Bathrooms & Toilet Facilities

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NCBIA – February 29, 2012
AccessUpdate Newsletter

- Sign up for AccessUpdate Newsletter
  - Comes out every 6 weeks or so
  - There are (to date):
    • 10 AccessUpdate Newsletters and
    • 4+ Tech Data Newsletters
  - Subscribers: 600+ are on the mailing list

- Go to www.ncdoi.com/OSFM/engineering
  - From the menu on the left, select CODE SERVICES, then from the drop down menus INTERPRETATIONS, then ACCESSIBILITY UPDATES
  - **BE SURE TO RESPOND BACK IN ORDER TO SIGN UP**
What codes to use:

- NC Building Code
  - 2012 NCBC
  - Based on 2009 IBC

- ANSI A117.1
  - 2009 Standard
  - 2009 Std + Commentary

Since a 2009 ANSI Commentary is not available yet, use Significant Changes to the ANSI A117.1 Standard 2009 Edition
New in the 2012 NCBC

The defined words in the code are now in italics throughout NCBC Chapter 11 and 1109.

- Accessible
- Type A units
- Type B units
- Accessible route
- Dwelling units
- Sleeping units

The change bar in the margin will often just indicate the addition of the italicized words – no other changes.
<table>
<thead>
<tr>
<th>Model Code</th>
<th>IBC reference</th>
<th>ANSI reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 NCBC</td>
<td>2009</td>
<td>2009</td>
</tr>
<tr>
<td>2009 IBC</td>
<td>2006</td>
<td>2003</td>
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<tr>
<td>2009 NCBC</td>
<td>2006</td>
<td>2003</td>
</tr>
<tr>
<td>2006 IBC</td>
<td>2006</td>
<td>2003</td>
</tr>
</tbody>
</table>
This is what you review/inspect as a minimum

**FIXTURES**
- Lavatories
- Water closets
- Urinals
- Grab bars

**ACCESSORIES**
- Baby-changing tables
- Paper seat covers
- Dispensers
  - Paper towel
  - Sanitary napkin dispensers
  - Condom
- Paper towel receptacles
- Coat hooks/shelves

If you don’t see it, ask about it
Basic Criteria

- If toilet compartment contains:
  - A lavatory and
  - A water closet

- It must meet the same provisions as a single occupant toilet room

- Different requirements:
  - Wheelchair accessible
  - Ambulatory-accessible stalls
Where to Look for Plan Review

ANSI

603 Individual Toilet Rooms

604 Water Closets
  - Stall reqmts for
    - Wheelchair accessible
    - Ambulatory accessible
  - 604.10 Children’s Environments

605 Accessible Urinals

606 Lavatories/Sinks

607 Bathtubs

608 Showers

609 Grab bars

610 Seats
This clearance allows a wheelchair user to back into the space to make the transfer to the water closet.

Requires less maneuvering than a side or forward transfer:
- Difficult or impossible where no leg use or if assistance needed to transfer.
Diagonal Transfer onto Toilet
Side Transfer onto Toilet
604.5 Comply with 609 + 604; provide on rear + side wall.

EXCEPTIONS:

1. Private non-common or public use offices, provided reinforcement in walls is provided.

2. Detention facilities, in housing/holding cells specially designed to be without protrusions for the purposes of suicide prevention.

[Non-ligature grab bars are available]
604.5.1 Fixed Side Wall

EXC.

Vertical grab bar at water closets primarily for children’s use shall comply with 609.4.2.

Note: For children’s dimensions see Fig. 609.4.2

Fig 604.5.1
ANSI 604.5.1.2 Rear Grab Bars

604.5.2 Rear Wall

EXC.

1. 24” rear wall grab bar permitted when rear wall space does not permit 36” min. length due to location of recessed fixture adjacent to the water closet.

Note: For children’s dimensions see Fig. 609.4.2

Fig. 604.5.1
ANSI 604.5 Grab Bars

Fig. 1004.11.1

ANSI 1004.11.1

– The allowance for swing grab bars that was originally located in Ch. 6 has been relocated to Ch. 10.

– Ch. 10 is becoming more of a stand-alone reference similar to the way the 2004 NCAC functioned in Ch. 30.

– NO swing grab bars for commercial facilities.
604.10.6 Flush Controls

Either:
- Hand operated
  - Comply with 309.2 + .4
  - Install 36” max AFF
- Automatic
- Locate on open side

EXC.
- either side ok for ambulatory accessible

Does not comply with ANSI 604.10.6 or 604.11.6 for children
604.10.7 TP Dispensers

604.10.7 Dispensers

- Comply with 309.4
  - 7” min + 9” max in front of the w/c measured to the CL of the dispenser
  - Dispenser outlet: 14” min + 19” max above floor

Note: For children's dimensions see Fig. 604.11.7 dispenser outlet location
ANSI Fig. 604.2 W/C Centerline

- 16”-18” permits optimal bearing + reach for grab bar
- 17”-19” permits similar tolerance for ambulatory

(a) wheelchair accessible water closets
(b) ambulatory accessible water closets
Self-Closing Doors Required

- ANSI 604.8.4
- ANSI 604.9.3

**Fig. 604.8.3**

(a) wheelchair accessible water closets

16-18
405-455

(b) ambulatory accessible water closets

17-19
430-485

**Fig. 604.9**
ANSI Fig. 604.2 Ambulatory

- Required when 6 or more toilets and urinals are provided within a single room
- In addition to accessible stall requirement
- Not used as an exception to the accessible stall
Adult and children’s floor mounted water closets require a 3” deeper stall
ANSI Fig. 604.3

- 604.3.1 Clearance width
- 604.3.2 Clearance depth
- 604.3.3 Clearance overlap

The following can overlap:
- Water closet clearance
- Grab bars
- Paper dispensers
- Sanitary napkin receptacles
- Coat hooks, shelves
- Accessible route
- Clear floor space at other fixtures
- Turning space

No other fixtures or obstructions are permitted within the required clearance.
Overlap Provisions

- 2003 ANSI 603.2.2 Overlap
  - Overlap in individual toilet rooms
  - Relocated in 2009 to General Requirements in 2009 ANSI Ch. 3

  301.2 Overlap. Unless otherwise specified, clear floor spaces, clearances at fixtures, maneuvering clearances at doors, and turning spaces shall be permitted to overlap.

- 2009 ANSI 604.3.3 Overlap
  - Remains in Ch. 6 for accessible stalls
603 Toilet + Bathing Rooms 1

ANSI Section

- 603.2.1 Turning Space
  - Comply with 304
    - 60” turning circle
  - or
  - T-shape
603.2.2 Overlap

Clear floor spaces and clearances at fixtures shall be permitted to overlap.
ANSI Section

- 603.2.3 Door Swing.
  Doors shall not swing into the clear floor space or clearance for any fixture.

THINK: GROUP TOILETS
603.2.3 Door Swing.
Doors shall not swing into the clear floor space or clearance for any fixture.

EXC.

1. Private offices*
2. Where individual toilet room with clear floor space per ANSI 305 beyond door swing
603 Toilet + Bathing Rooms 4

ANSI Section

- **603.3 Mirrors.**
  - Mirrors located above counters, lavatories or sinks:
    - Bottom edge of reflecting surface 40" max AFF
  - Mirrors located elsewhere:
    - Bottom edge of reflecting surface 35” max AFF
  - If mirror is provided elsewhere within room, then none is required above lavatory
ANSI Section

- **603.4 Coat Hooks + Shelves.** Coat hooks shall be located within one of the reach ranges specified in 308.
  - Shelves:
    - 40” min. AFF
    - 48” max. AFF

Remember, to get the side approach req’d by ANSI 308.3.1, the hook is req’d to be 24” from the side wall.
ANSI 606 Lavatories + Sinks

606.2 requires a clear floor space per 305.3

- Forward approach
- Knee + toe clearance per 306 EXC.

1. [parallel at kitchen w/o cook top]
2. No k/t clearance in priv. office
3. K/t clearance of 24” min AFF for 6-12 y.o. where rim or finished counter is 31” max AFF
4. 305 parallel approach for 4-5 y.o.
5. K/t clearance not apply to more than one sink.
6. Parallel approach OK at wet bars.
Ex.: Individual Toilet Rooms
NCBC 1109.2 Exc. 4

Where no more than one urinal is provided in a toilet room or bathing facility, the urinal is not required to be accessible.

ANSI 605.2 shall be with rim at 17” max AFF

- Stall type or
- Wall type

ANSI 605.3

- Clear floor space per 305
- Forward approach only

ANSI 605.4

- Automatic or
- Hand operated per 309
Individual Toilet Rm - Example 1

Check:
603.2.1 Turning circle
603.2.2 Overlapping
603.2.3 Door swing
603.3 Mirror
603.4 Coats + shelves
604.2 W/c CL 16-18”
604.3.1 W/c CFS
604.3.2 Overlap
604.4 W/c Ht 17-19”
604.5 Grab bars
ANSI 604.3.2 Overlap

The required clearance around the water closet shall be permitted to overlap the:

- water closet, associated grab bars,
- Paper dispensers, sanitary napkin dispensers, coat hooks, shelves,
- Accessible routes, clear floor space at other fixtures + the turning space
No other fixtures or obstructions shall be within the required water closet clearance.

**THINK:** Baby-changing tables

- Notice that it is shown in the down position and shall be out of the water closet CFS
- CFS can overlap other CFS
- Seat cover dispenser shall not be on wall over grab bars
Would you accept this?
Group Toilet Room Example
Question:
Seems tight, 60” turning radius is under the lavatory; can it also overlay underneath the baby changing station in the ‘open’ position?
Stall Requirements: Grp Toilets

- 603.2.1
  - Turning space within common area

- 603.2.3
  - Door does not swing into CFL at BCS

- 307.2
  - Paper towel dispenser over 27” AFF + > 4” protruding object
603.5 requires compliance with:

- 309 Operable parts
  - Clear floor space
  - Height for operable parts per 308 reach ranges
  - Operation w/ one hand

- 902 Work station
  - Clear floor space
  - Exposed surfaces
  - Height 28” min to 34” max

Pink works, but blue does not.
The changing table works where located provided the table itself is kept out of the clear floor area at the door.
Children’s Toilet Facilities

PLEASE REMEMBER
EVEN TAME ANIMALS
CAN BITE & TEAR CLOTHING

PLEASE TAKE CARE
WITH CHILDREN
ANSI 603.5 Diaper Changing Tables

New Section

603.5 Diaper Changing Tables. Diaper changing tables shall comply with Sections 309 and 902.

309 Operable Parts.
- General
- Clear Floor space
- Height
- Operation

902 (Dining Surfaces and) Work Stations.
- General
- Clear floor space
- Exposed surfaces
- Height
- Operation
ANSI 606.5 Day Care

- ANSI 606.5 Enhanced reach ranges
  - Day Care
  - Nursery school
  - K-3rd Grade

- 11” from front edge of counter top applies to:
  - Lavatory controls
  - Soap Dispensers
n 604.11
– Not required; but required if provided.
– Children 3 yrs to 12 yrs
– Dimensions apply to either forward or side approach

<table>
<thead>
<tr>
<th>Advisory Specifications for Water Closets Serving Children Ages 3 through 12</th>
<th>Ages 3 and 4</th>
<th>Ages 5 through 8</th>
<th>Ages 9 through 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Closet Centerline</td>
<td>12 inches (305 mm)</td>
<td>12 to 15 inches (305 to 380 mm)</td>
<td>15 to 18 inches (380 to 455 mm)</td>
</tr>
<tr>
<td>Toilet Seat Height</td>
<td>11 to 12 inches (280 to 305 mm)</td>
<td>12 to 15 inches (305 to 380 mm)</td>
<td>15 to 17 inches (380 to 430 mm)</td>
</tr>
<tr>
<td>Grab Bar Height</td>
<td>18 to 20 inches (455 to 510 mm)</td>
<td>20 to 25 inches (510 to 635 mm)</td>
<td>25 to 27 inches (635 to 685 mm)</td>
</tr>
<tr>
<td>Dispenser Height</td>
<td>14 inches (355 mm)</td>
<td>14 to 17 inches (355 to 430 mm)</td>
<td>17 to 19 inches (430 to 485 mm)</td>
</tr>
</tbody>
</table>
1109.2.3 Enhanced Reach Ranges

- Where total # of lavatories provided in toilet room is 6 or more

- Knee space

- Clear floor space centered on lavatory

Provide at least one with

- ANSI 606.5 enhanced reach ranges
ANSI 606.5 Enhanced Reach Ranges

Already being required for:

- Nursery schools
- Daycare
- K-3rd Grade

- Lavatory Controls (faucets)
- Soap dispenser controls
604.5.1 Fixed Side Wall

EXC. Not required for:
Vertical grab bar at water closets primarily for children’s use shall comply with 609.4.2.

**HORIZONTAL GRAB BARS:** LENGTH SAME
1. 18” min – 27” max AFF
2. Measure to top of gripping surface

**VERTICAL GRAB BAR:**
3. Bottom 21” min. – 30” max AFF with CL of bar 34” min - 36” max from rear wall.

Note: For children's dimensions see Fig. 609.4.2

Fig 604.5.1
604.11.7 Children’s TP Dispensers

604.10.7 Dispensers
– Comply with 309.4
– Outlet located
  • within an area 24” min - 42” max from rear wall [Same as adult]
  • 14” min + 19” max above floor [Same as adult]
  • Clearance of 1-1/2” min below grab bar
  • Dispensers NOT of a type to control delivery or that do NOT allow continuous paper flow
Would you accept this?
Next Section...

- 2012 NCBC Changes
- 2009 ANSI A117.1 Changes
1109.2 Toilet + Bathing Facilities

2009 NCBC

1109.2.1.1 Unisex toilet and bathing rooms shall comply with Sections 1109.2.1.2 through 1109.2.1.7 and ICC A117.

Exception:
A urinal is permitted to be provided in addition to the water closet in a unisex toilet room.

2012 NCBC

1109.2.1.1 Family or assisted-use toilet and bathing rooms shall comply with Sections 1109.2.1.2 through 1109.2.1.7 and ICC A117.1.

Exception:
A urinal is permitted to be provided in addition to the water closet in a family or assisted-use toilet room.
1109.2 Toilet + Bathing Facilities

2009 NCBC

1109.2.1.3 Unisex bathing rooms. Unisex bathing rooms shall include only one shower or bathtub fixture. Unisex 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 unisex bathing rooms.

2012 NCBC

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 Toilet + Bathing Facilities 3

2009 NCBC

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2012 NCBC

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1109.2 Toilet + Bathing Facilities

2009 NCBC

1109.2.1.4 Location. **Unisex** toilet and bathing rooms shall be located on an accessible route. **Unisex** toilet rooms shall be located not more than one story above or below separate-sex toilet rooms. The accessible rooms from any separate separate-sex toilet room to a **unisex** toilet room shall not exceed 500 feet.

2012 NCBC

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 rooms from any separate separate-sex toilet room to a **family or assisted-use** toilet room shall not exceed 500 feet.
1109.2 Toilet + Bathing Facilities 5

2009 NCBC

1109.2.1.5 Prohibited Location. In passenger transportation facilities and airports, the accessible route from separate-sex toilets to a unisex toilet room shall not pass through security check points.

2012 NCBC

1109.2.1.5 Prohibited Location. In passenger transportation facilities and airports, the accessible route from separate-sex toilets to a family or assisted-use toilet room shall not pass through security check points.
1109.2.1.6 Clear floor space. Where doors swing into a unisex toilet or bathing room, a clear floor space not less than 30” x 48” shall be provided, within the room, beyond the area of the door swing.
602.2 Clear Floor Space

**602 Drinking Fountains**

**602.1 General.** Accessible drinking fountains shall comply with Sections 602 and 307.

**602.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach to the drinking fountain, shall be provided. Knee and toe space complying with Section 306 shall be provided. The clear floor space shall be centered on the drinking fountain.

**EXCEPTIONS:**
1. Drinking fountains for standing persons.
2. Drinking fountains primarily for children’s use shall be permitted where the spout outlet is 30 inches (760 mm) maximum above the floor, a parallel approach complying with Section 305 is provided and the clear floor space is centered on the drinking fountain.
3. Side approach for existing drinking fountains deleted.
4. Side approach where approved by the administrative authority deleted.

Exc. 2. Parallel approach for drinking fountains for children’s use
603.2.1 Turning Space. A turning space complying with Section 304 shall be provided within the room. The required turning space shall not be provided within a toilet compartment.

603.2.2 Overlap. Clear floor spaces, clearances at fixtures, and turning spaces shall be permitted to overlap.

Exceptions:
1. Doors to a toilet and or bathing room for a single occupant accessed only through a private office and not for common use or public use, shall not be permitted to swing into the clear floor space, provided the swing of the door can be reversed to meet comply with Section 603.2.2.

2. Where the room is for individual use and a clear floor space complying with section 305.3 is provided within the room beyond the arc of the door swing, the door shall not be required to comply with Section 603.2.2.
602.2 Clear Floor Space

603.3 Where mirrors are located above lavatories, sinks or counters, a mirror shall be located over the accessible lavatory and shall be mounted with the bottom edge of the reflecting surface 40 inches maximum above the floor.

EXCEPTION: Other than within Accessible dwelling or sleeping units, mirrors not located above lavatories, sinks or counters shall be are not required over the lavatories or counters if a mirror is located within the same toilet or bathing room and mounted with the bottom edge of the reflecting surface 35 inches maximum above the floor.
602.2 Clear Floor Space

1002.11.2.2 Mirrors above accessible lavatories shall have the bottom edge of the reflecting surface 40 inches maximum above the floor.

- Mirror location: better clarity
- Exception allows an alternative for public facilities
- Companion change for Accessible dwelling units
Operable parts shall comply with Table 606.7.6

<table>
<thead>
<tr>
<th>Maximum Reach Depth</th>
<th>0.5 inch (13 mm)</th>
<th>2 inches (50 mm)</th>
<th>5 inches (125 mm)</th>
<th>6 inches (150 mm)</th>
<th>9 inches (230 mm)</th>
<th>11 inches (280 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Reach Height</td>
<td>48 inches (1220 mm)</td>
<td>46 inches (1170 mm)</td>
<td>42 inches (1065 mm)</td>
<td>40 inches (1015 mm)</td>
<td>36 inches (915 mm)</td>
<td>34 inches (865 mm)</td>
</tr>
</tbody>
</table>

Don’t forget:
- Projection >4”
- Location of disposal basket
604.5 Grab Bars

Blocking Requirements for Type A + Type B

- Relocated from Ch. 6 to appropriate location in Ch. 10
  - 604.5
    - Exc. 3 – Type A
    - Exc. 4 – Type B
  - 604.5.1
    - Exc. 1 – Type A + B
    - Exc. 2 – Type B
  - 604.5.2
    - Exc. 2 – Type A
  - 604.5.3
  - 607.4
    - Exc. 2 – Type A

- Makes for easier reference
- Swing up grab bar requirements are only applicable to Type B dwelling units
  - Previous location led to misapplication or misinterpretation of requirements
Questions

For further questions:

- PHONE  919-661-5880 x 247
- FAX    919-662-4414
- E-MAIL Laurel.Wright@ncdoi.gov

On the e-mail, please include:

- your name
- who you are with
- phone number
- project the e-mail is about
- sign up for newsletter

Reference
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