you, stamped by a Professional Engineer, Kevin Hardee, MO License # 2009024034 has the water closet drawn in the right location and installed in the field as presented in the drawings. There is a window on the construction plans but does not state what size; it appeared this window was an existing window on the former residential home.

To answer your second question, there is a technical term used in the 2012 IEBC, *technically infeasible*. By definition, this only means if the alteration of a facility has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load bearing member that is an essential part of the structural frame, or because other physical or site constraints. This definition would not apply to your project, simply because you have the ability to change the size of the window or eliminate the window and fill in the space with sheathing and siding without changing any structural member(s).

A Certificate of Occupancy may not be granted if the construction project is not in full compliance of Raymore City Code. This letter of clarification and response will serve as your official notice to comply with City Code and install the vertical accessible grab bar to receive the Certificate of Occupancy.



You have the right to appeal a notice or a determination to the Raymore Board of Appeals in accordance with Section 510.070 and Chapter 540 of the Raymore City Code. Such appeal shall be taken within ten (10) days from the date of this notice. If an appeal is filed, a hearing before the Board will be scheduled. The Board may uphold, modify, or reverse a notice, decision or determination only if it is found that the Building Official has incorrectly misinterpreted City Code.

If you have any additional questions, feel free to contact me by email or phone.

Respectfully,

**Jon Woerner**  
**Building Official**

[jwoerner@raymore.com](mailto:jwoerner@raymore.com)

**816-331-7916**



enclosed documents included



2. Should the same builder or owner be found guilty a second (2<sup>nd</sup>) time of the offense described above within a twelve (12) month period, a fine of two thousand dollars (\$2,000.00) against the offending party may be assessed to the builder's or owner's next permit to build.
  3. Should the same builder or owner be found guilty a third (3<sup>rd</sup>) time of the offense described above within a twelve (12) month period, a fine of three thousand dollars (\$3,000.00) against the offending party may be assessed to the builder's or owner's next permit to build. Additionally, said builder or owner may be prohibited from obtaining a building permit within the City of Raymore for a period of one (1) year from the date of the third (3<sup>rd</sup>) violation at the discretion of the Building Official. Said builder or owner may appeal the Building Official's decision to Board of Appeals.
  4. No further building permit(s) shall be issued in Raymore to a builder or owner who violates this Section of City Code by not obtaining the required certificate of occupancy. When said structure(s) which is/ are in violation is issued a certificate of occupancy, then said builder or owner is again eligible for further building permits. A re-inspection fee shall be charged, minimum two (2) hour fee, to the builder or owner of a structure which violates this Section of code and desires an inspection after said structure is inhabited.
  5. In addition to the fines imposed by the City as outlined above, any person violating any provision of this Section shall be subject to the penalties of Section 500.070.
- H. *Suspension or revocation.* The Building Official may, in writing, suspend or revoke a certificate of occupancy issued under the provisions of this Chapter whenever the certificate is issued in error, or on the basis of incorrect information supplied, or when it is determined that the building or structure or portion thereof is in violation of any provisions of this Chapter, or other pertinent laws or ordinances within this code. The holder of a suspended certificate of occupancy may request a hearing before the Board of Appeals, as established in Chapter 540 of the City Code, to consider the suspension or revocation of a certificate of occupancy. (Ord. No. 2013-024, § 1, 4-8-13)

#### **SECTION 500.115: PREFABRICATED CONSTRUCTION**

A certificate of approval by an approved agency shall be furnished with every prefabricated assembly, except where all elements of the assembly are readily accessible to inspection at the site. Placement of prefabricated assemblies at the building site shall be inspected by the Building Official to determine compliance with this Chapter, and a final inspection shall be provided in accordance with Subsection 500.100(D)(2)(K). (Ord. No. 2013-024, § 1, 4-8-13)

#### **SECTIONS 500.120—500.150: RESERVED**

### **ARTICLE II. INTERNATIONAL BUILDING CODE**

#### **SECTION 500.155: ADOPTION OF *THE INTERNATIONAL BUILDING CODE (2012)***

- A. *The International Building Code (2012)*, promulgated by the International Code Council, is adopted and incorporated in this Article by reference as if fully set forth, except as it is amended by the following provisions of this Section. Provisions of this Article are in addition to the provisions of the *International Building Code*. The following provisions coinciding with provisions of the *International Building Code* supersede, or delete, when indicated, the corresponding provisions of the *International Building Code*.



All references within the model codes to any building, electrical, gas mechanical, plumbing, sewage disposal, elevator, energy conservation, or existing building code are specifically adopted by reference in Articles II through XI of this Chapter, including the fire-resistive assemblies listed in the *Fire Resistance Design Manual, Nineteenth Edition, GA-600-09*, published by the Gypsum Association as referenced in Tables 721.1 (1 thru 3) of the specified *International Building Code*; *American National Standard for Accessible and Useable Buildings and Facilities A117.1-2009*; *NFPA 13-2010 Installation of Sprinkler Systems*; *ASTM Standards* as referenced in the *International Building Code* and the *International Residential Code*; *American Institute of Steel Construction, Fourteenth Edition*; *American Concrete Institute for Structural Concrete and Commentary ACI 318-11*; the *NFPA 101-2009 Life Safety Code*; *ICC/NSSA Standard for the Design and Construction of Storm Shelters, ICC 500-2008*; and the *NFPA 99 Health Care Facilities 2012 edition*.

- B. The following Sections of the *International Building Code* are hereby revised or added:

**Chapter 1, Administration**, is deleted. See Article I of this Chapter.

#### SECTION 425 PROHIBITED MATERIALS

**425.1 General.** Building materials containing nickel-zinc ferrite or other similar materials are prohibited in the construction of buildings and other structures if the use of such materials has the effect of blocking wireless public safety communication transmissions.

**Exception:** Materials essential to the structural or fire resistive integrity of building or structure or as required in medical facilities.

#### SECTION 426 PHYSICAL SECURITY FOR DWELLING UNITS

**426.1 Purpose.** The purpose of this Section is to establish minimum standards that incorporate physical security to make dwelling units resistant to unlawful entry.

**426.1.1 Scope.** This Section shall apply to all exterior doors providing direct access into a dwelling unit, where the exterior door is accessible from grade.

**Exceptions:**

1. Vehicle access doors.
2. Storm or screen doors.

**426.2 Doors.** Doors shall comply with Sections 426.2.1 through 426.2.3.

**426.2.1 Wood doors.** Wood doors shall be of solid core construction such as high-density particleboard, solid wood, or wood block core with minimum nominal thickness of one and three fourths inches (1¾") at any point.



**805.10 Guards.** The requirements of Sections 805.10.1 and 805.10.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

**805.10.1 Minimum requirement.** Every open portion of a stair, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

**805.10.2 Design.** Guards required in accordance with Section 805.10.1 shall be designed and installed in accordance with the *International Building Code*.

## SECTION 806 ACCESSIBILITY

**806.1 General.** A building, *facility*, or element that is altered shall comply with this section and Section 705.

**806.2 Stairs and escalators in existing buildings.** In *alterations* where an escalator or stair is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5 of the *International Building Code*.

**806.3 Accessible dwelling units and sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for accessible units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

**806.4 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being added.

**806.5 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being added.

## SECTION 807 STRUCTURAL

**[B] 807.1 General.** Structural elements and systems within buildings undergoing Level 2 *alterations* shall comply with this section.

**[B] 807.2 New structural elements.** New structural elements in *alterations*, including connections and anchorage, shall comply with the *International Building Code*.

**[B] 807.3 Minimum design loads.** The minimum design loads on existing elements of a structure that do not support additional loads as a result of an *alteration* shall be the loads applicable at the time the building was constructed.

**[B] 807.4 Existing structural elements carrying gravity loads.** *Alterations* shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the *International Building Code*. Existing structural elements supporting any additional gravity loads as a result of the *alterations*, including the effects of snow drift, shall comply with the *International Building Code*.

### Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the *existing building* and its *alteration* comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

**[B] 807.5 Existing structural elements resisting lateral loads.** *Alterations* affecting the demands or capacities of existing elements of the lateral load-resisting system shall be evaluated using the wind provisions of the *International Building Code* and the reduced IBC-level seismic forces. Any existing lateral load-resisting structural elements whose demand-capacity ratio with the *alteration* considered is more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be brought into compliance with those wind and seismic provisions. In addition, the *alteration* shall not create a structural irregularity prohibited by ASCE 7 unless the entire structure complies with Section 301.1.4.2. For the purposes of this section, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacity shall account for the cumulative effects of *additions* and *alterations* since the original construction.

**[B] 807.6 Voluntary lateral force-resisting system alterations.** *Alterations* of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral force-resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to the *International Building Code*, provided that an engineering analysis is submitted to show that:

1. The capacity of existing structural elements required to resist forces is not reduced;
2. The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;
3. New structural elements are detailed and connected to the existing structural elements as required by the *International Building Code*;
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the *International Building Code*; and



## CHAPTER 7

# ALTERATIONS—LEVEL 1

### SECTION 701 GENERAL

**701.1 Scope.** Level 1 *alterations* as described in Section 503 shall comply with the requirements of this chapter. Level 1 *alterations to historic buildings* shall comply with this chapter, except as modified in Chapter 12.

**701.2 Conformance.** An *existing building* or portion thereof shall not be altered such that the building becomes less safe than its existing condition.

**Exception:** Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the *International Building Code*.

**[B] 701.3 Flood hazard areas.** In *flood hazard areas*, *alterations* that constitute *substantial improvement* shall require that the building comply with Section 1612 of the *International Building Code*.

### SECTION 702 BUILDING ELEMENTS AND MATERIALS

**702.1 Interior finishes.** All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the *International Building Code*.

**702.2 Interior floor finish.** New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the *International Building Code*.

**702.3 Interior trim.** All newly installed interior trim materials shall comply with Section 806 of the *International Building Code*.

**702.4 Materials and methods.** All new work shall comply with the materials and methods requirements in the *International Building Code*, *International Energy Conservation Code*, *International Mechanical Code*, and *International Plumbing Code*, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

**[FG] 702.4.1 International Fuel Gas Code.** The following sections of the *International Fuel Gas Code* shall constitute the fuel gas materials and methods requirements for Level 1 alterations.

1. All of Chapter 3, entitled “General Regulations,” except Sections 303.7 and 306.
2. All of Chapter 4, entitled “Gas Piping Installations,” except Sections 401.8 and 402.3.
  - 2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases the load on the system such that the existing pipe

does not meet the size required by code. Existing systems that are modified shall not require resizing as long as the load on the system is not increased and the system length is not increased even if the altered system does not meet code minimums.

3. All of Chapter 5, entitled “Chimneys and Vents.”
4. All of Chapter 6, entitled “Specific Appliances.”

### SECTION 703 FIRE PROTECTION

**703.1 General.** *Alterations* shall be done in a manner that maintains the level of fire protection provided.

### SECTION 704 MEANS OF EGRESS

**704.1 General.** *Alterations* shall be done in a manner that maintains the level of protection provided for the means of egress.

### SECTION 705 ACCESSIBILITY

**705.1 General.** A *facility* that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.14, and Chapter 11 of the *International Building Code* unless it is *technically infeasible*. Where compliance with this section is *technically infeasible*, the alteration shall provide access to the maximum extent that is technically feasible.

A *facility* that is constructed or altered to be accessible shall be maintained accessible during occupancy.

#### Exceptions:

1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
2. Accessible means of egress required by Chapter 10 of the *International Building Code* are not required to be provided in existing *facilities*.
3. Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing *facilities* undergoing less than a Level 3 *alteration*.
4. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall meet the provisions for Type B dwelling units.

**705.1.1 Entrances.** Where an *alteration* includes alterations to an entrance, and the *facility* has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 705.2.



Signs complying with Section 1110 of the *International Building Code* shall be provided.

**705.1.2 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

**705.1.3 Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

**705.1.4 Ramps.** Where steeper slopes than allowed by Section 1010.3 of the *International Building Code* are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 705.1.4.

TABLE 705.1.4  
RAMPS

| SLOPE                                       | MAXIMUM RISE |
|---------------------------------------------|--------------|
| Steeper than 1:10 but not steeper than 1:8  | 3 inches     |
| Steeper than 1:12 but not steeper than 1:10 | 6 inches     |

For SI: 1 inch = 25.4 mm.

**705.1.5 Dining areas.** An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

**705.1.6 Performance areas.** Where it is *technically infeasible* to alter performance areas to be on an accessible route, at least one of each type of performance area shall be made accessible.

**705.1.7 Jury boxes and witness stands.** In *alterations*, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restricting or projecting into a required means of egress.

**705.1.8 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for accessible units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

**705.1.9 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being altered.

**705.1.10 Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the *International Building Code* is permitted. The family or

assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms.

**705.1.11 Dressing, fitting and locker rooms.** Where it is *technically infeasible* to provide accessible dressing, fitting, or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

**705.1.12 Fuel dispensers.** Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

**705.1.13 Thresholds.** The maximum height of thresholds at doorways shall be  $\frac{3}{4}$  inch (19.1 mm). Such thresholds shall have beveled edges on each side.

**705.1.14 Extent of application.** An *alteration* of an existing element, space, or area of a *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction. *Alterations* shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility*.

**705.2 Alterations affecting an area containing a primary function.** Where an *alteration* affects the accessibility to a, or contains an area of, *primary function*, the route to the *primary function* area shall be accessible. The accessible route to the *primary function* area shall include toilet facilities or drinking fountains serving the area of *primary function*.

**Exceptions:**

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

**SECTION 706  
STRUCTURAL**

**[B] 706.1 General.** Where *alteration* work includes replacement of equipment that is supported by the building or where a reroofing permit is required, the provisions of this section shall apply.

**[B] 706.2 Addition or replacement of roofing or replacement of equipment.** Where addition or replacement of roof-



## CHAPTER 10

# CHANGE OF OCCUPANCY

### SECTION 1001 GENERAL

**1001.1 Scope.** The provisions of this chapter shall apply where a *change of occupancy* occurs, as defined in Section 202, including:

1. Where the occupancy classification is not changed; or
2. Where there is a change in occupancy classification or the occupancy group designation changes.

**1001.2 Change in occupancy with no change of occupancy classification.** A change in occupancy, as defined in Section 202, with no *change of occupancy* classification shall not be made to any structure that will subject the structure to any special provisions of the applicable *International Codes*, including the provisions of Sections 1002 through 1011, without the approval of the *code official*. A certificate of occupancy shall be issued where it has been determined that the requirements for the change in occupancy have been met.

**1001.2.1 Repair and alteration with no change of occupancy classification.** Any *repair* or *alteration* work undertaken in connection with a *change of occupancy* that does not involve a *change of occupancy* classification shall conform to the applicable requirements for the work as classified in Chapter 4 and to the requirements of Sections 1002 through 1011.

**Exception:** As modified in Section 1205 for *historic buildings*.

**1001.3 Change of occupancy classification.** Where the occupancy classification of a building changes, the provisions of Sections 1002 through 1012 shall apply. This includes a *change of occupancy* classification within a group as well as a *change of occupancy* classification from one group to a different group.

**1001.3.1 Partial change of occupancy classification.** Where a portion of an *existing building* is changed to a new occupancy classification, Section 1012 shall apply.

**1001.4 Certificate of occupancy required.** A certificate of occupancy shall be issued where a *change of occupancy* occurs that results in a different occupancy classification as determined by the *International Building Code*.

### SECTION 1002 SPECIAL USE AND OCCUPANCY

**1002.1 Compliance with the building code.** Where the character or use of an *existing building* or part of an *existing building* is changed to one of the following special use or occupancy categories as defined in the *International Building Code*, the building shall comply with all of the applicable requirements of the *International Building Code*:

1. Covered and open mall buildings.

2. Atriums.
3. Motor vehicle-related occupancies.
4. Aircraft-related occupancies.
5. Motion picture projection rooms.
6. Stages and platforms.
7. Special amusement buildings.
8. Incidental use areas.
9. Hazardous materials.
10. Ambulatory care facilities.

**1002.2 Underground buildings.** An underground building in which there is a change of use shall comply with the requirements of the *International Building Code* applicable to underground structures.

### SECTION 1003 BUILDING ELEMENTS AND MATERIALS

**1003.1 General.** Building elements and materials in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.

### SECTION 1004 FIRE PROTECTION

**1004.1 General.** Fire protection requirements of Section 1012 shall apply where a building or portions thereof undergo a *change of occupancy* classification.

### SECTION 1005 MEANS OF EGRESS

**1005.1 General.** Means of egress in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.

### SECTION 1006 ACCESSIBILITY

**1006.1 General.** Accessibility in portions of buildings undergoing a *change of occupancy* classification shall comply with Section 1012.8.

### SECTION 1007 STRUCTURAL

**[B] 1007.1 Gravity loads.** Buildings or portions thereof subject to a *change of occupancy* where such change in the nature of occupancy results in higher uniform or concentrated loads based on Table 1607.1 of the *International Building*



requirements for atriums or the requirements of this section.

**1012.7.2 Stairways.** When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.4, interior stairways shall be enclosed as required by the *International Building Code*.

**Exceptions:**

1. In other than Group I occupancies, an enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire-resistance-rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water-supply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the *International Building Code*.

**1012.7.3 Other vertical shafts.** Interior vertical shafts other than stairways, including but not limited to elevator hoistways and service and utility shafts, shall be enclosed as required by the *International Building Code* when there is a change of use to a higher hazard category as specified in Table 1012.4.

**Exceptions:**

1. Existing 1-hour interior shaft enclosures shall be accepted where a higher rating is required.
2. Vertical openings, other than stairways, in buildings of other than Group I occupancy and connecting less than six stories shall not be required to be enclosed if the entire building is provided with an approved automatic sprinkler system.

**1012.7.4 Openings.** All openings into existing vertical shaft enclosures shall be protected by fire assemblies having a fire protection rating of not less than 1 hour and shall be maintained self-closing or shall be automatic-closing by actuation of a smoke detector. All other openings shall be fire protected in an approved manner. Existing fusible link-type automatic door-closing devices shall be permitted in all shafts except stairways if the fusible link rating does not exceed 135°F (57°C).

**1012.8 Accessibility.** Existing buildings that undergo a change of group or occupancy classification shall comply with this section.

**Exception:** Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing buildings and facilities

undergoing a *change of occupancy* in conjunction with less than a Level 3 alteration.

**1012.8.1 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification, any alteration shall comply with Sections 705, 806 and 906, as applicable.

**1012.8.2 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy*, it shall comply with Section 1012.8.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to *primary function* areas.
3. Signage complying with Section 1110 of the *International Building Code*.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, where loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

**Exception:** The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.



## CHAPTER 11

# ACCESSIBILITY

### SECTION 1101 GENERAL

**1101.1 Scope.** The provisions of this chapter shall control the design and construction of facilities for accessibility to physically disabled persons.

**1101.2 Design.** Buildings and facilities shall be designed and constructed to be *accessible* in accordance with this code and ICC A117.1.

### SECTION 1102 DEFINITIONS

**1102.1 Definitions.** The following terms are defined in Chapter 2:

ACCESSIBLE.

ACCESSIBLE ROUTE.

ACCESSIBLE UNIT.

CIRCULATION PATH.

COMMON USE.

DETECTABLE WARNING.

EMPLOYEE WORK AREA.

FACILITY.

INTENDED TO BE OCCUPIED AS A RESIDENCE.

MULTILEVEL ASSEMBLY SEATING.

MULTISTORY UNIT.

PUBLIC ENTRANCE.

PUBLIC-USE AREAS

RESTRICTED ENTRANCE.

SELF-SERVICE STORAGE FACILITY.

SERVICE ENTRANCE.

SITE.

TYPE A UNIT.

TYPE B UNIT.

WHEELCHAIR SPACE.

### SECTION 1103 SCOPING REQUIREMENTS

**1103.1 Where required.** *Sites, buildings, structures, facilities, elements and spaces, temporary or permanent, shall be accessible to persons with physical disabilities.*

**1103.2 General exceptions.** *Sites, buildings, structures, facilities, elements and spaces shall be exempt from this chapter to the extent specified in this section.*

**1103.2.1 Specific requirements.** *Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through 1110.*

**1103.2.2 Existing buildings.** Existing buildings shall comply with Section 3411.

**1103.2.3 Employee work areas.** Spaces and elements within employee work areas shall only be required to comply with Sections 907.9.1.2, 1007 and 1104.3.1 and shall be designed and constructed so that individuals with disabilities can approach, enter and exit the work area. Work areas, or portions of work areas, that are less than 300 square feet (30 m<sup>2</sup>) in area and located 7 inches (178 mm) or more above or below the ground or finish floor where the change in elevation is essential to the function of the space shall be exempt from all requirements.

**1103.2.4 Detached dwellings.** Detached one- and two-family *dwellings* and accessory structures, and their associated *sites* and facilities, are not required to be *accessible*.

**1103.2.5 Utility buildings.** Occupancies in Group U are exempt from the requirements of this chapter other than the following:

1. In agricultural buildings, access is required to paved work areas and areas open to the general public.
2. Private garages or carports that contain required *accessible* parking.

**1103.2.6 Construction sites.** Structures, *sites* and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to be *accessible*.

**1103.2.7 Raised areas.** Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands, are not required to be *accessible* or to be served by an *accessible route*.

**1103.2.8 Limited access spaces.** Nonoccupiable spaces accessed only by ladders, catwalks, crawl spaces, freight elevators or very narrow passageways are not required to be *accessible*.

**1103.2.9 Equipment spaces.** Spaces frequented only by personnel for maintenance, repair or monitoring of equipment are not required to be *accessible*. Such spaces include, but are not limited to, elevator pits, elevator *pent-houses*, mechanical, electrical or communications equip-



N/A = Not applicable

employee work stations within a courtroom is not required at the time of initial construction, provided a ramp, lift or elevator can be installed without requiring reconfiguration or extension of the courtroom or extension of the electrical system.

**1108.4.1.5 Other work stations.** The litigant's and counsel stations, including the lectern, shall be *accessible*.

**1108.4.2 Holding cells.** Central holding cells and court-floor holding cells shall comply with Sections 1108.4.2.1 and 1108.4.2.2.

**1108.4.2.1 Central holding cells.** Where separate central holding cells are provided for adult males, juvenile males, adult females or juvenile females, one of each type shall be *accessible*. Where central holding cells are provided and are not separated by age or sex, at least one *accessible* cell shall be provided.

**1108.4.2.2 Court-floor holding cells.** Where separate court-floor holding cells are provided for adult males, juvenile males, adult females or juvenile females, each courtroom shall be served by one *accessible* cell of each type. Where court-floor holding cells are provided and are not separated by age or sex, courtrooms shall be served by at least one *accessible* cell. *Accessible* cells shall be permitted to serve more than one courtroom.

**1108.4.3 Visiting areas.** Visiting areas shall comply with Sections 1108.4.3.1 and 1108.4.3.2.

**1108.4.3.1 Cubicles and counters.** At least 5 percent but no fewer than one of the cubicles shall be *accessible* on both the visitor and detainee sides. Where counters are provided, at least one shall be *accessible* on both the visitor and detainee sides.

**Exception:** This requirement shall not apply to the detainee side of cubicles or counters at noncontact visiting areas not serving *accessible* holding cells.

**1108.4.3.2 Partitions.** Where solid partitions or security glazing separate visitors from detainees, at least one of each type of cubicle or counter partition shall be *accessible*.

## SECTION 1109

### OTHER FEATURES AND FACILITIES

**1109.1 General.** *Accessible* building features and facilities shall be provided in accordance with Sections 1109.2 through 1109.15.

**Exception:** *Accessible units*, *Type A units* and *Type B units* shall comply with Chapter 10 of ICC A117.1.

**1109.2 Toilet and bathing facilities.** Each toilet room and bathing room shall be *accessible*. Where a floor level is not required to be connected by an *accessible route*, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. At least one of each

type of fixture, element, control or dispenser in each *accessible* toilet room and bathing room shall be *accessible*.

#### Exceptions:

1. In toilet rooms or bathing rooms accessed only through a private office, not for *common* or *public use* and intended for use by a single occupant, any of the following alternatives are allowed:

1.1. Doors are permitted to swing into the clear floor space, provided the door swing can be reversed to meet the requirements in ICC A117.1;

1.2. The height requirements for the water closet in ICC A117.1 are not applicable;

1.3. Grab bars are not required to be installed in a toilet room, provided that reinforcement has been installed in the walls and located so as to permit the installation of such grab bars; and

1.4. The requirement for height, knee and toe clearance shall not apply to a lavatory.

N/A 2. This section is not applicable to toilet and bathing rooms that serve *dwelling units* or *sleeping units* that are not required to be *accessible* by Section 1107.

N/A 3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be *accessible*.

N/A 4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be *accessible*.

N/A 5. Toilet rooms that are part of critical care or intensive care patient sleeping rooms are not required to be *accessible*.

N/A 6. Where toilet facilities are primarily for children's use, required *accessible* water closets, toilet compartments and lavatories shall be permitted to comply with the children's provisions of ICC A117.1.

**1109.2.1 Family or assisted-use toilet and bathing rooms.** In assembly and mercantile occupancies, an *accessible* family or assisted-use toilet room shall be provided where an aggregate of six or more male and female water closets is required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the family or assisted-use toilet room requirement. In recreational facilities where separate-sex bathing rooms are provided, an *accessible* family or assisted-use bathing room shall be provided. Fixtures located within family or assisted-use toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.

**Exception:** Where each separate-sex bathing room has only one shower or bathtub fixture, a family or assisted-use bathing room is not required.



**1109.2.1.1 Standard.** Family or assisted-use toilet and bathing rooms shall comply with Sections 1109.2.1.2 through 1109.2.1.7.

**1109.2.1.2 Family or assisted-use toilet rooms.** Family or assisted-use toilet rooms shall include only one water closet and only one lavatory. A family or assisted-use bathing room in accordance with Section 1109.2.1.3 shall be considered a family or assisted-use toilet room.

**Exception:** A urinal is permitted to be provided in addition to the water closet in a family or assisted-use toilet room.

**1109.2.1.3 Family or assisted-use bathing rooms.** Family or assisted-use bathing rooms shall include only one shower or bathtub fixture. Family or assisted-use bathing rooms shall also include one water closet and one lavatory. Where storage facilities are provided for separate-sex bathing rooms, *accessible* storage facilities shall be provided for family or assisted-use bathing rooms.

**1109.2.1.4 Location.** Family or assisted-use toilet and bathing rooms shall be located on an *accessible route*. Family or assisted-use toilet rooms shall be located not more than one *story* above or below separate-sex toilet rooms. The *accessible route* from any separate-sex toilet room to a family or assisted-use toilet room shall not exceed 500 feet (152 m).

**1109.2.1.5 Prohibited location.** In passenger transportation facilities and airports, the *accessible route* from separate-sex toilet rooms to a family or assisted-use toilet room shall not pass through security checkpoints.

**1109.2.1.6 Clear floor space.** Where doors swing into a family or assisted-use toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1219 mm) shall be provided, within the room, beyond the area of the door swing.

**1109.2.1.7 Privacy.** Doors to family or assisted-use toilet and bathing rooms shall be securable from within the room.

**1109.2.2 Water closet compartment.** Where water closet compartments are provided in a toilet room or bathing room, at least one wheelchair-accessible compartment shall be provided. Where the combined total water closet compartments and urinals provided in a toilet room or bathing room is six or more, at least one ambulatory-accessible water closet compartment shall be provided in addition to the wheelchair-accessible compartment.

**1109.2.3 Lavatories.** Where lavatories are provided, at least 5 percent, but not less than one, shall be accessible. Where the total lavatories provided in a toilet room or bathing facility is six or more, at least one lavatory with enhanced reach ranges shall be provided.

**1109.3 Sinks.** Where sinks are provided, at least 5 percent but not less than one provided in *accessible* spaces shall be *accessible*.

**Exception:** Mop or service sinks are not required to be *accessible*.

**1109.4 Kitchens and kitchenettes.** Where kitchens and kitchenettes are provided in *accessible* spaces or rooms, they shall be *accessible*.

**1109.5 Drinking fountains.** Where drinking fountains are provided on an exterior site, on a floor or within a secured area, the drinking fountains shall be provided in accordance with Sections 1109.5.1 and 1109.5.2.

**1109.5.1 Minimum number.** No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.

**Exceptions:**

1. A single drinking fountain that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.
2. Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.

**1109.5.2 More than the minimum number.** Where more than the minimum number of drinking fountains specified in Section 1109.5.1 are provided, 50 percent of the total number of drinking fountains provided shall comply with the requirements for persons who use a wheelchair and 50 percent of the total number of drinking fountains provided shall comply with the requirements for standing persons.

**Exceptions:**

1. Where 50 percent of the drinking fountains yields a fraction, 50 percent shall be permitted to be rounded up or down, provided that the total number of drinking fountains complying with this section equals 100 percent of the drinking fountains.
2. Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.

**1109.6 Saunas and steam rooms.** Where provided, saunas and steam rooms shall be *accessible*.

**Exception:** Where saunas or steam rooms are clustered at a single location, at least 5 percent of the saunas and steam rooms, but not less than one, of each type in each cluster shall be *accessible*.

**1109.7 Elevators.** Passenger elevators on an *accessible route* shall be *accessible* and comply with Chapter 30.



N/A = Not Applicable

**604.4 Height.** The height of water closet seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the floor, measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

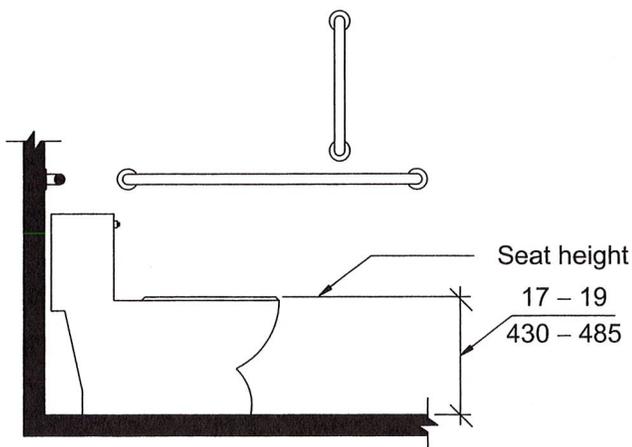
**EXCEPTION:** A water closet in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, shall not be required to comply with Section 604.4.

❖ Preferences for the heights of toilet seats vary considerably among persons with disabilities. Higher seat heights are an advantage to some ambulatory persons with disabilities, but a disadvantage for some persons who use wheelchairs. Toilet seats that are approximately 17 inches to 19 inches (430 to 485 mm) high are a reasonable compromise (see Figure 604.4). Seats and filler rings of various thicknesses are available to adapt china-fixture rims, which vary from 14 inches to 18 inches (355 to 455 mm) high.

A 17-inch to 19-inch (430 to 485 mm) water closet seat height is based on the assumption that a typical wheelchair seat height, with or without a cushion, would fall within that range. Both the seat of the wheelchair and the water closet must be as level as possible for ease of transfer. Although it would be easier to transfer “down” to a seat, more strength would be required to transfer back “up” to the wheelchair. An upward spring-loaded toilet seat will interfere with the user’s transfer.

The exception for both the water closet seat height and the sprung seat is part of the private office toilet room exceptions discussed in the general commentary to Chapter 6.

See Section 604.11.4 for provisions for toilet seat height in toilet rooms or stalls specifically designed for children’s use.



Note: For children’s dimensions see Fig. 604.11.4

**FIGURE 604.4**  
**WATER CLOSET SEAT HEIGHT**

**604.5 Grab Bars.** Grab bars for water closets shall comply with Section 609 and shall be provided in accordance with Sections 604.5.1 and 604.5.2. Grab bars shall be provided on the rear wall and on the side wall closest to the water closet.

**EXCEPTIONS:**

1. Grab bars are not required to be installed in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 604.5.

2. In detention or correction facilities, grab bars are not required to be installed in housing or holding cells or rooms that are specially designed without protrusions for purposes of suicide prevention.

❖ See Section 609 for specific requirements for grab bar size, wall clearance, height and installation requirements. Side and rear grab bars are required at all water closets. Section 604.11.5 references this provision for grab bar length and orientation in toilet rooms or stalls specifically designed for children’s use.

A wall immediately adjacent to the water closet provides a solid support for grab bars. Grab bars mounted wall-to-floor without lateral bracing tend to become loose and contribute to a feeling of insecurity in users. Swing-down bars mounted behind the water closet may serve a person wearing leg braces or having a similar mobility impairment, but may not be stable enough to provide assistance in a transfer by most wheelchair users. Swing down grab bars are only permitted in Type B units (see Section 1004.11.1).

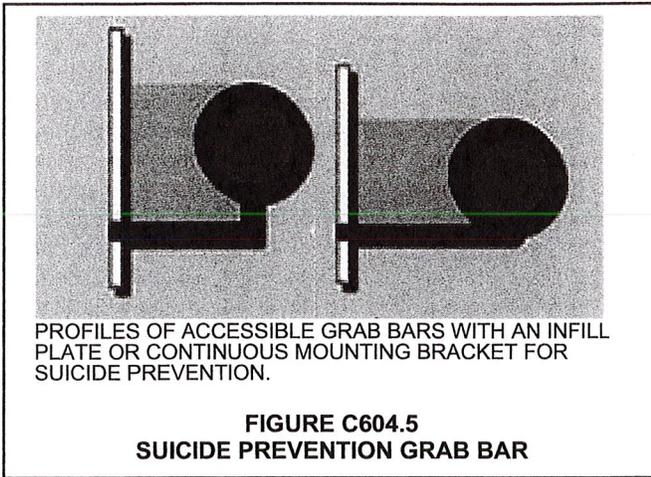
Side and rear grab bars should be horizontally mounted. Grab bars mounted vertically, diagonally or in locations other than on the walls behind and adjacent to the water closet do not provide equivalent stability or graspability for transfer from a wheelchair. A grab bar that is one piece, located along the entire range for the two separate grab bars, is acceptable (see Section 609.7). Commentary Figures C604.3.1(a) and C604.3.1(b) show the diagonal and side approaches used to transfer from a wheelchair to a water closet.

There are several exceptions to this section.

Exception 1 allows for just the blocking to be provided for the future installation of grab bars as part of the private office toilet room exceptions discussed in the general commentary to Chapter 6.

Exception 2 is limited to detention and correctional facilities and to areas within those facilities that are specifically designed for suicide prevention. Even though the exception would specifically exempt grab bars, there are grab bars made that have a continuous support so that there is no “bar” to allow someone to hook something through to potentially strangle themselves (see Commentary Figure C604.5).



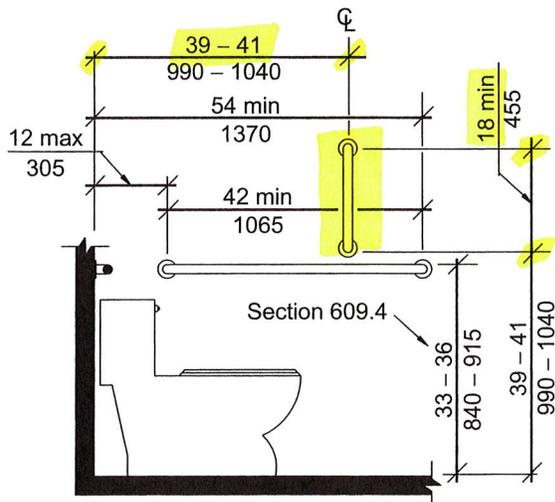


**604.5.1 Fixed Side Wall Grab Bars.** Fixed side-wall grab bars shall be 42 inches (1065 mm) minimum in length, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall. In addition, a vertical grab bar 18 inches (455 mm) minimum in length shall be mounted with the bottom of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum above the floor, and with the center line of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum from the rear wall.

**N/A EXCEPTION:** The vertical grab bar at water closets primarily for children's use shall comply with Section 609.4.2.

❖ The grab bar located on the side wall must be properly located and of sufficient length to allow the user to place an arm on the grab bar while transferring between the water closet and the wheelchair (see Figure 609.4.2).

The vertical bar on the side wall was added to aid a person who may use other types of mobility aids and needs assistance to rise or sit on the water closet. Grabbing the



Note: For children's dimensions see Fig. 609.4.2

**FIGURE 604.5.1**  
**SIDE WALL GRAB BAR FOR WATER CLOSET**

horizontal grab bar to rise would require twisting of the wrist and provide minimal leverage.

The exception allows for the vertical grab located at water closets designed for children to be lower and closer to the back wall so it is within the reach of children on the smaller water closets.

**604.5.2 Rear Wall Grab Bars.** The rear wall grab bar shall be 36 inches (915 mm) minimum in length, and extend from the centerline of the water closet 12 inches (305 mm) minimum on the side closest to the wall, and 24 inches (610 mm) minimum on the transfer side.

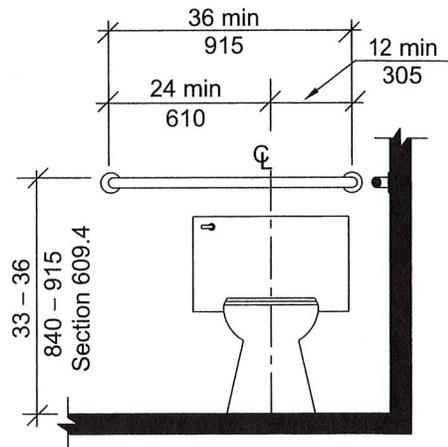
**EXCEPTIONS:**

1. The rear grab bar shall be permitted to be 24 inches (610 mm) minimum in length, centered on the water closet, where wall space does not permit a grab bar 36 inches (915 mm) minimum in length due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, that grab bar shall be permitted to be split or shifted to the open side of the toilet area.

❖ A 36-inch-long (915 mm) grab bar will provide 24 inches (610 mm) on the side of the water closet opposite the wall. This will aid the person who must reach across his or her body to reach the grab bar and make a transfer.

Exception 1 permits a 24-inch (610 mm) rear grab bar, centered on the water closet, in the configuration shown in Commentary Figure C603.2(c).

In some public bathrooms with heavy usage, a designer may choose to use a flush-o-meter system rather than a tank system (see Commentary Figure C604.5.2). The system has less maintenance and fewer chances for vandalism than the tank type. The flush-o-meter could possibly conflict with the rear grab bar. In such situations, per Exception 2, a split rear grab bar would be acceptable.



Note: For children's dimensions see Fig. 609.4.2

**FIGURE 604.5.2**  
**REAR WALL GRAB BAR FOR WATER CLOSET**



## DEFINITIONS

**REHABILITATION.** Any work, as described by the categories of work defined herein, undertaken in an *existing building*.

**REHABILITATION, SEISMIC.** Work conducted to improve the seismic lateral force resistance of an *existing building*.

**REPAIR.** The restoration to good or sound condition of any part of an *existing building* for the purpose of its maintenance.

**SEISMIC LOADING.** The forces prescribed herein, related to the response of the structure to earthquake motions, to be used in the analysis and design of the structure and its components.

**[B] SUBSTANTIAL DAMAGE.** For the purpose of determining compliance with the flood provisions of this code, damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**[B] SUBSTANTIAL IMPROVEMENT.** For the purpose of determining compliance with the flood provisions of this code, any *repair, alteration, addition*, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or *repair* is started. If the structure has sustained *substantial damage*, any repairs are considered *substantial improvement* regardless of the actual *repair* work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary, or safety code violations identified by the *code official* and that is the minimum necessary to ensure safe living conditions; or
2. Any *alteration* of a historic structure, provided that the *alteration* will not preclude the structure's continued designation as a historic structure.

**[B] SUBSTANTIAL STRUCTURAL DAMAGE.** A condition where:

1. In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 33 percent from its predamage condition; or
2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its predamage condition and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.

**[B] TECHNICALLY INFEASIBLE.** An *alteration* of a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or *alteration* of a load-bearing member that is an essential part of the structural frame, or because other existing physical

or site constraints prohibit modification or addition of elements, spaces or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

**UNSAFE.** Buildings, structures or equipment that are unsanitary, or that are deficient due to inadequate means of egress facilities, inadequate light and ventilation, or that constitute a fire hazard, or in which the structure or individual structural members meet the definition of "*Dangerous*," or that are otherwise *dangerous* to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance shall be deemed unsafe. A vacant structure that is not secured against entry shall be deemed unsafe.

**WORK AREA.** That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.



# CHAPTER 11

## ACCESSIBILITY

### User note:

**About this chapter:** Chapter 11 contains provisions that set forth requirements for accessibility of buildings and their associated sites and facilities for people with physical disabilities. The fundamental philosophy of the code on the subject of accessibility is that everything is required to be accessible. This is reflected in the basic applicability requirement (see Section 1103.1). The code's scoping requirements then address the conditions under which accessibility is not required in terms of exceptions to this general mandate. While the IBC contains scoping provisions for accessibility (for example, what, where and how many), ICC A117.1, *Accessible and Usable Buildings and Facilities*, is the referenced standard for the technical provisions (in other words, how). Accessibility criteria for existing buildings are addressed in the International Existing Building Code®. The International Residential Code® references Chapter 11 for accessibility provisions; therefore, this chapter may be applicable to housing covered under the International Residential Code. The provisions in the I-Codes are intended to meet or exceed the requirements in the federal accessibility requirement found in the Americans with Disabilities Act and the Fair Housing Act.

There are many accessibility issues that not only benefit people with disabilities, but also provide a tangible benefit to people without disabilities. This type of requirement can be set forth in the code as generally applicable without necessarily identifying it specifically as an accessibility-related issue. Such a requirement would then be considered as having been "mainstreamed." For example, visible alarms are located in Chapter 9 and accessible means of egress and ramp requirements are addressed in Chapter 10.

### SECTION 1101 GENERAL

**1101.1 Scope.** The provisions of this chapter shall control the design and construction of facilities for accessibility for individuals with disabilities.

### SECTION 1102 COMPLIANCE

**1102.1 Design.** Buildings and facilities shall be designed and constructed to be *accessible* in accordance with this code and ICC A117.1.

### SECTION 1103 SCOPING REQUIREMENTS

**1103.1 Where required.** *Sites, buildings, structures, facilities, elements and spaces, temporary or permanent, shall be accessible to individuals with disabilities.*

**1103.2 General exceptions.** *Sites, buildings, structures, facilities, elements and spaces shall be exempt from this chapter to the extent specified in this section.*

**1103.2.1 Specific requirements.** *Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through 1111.*

**1103.2.2 Employee work areas.** Spaces and elements within *employee work areas* shall only be required to comply with Sections 907.5.2.3.1, 1009 and 1104.3.1 and shall be designed and constructed so that individuals with disabilities can approach, enter and exit the work area. Work areas, or portions of work areas, other than raised courtroom stations in accordance with Section 1108.4.1.4, that are less than 300 square feet (30 m<sup>2</sup>) in area and located 7 inches (178 mm) or more above or below the ground or finished floor where the change in elevation is essential to

the function of the space shall be exempt from all requirements.

**1103.2.3 Detached dwellings.** Detached one- and two-family *dwellings*, their accessory structures and their associated *sites* and *facilities* are not required to comply with this chapter.

**1103.2.4 Utility buildings.** Group U occupancies are not required to comply with this chapter other than the following:

1. In agricultural buildings, access is required to paved work areas and areas open to the general public.
2. Private garages or carports that contain required *accessible* parking.

**1103.2.5 Construction sites.** Structures, *sites* and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to comply with this chapter.

**1103.2.6 Raised areas.** Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands are not required to comply with this chapter.

**1103.2.7 Limited access spaces.** Spaces accessed only by ladders, catwalks, crawl spaces, freight elevators or very narrow passageways are not required to comply with this chapter.

**1103.2.8 Areas in places of religious worship.** Raised or lowered areas, or portions of areas, in *places of religious worship* that are less than 300 square feet (30 m<sup>2</sup>) in area and located 7 inches (178 mm) or more above or below the finished floor and used primarily for the performance of religious ceremonies are not required to comply with this chapter.



❖ The provisions for the length of the side grab bars are split into separate sections for horizontal and vertical grab bars. Vertical grabs located at water closets designed for children are specifically addressed in Section 609.4.2 in order to take their smaller size and reach into consideration.

**604.5.1.1 Horizontal grab bar.** A horizontal grab bar 42 inches (1065 mm) minimum in length shall be located 12 inches (305 mm) maximum from the rear wall and extend 54 inches (1370 mm) minimum from the rear wall.

❖ The grab bar located on the side wall must be properly located and of sufficient length to allow the user to reach the bar while transferring between the water closet and the wheelchair. See Section 609.4.1 for information on grab-bar height.

**604.5.1.2 Vertical grab bar.** A vertical grab bar 18 inches (455 mm) minimum in length shall be mounted with the bottom of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum above the floor, and with the center line of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum from the rear wall.

❖ A vertical bar on the side wall was added to aid a person who may use other types of mobility aids and needs assistance to rise or sit on the water closet. Grabbing the horizontal grab bar to rise provides only limited leverage.

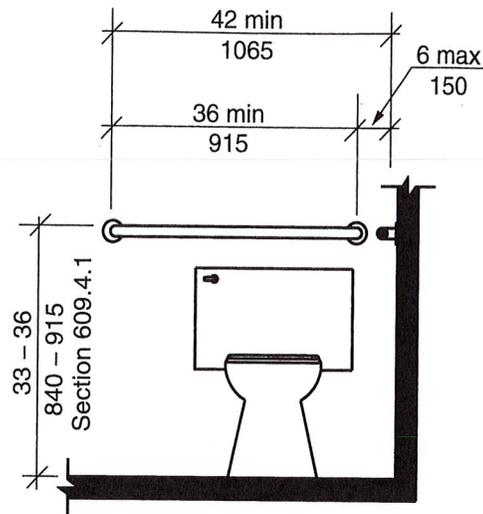
See Section 604.9.2 for vertical grab-bar information specific to toilets designed for children's use.

**604.5.2 Rear-wall grab bars.** The fixed rear-wall grab bar shall

1. Be 36 inches (915 mm) minimum in length,
2. Be located 6 inches maximum (150 mm) from the side wall, and
3. Extend 42 inches (1065 mm) minimum from the side wall.

**Exceptions:**

1. The rear grab bar shall be permitted to be 24 inches (610 mm) minimum in length, centered on the water closet, where wall space does not permit a grab bar 36 inches (915 mm) minimum in length due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, that grab bar shall be permitted to be split or shifted to the open side of the toilet area.



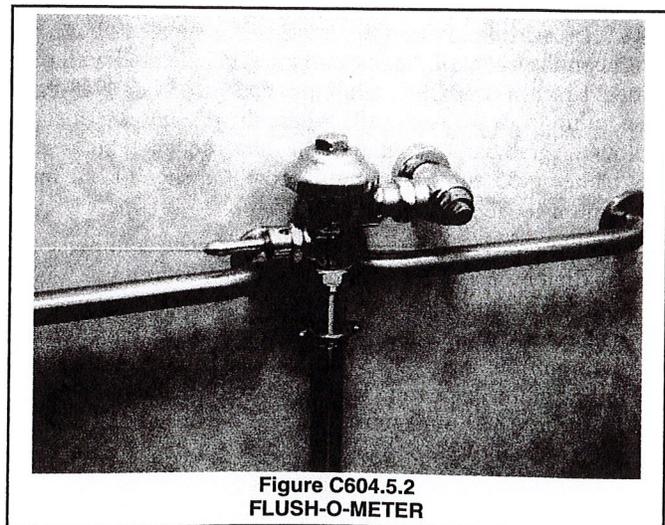
Note: For children's dimensions see Fig. 609.4.2

**FIGURE 604.5.2  
REAR-WALL GRAB BAR FOR WATER CLOSET**

❖ A 36-inch-long (915 mm) grab bar will provide 24 inches (610 mm) on the side of the water closet opposite the wall. This will aid the person who must reach across his or her body to reach the grab bar and make a transfer.

Exception 1 permits a 24-inch rear grab bar, centered on the water closet, in the configuration shown in Commentary Figure C604.2(c).

In some public bathrooms with heavy usage, a designer may choose to use a flush-o-meter system rather than a tank system (see Commentary Figure C604.5.2). The system has less maintenance and fewer chances for vandalism than the tank type. The flush-o-meter could possibly conflict with the rear grab bar. In such situations, in accordance with Exception 2, a split rear grab bar would be acceptable.



**Figure C604.5.2  
FLUSH-O-METER**



2017 Version  
did not change.

taking off or adding rings would not be an acceptable option. If the seat is adjusted by some type of control, that control must meet the operable parts requirements in Section 309.

Exception 2 is for both the water closet seat height and the sprung seat and is part of the private office toilet room exceptions discussed in the general commentary to Chapter 6.

See Section 604.11.4 for provisions for toilet seat height in toilet rooms or stalls specifically designed for children's use.

**604.5 Grab bars.** Grab bars for water closets shall comply with Section 609 and shall be provided in accordance with Sections 604.5.1 and 604.5.2. Grab bars shall be provided on the rear wall and on the side wall closest to the water closet.

**Exceptions:**

1. Grab bars shall not be required to be installed in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 604.5.
  2. In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells or rooms that are specially designed without protrusions for purposes of suicide prevention.
- ❖ See Section 609 for specific requirements for grab bar size, wall clearance, height and installation requirements. Side and rear grab bars are required at all water closets. Section 604.11.5 references this provision for grab bar length and orientation in toilet rooms or stalls specifically designed for children's use.

A wall immediately adjacent to the water closet provides a solid support for grab bars. Grab bars mounted wall-to-floor without lateral bracing tend to become loose and contribute to a feeling of insecurity in users. Swing-down bars mounted behind the water closet may serve a person wearing leg braces or having a similar mobility impairment but may not be stable enough to provide assistance in a transfer by most wheelchair users. Swing-down grab bars are only permitted in Type B units (see Section 1104.11.1).

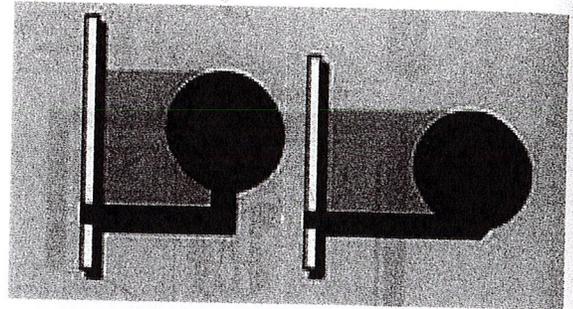
Side and rear grab bars should be horizontally mounted. Grab bars mounted vertically, diagonally or in locations other than on the walls behind and adjacent to the water closet do not provide equivalent stability or graspability for transfer from a wheelchair. A grab bar that is one piece, located along the entire range for the two separate grab bars is acceptable (see Section 609.7). Commentary Figures C604.3.1(a) and C604.31(b) show the diagonal and side approaches used to transfer from a wheelchair to a water closet.

There are several exceptions to this section.

Exception 1 allows for just the blocking to be provided for the future installation of grab bars as part of

the private office toilet room exceptions discussed in the general commentary to Chapter 6.

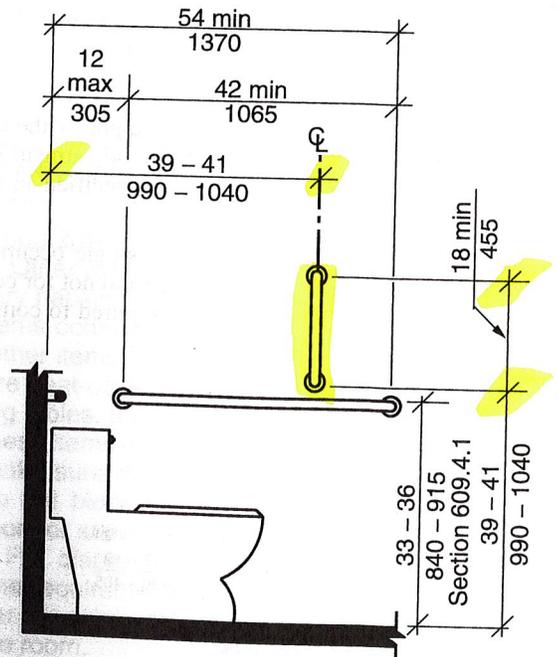
Exception 2 is limited to detention and correctional facilities and to areas within those facilities that are specifically designed for suicide prevention. Even though the exception would specifically exempt grab bars, there are grab bars made that have a continuous support so that there is no "bar" to allow someone to hook something through to potentially strangle themselves (see Commentary Figure C604.5).



PROFILES OF ACCESSIBLE GRAB BARS WITH AN INFILL PLATE OR CONTINUOUS MOUNTING BRACKET FOR SUICIDE PREVENTION.

**Figure C604.5**  
**SUICIDE-PREVENTION GRAB BARS**

**604.5.1 Fixed side-wall grab bars.** Fixed side-wall grab bars shall include a horizontal bar complying with Section 604.5.1.1 and a vertical grab bar complying with Section 604.5.1.2. The vertical grab bar at water closets primarily for children's use shall comply with Section 609.4.2.

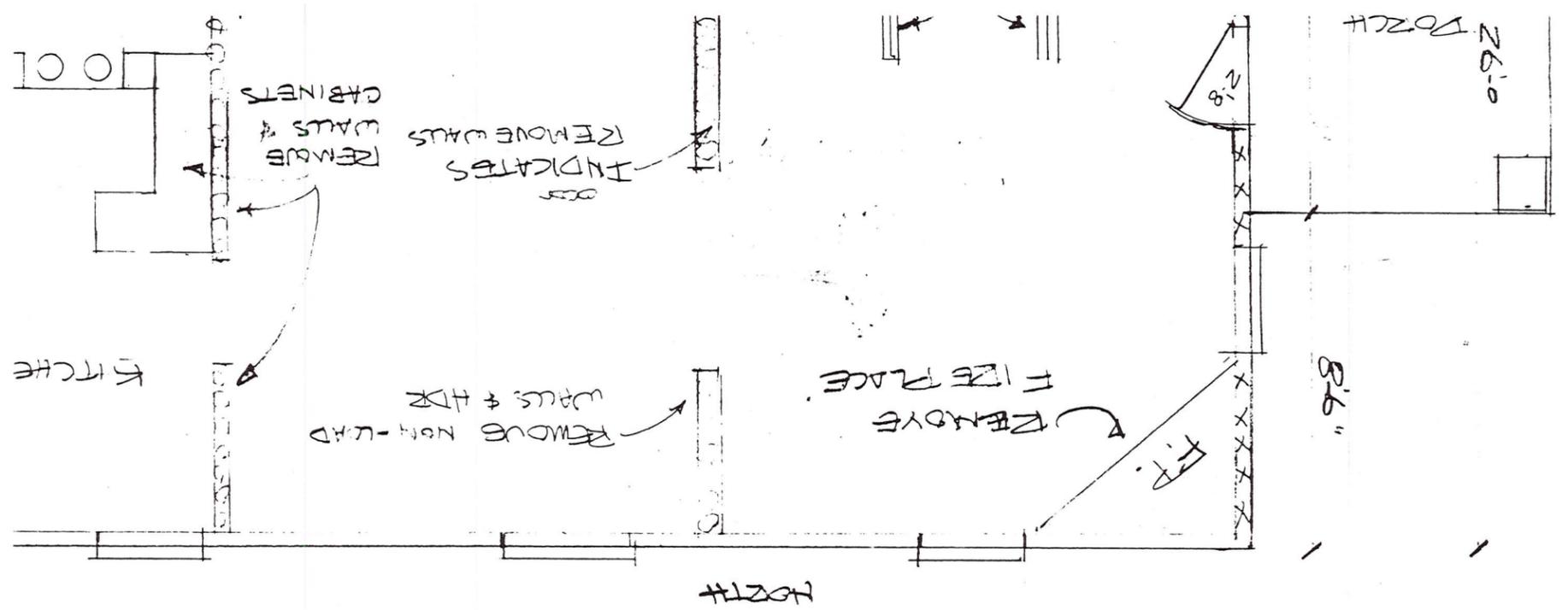


Note: For children's dimensions see Fig. 609.4.2

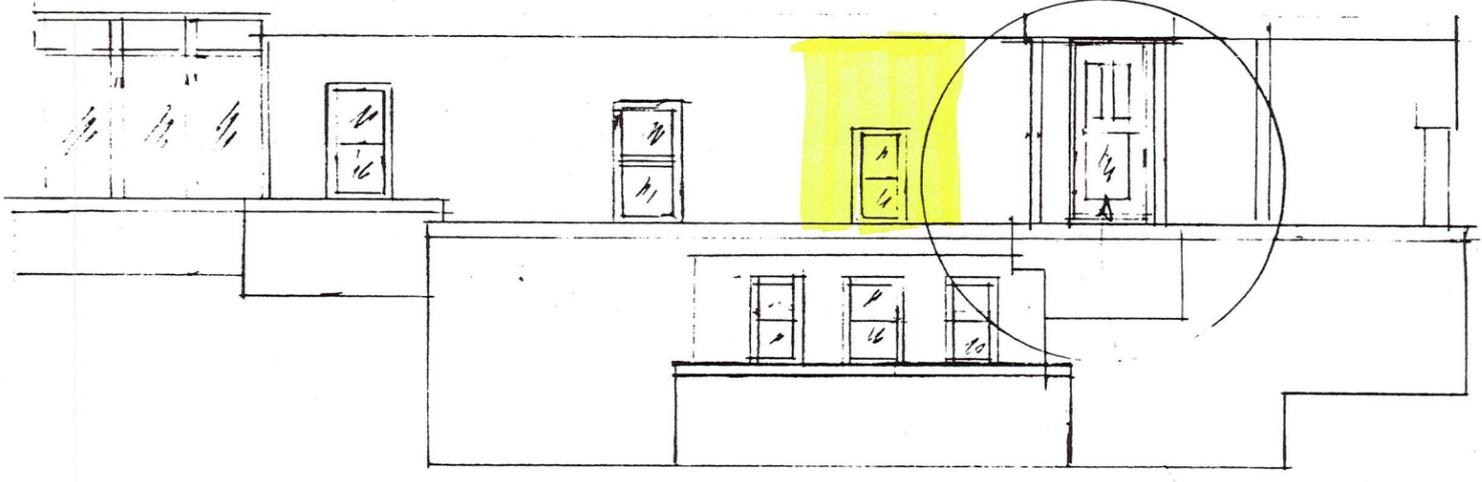
**FIGURE 604.5.1**  
**SIDE-WALL GRAB BAR FOR WATER CLOSET**







SOUTH SIDE 1/8" RAYMORE MUSEUM 1/8"



NEW ENTRY DOOR & PORCH

INSTALL NB ENCLOSE EX FOR MORE

NORTH SIDE (NO WORK)

