

2022 CALIFORNIA ACCESS COMPLIANCE ADVISORY REFERENCE MANUAL

STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES

DIVISION OF THE STATE
ARCHITECT



DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

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DIVISION 7: COMMUNICATION ELEMENTS AND FEATURES

11B-701 General

11B-701.1 Scope. The provisions of *Division 7* shall apply where required by *Division 2* or where referenced by a requirement in this *chapter*.

11B-702 Fire alarm systems

11B-702.1 General. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 and *Chapter 9, Sections 907.5.2.1 and 907.5.2.3*.

Exception: Reserved.

11B-703 Signs

11B-703.1 General. Signs shall comply with *Section 11B-703*. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

11B-703.1.1 Plan review and inspection. Signs as specified in *Section 11B-703*, or in other sections of this code, when included in the construction of new buildings or facilities, or when included, altered or replaced due to additions, alterations or renovations to existing buildings or facilities, and when a permit is required, shall comply with *Sections 11B-703.1.1.1 and 11B-703.1.1.2*.

11B-703.1.1.1 Plan review. Plans, specifications or other information indicating compliance with these regulations shall be submitted to the enforcing agency for review and approval.

11B-703.1.1.2 Inspection. Signs and identification devices shall be field inspected after installation and approved by the enforcing agency prior to the issuance of a final certificate of occupancy per *Chapter 1, Division II, Section 111*, or final approval where no certificate of occupancy is issued. The inspection shall include, but not be limited to, verification that Braille dots and cells are properly spaced and the size, proportion and type of raised characters are in compliance with these regulations.

11B-703.2 Raised characters. Raised characters shall comply with *Section 11B-703.2* and shall be duplicated in Braille complying with *Section 11B-703.3*. Raised characters shall be installed in accordance with *Section 11B-703.4*.

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Advisory 11B-703.2 Raised characters. Signs that are designed to be read by touch should not have sharp or abrasive edges. ■

11B-703.2.1 Depth. Raised characters shall be 1/32 inch (0.8 mm) minimum above their background.

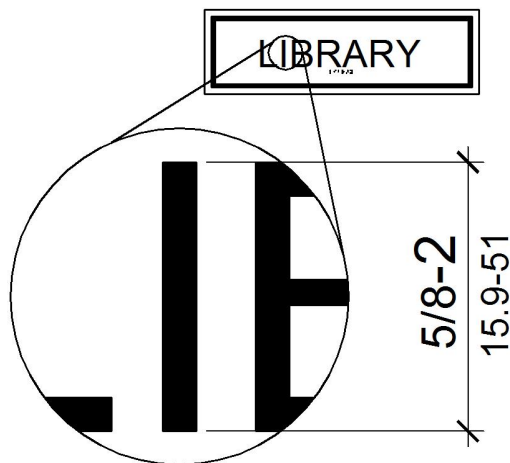
11B-703.2.2 Case. Characters shall be uppercase.

11B-703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

11B-703.2.4 Character proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

11B-703.2.5 Character height. Character height measured vertically from the baseline of the character shall be 5/8 inch (15.9 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter “I”.

Exception: Reserved.



**Figure 11B-703.2.5
Height of Raised Characters**

11B-703.2.6 Stroke thickness. Stroke thickness of the uppercase letter “I” shall be 15 percent maximum of the height of the character.

11B-703.2.7 Character spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

11B-703.2.8 Line spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

11B-703.2.9 Format. Text shall be in a horizontal format.

11B-703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with Sections 11B-703.3 and 11B-703.4.

Advisory 11B-703.3 Braille. Contracted Braille uses special characters called contractions to make words shorter. Standard English uses contractions like "don't" as a short way of writing two words, such as "do" and "not." In Braille there are many additional contractions. Some contractions stand for a whole word and other contractions stand for a group of letters within a word. In addition to contractions, the Braille code includes short-form words which are abbreviated spellings of common longer words. For example, "tomorrow" is spelled "tm", "friend" is spelled "fr", and "little" is spelled "ll" in Braille. ■

11B-703.3.1 Dimensions and capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 11B-703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

Table 11B-703.3.1 Braille Dimensions

Measurement Range	Minimum in Inches Maximum in Inches
Dot base diameter	0.059 (1.5 mm) to 0.063 (1.6 mm)
Distance between two dots in the same cell ¹	0.100 (2.5 mm)
Distance between corresponding dots in adjacent cells ¹	0.300 (7.6 mm)
Dot height	0.025 (0.6 mm) to 0.037 (0.9 mm)
Distance between corresponding dots from one cell directly below ¹	0.395 (10 mm) to 0.400 (10.2 mm)

1. Measured center to center.

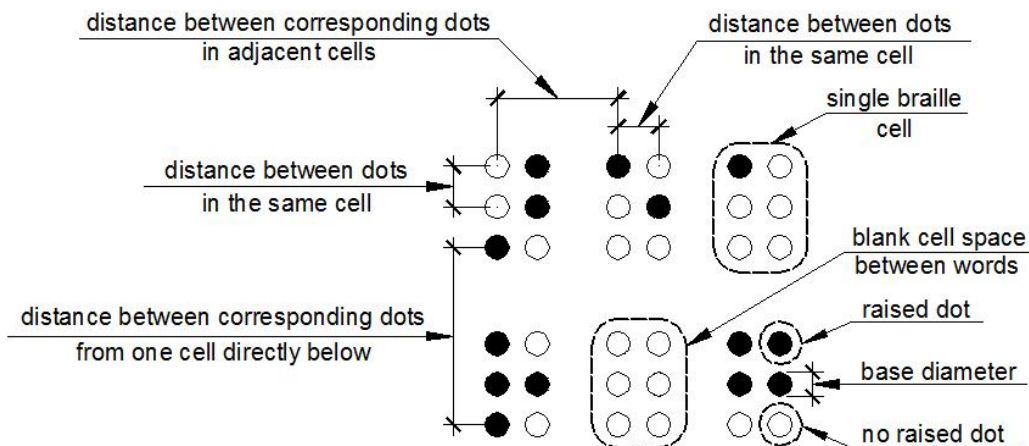
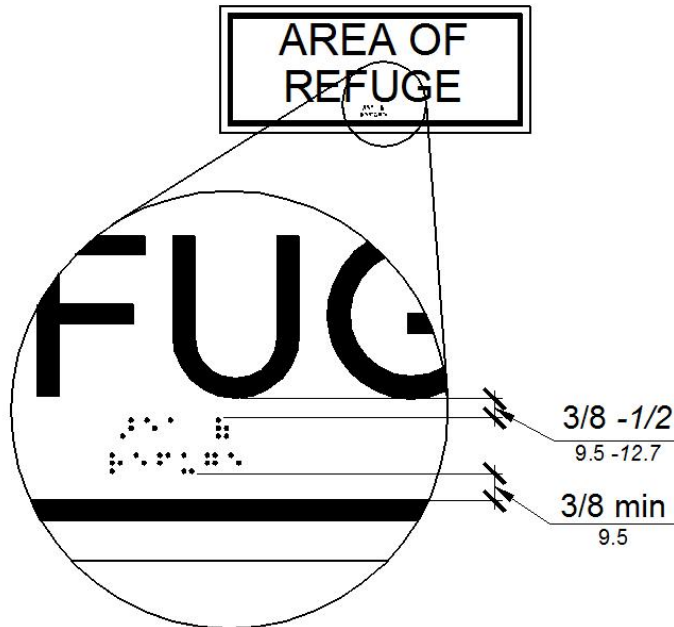


Figure 11B-703.3.1 Braille Measurement

11B-703.3.2 Position. Braille shall be positioned below the corresponding text *in a horizontal format, flush left or centered*. If text is multi-lined, Braille shall be placed below the entire text. Braille shall be separated $\frac{3}{8}$ inch (9.5 mm) minimum and $\frac{1}{2}$ inch (12.7 mm) maximum from any other tactile characters and $\frac{3}{8}$ inch (9.5 mm) minimum from raised borders and decorative elements.

Exception: Braille provided on elevator car controls shall be separated $\frac{3}{16}$ inch (4.8 mm) minimum and shall be located directly below the corresponding raised characters or symbols.



**Figure 11B-703.2
Position of Braille**

11B-703.4 Installation height and location. Signs with tactile characters shall comply with *Section 11B-703.4*.

11B-703.4.1 Height above finish floor or ground. Tactile characters on signs shall be located 48 inches (1219 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest *Braille cells* and 60 inches (1524 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest *line of raised characters*.

Exception: Tactile characters for elevator car controls shall not be required to comply with *Section 11B-703.4.1*.

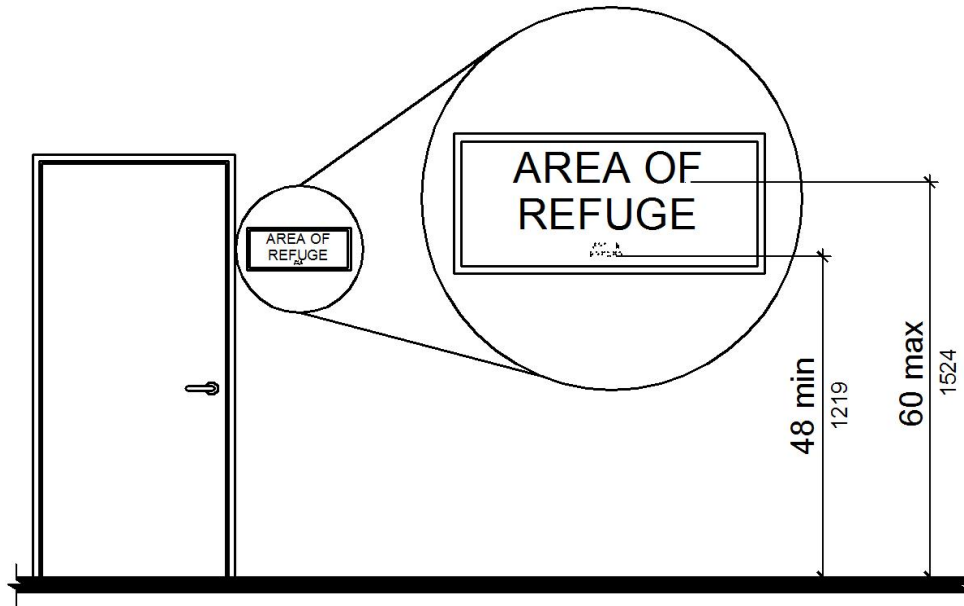


Figure 11B-703.4.1
Height of Tactile Characters Above Finish Floor or Ground

11B-703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (457 mm) minimum by 18 inches (457 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position. *Where provided, signs identifying permanent rooms and spaces shall be located at the entrance to, and outside of the room or space. Where provided, signs identifying exits shall be located at the exit door when approached in the direction of egress travel.*

Exception: *In alterations where sign installation locations identified in Section 11B-703.4.2 are obstructed or otherwise unavailable for sign installation, signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.*

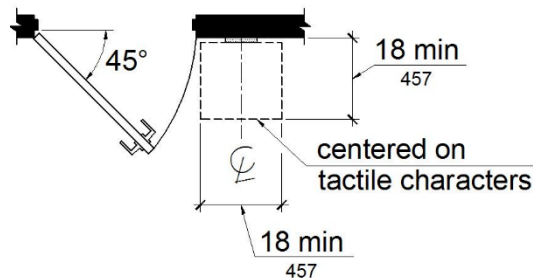


Figure 11B-703.4.2
Location of Tactile Signs at Doors

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Advisory 11B-703.4.2 Location. Persons with visual impairments are trained to look in a consistent location for tactile signs. When a tactile sign is provided at a door, the sign must be located alongside the door, preferably at the latch side. When tactile signs are mounted inconsistently on surrounding wall surfaces, or mounted on the door itself, they are difficult to find and may create a safety hazard. In this section, the term “wall space” refers to any type of partition assembly or adjacent surface of sufficient dimension where a sign can lay flat, including glass partitions or sidelites. ■

11B-703.5 Visual characters. Visual characters shall comply with *Section 11B-703.5*.

Exception: Where visual characters comply with *Section 11B-703.2* and are accompanied by Braille complying with *Section 11B-703.3*, they shall not be required to comply with *Sections 11B-703.5.2 through 11B-703.5.6, 11B-703.5.8 and 11B-703.5.9*.

11B-703.5.1 Finish and contrast. Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

USDOJ

Advisory 11B-703.5.1 Finish and contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and its background colors and textures. ■

11B-703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

11B-703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

11B-703.5.4 Character proportions. Characters shall be selected from fonts where the width of the uppercase letter “O” is 60 percent minimum and 110 percent maximum of the height of the uppercase letter “I”.

11B-703.5.5 Character height. Minimum character height shall comply with Table 11B-703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter “I”.

Exception: Where provided, floor plans providing emergency procedures information in accordance with Title 19 shall not be required to comply with *Section 11B-703.5.5*

Table 11B-703.5.5 Visual Character Height

Height to Finish Floor or Ground From Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1016 mm) to less than or equal to 70 inches (1778 mm)	less than 72 inches (1829 mm)	5/8 inch (15.9 mm)
	72 inches (1829 mm) and greater	5/8 inch (15.9 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1829 mm)
Greater than 70 inches (1778 mm) to less than or equal to 120 inches (3048 mm)	less than 180 inches (4572 mm)	2 inches (51 mm)
	180 inches (4572 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4572 mm)
greater than 120 inches (3048 mm)	less than 21 feet (6401 mm)	3 inches (76 mm)
	21 feet (6401 mm) and greater	3 inches (76 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6401 mm)

11B-703.5.6 Height from finish floor or ground. Visual characters shall be 40 inches (1016 mm) minimum above the finish floor or ground.

Exceptions:

1. Visual characters indicating elevator car controls shall not be required to comply with *Section 11B-703.5.6*.
2. *Floor-level exit signs complying with Chapter 10, Section 1013.7 shall not be required to comply with Section 11B-703.5.6.*
3. *Where provided, floor plans providing emergency procedures information in accordance with Title 19 shall not be required to comply with Section 11B-703.5.6.*

11B-703.5.7 Stroke thickness. Stroke thickness of the uppercase letter “I” shall be 10 percent minimum and 20 percent maximum of the height of the character.

11B-703.5.8 Character spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

11B-703.5.9 Line spacing. Spacing between the baselines of separate lines of characters within a message shall be 135 percent minimum and 170 percent maximum of the character height.

11B-703.5.10 Format. *Text shall be in a horizontal format.*

11B-703.6 Pictograms. Pictograms shall comply with *Section 11B-703.6*.

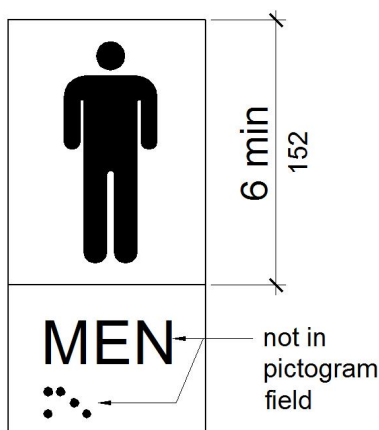
DSA

Advisory 11B-703.6 Pictograms. Pictograms and other symbols, such as the International Symbol of Accessibility (ISA), which are included on signs with raised characters and Braille are not required to be raised. The ISA, when included on a tactile sign, does not require any accompanying text, either visual or tactile. ■

11B-703.6.1 Pictogram field. Pictograms shall have a field height of 6 inches (152 mm) minimum. Characters and Braille shall not be located in the pictogram field.

DSA

Advisory 11B-703.6.1 Pictogram field. Pictograms include both a symbol and the field (or background) on which it is displayed. The 6-inch vertical dimension applies to the field, not the symbol. The symbol may be smaller than the field. The required equivalent verbal description must be placed below the pictogram, and may not intrude into the 6-inch field. ■



**Figure 11B-703.6.1
Pictogram Field**

11B-703.6.2 Finish and contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

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Advisory 11B-703.6.2 Finish and contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures. ■

11B-703.6.3 Text descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with *Sections 11B-703.2, 11B-703.3 and 11B-703.4.*

11B-703.7 Symbols of accessibility. Symbols of accessibility shall comply with *Section 11B-703.7*.

DSA

Advisory 11B-703.7 Symbols of accessibility. Symbols of accessibility, such as the International Symbol of Accessibility (ISA), which are included on signs with raised characters and Braille are not required to be raised. The ISA, when included on a tactile sign, does not require any accompanying text, either visual or tactile. ■

11B-703.7.1 Finish and contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

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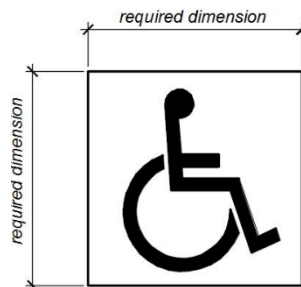
Advisory 11B-703.7.1 Finish and contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures. ■

11B-703.7.2 Symbols.

11B-703.7.2.1 International Symbol of Accessibility. The International Symbol of Accessibility shall comply with Figure 11B-703.7.2.1. *The symbol shall consist of a white figure on a blue background. The color blue shall approximate FS 15090 in Federal Standard 595C. A border may be provided inside or outside of the minimum required International Symbol of Accessibility dimension.*

Exceptions:

1. *The appropriate enforcement agency may approve other colors provided the symbol contrast is light on dark or dark on light.*
2. *On the accessibility function button on hall call consoles in a destination-oriented elevator system the International Symbol of Accessibility shall be a white symbol on a black background.*



**Figure 11B-703.7.2.1
International Symbol of Accessibility**

Advisory 11B-703.7.2.1 International Symbol of Accessibility Exception. This exception provides latitude in the use of other colors, but artistic license in the graphic representation of the symbol itself is not permitted. ■

11B-703.7.2.2 International Symbol of TTY. The International Symbol of TTY shall comply with Figure 11B-703.7.2.2.



**Figure 11B-703.7.2.2
International Symbol of TTY**

11B-703.7.2.3 Volume control telephones. Telephones with a volume control shall be identified by a pictogram of a telephone handset with radiating sound waves on a square field such as shown in Figure 11B-703.7.2.3.



**Figure 11B-703.7.2.3
Volume Control Telephone**

11B-703.7.2.4 Assistive listening systems. Assistive listening systems shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 11B-703.7.2.4.



**Figure 11B-703.7.2.4
International Symbol of Access for Hearing Loss**

11B-703.7.2.5 Reserved.

11B-703.7.2.6 Toilet and bathing facilities geometric symbols. Geometric symbols at entrances to toilet and bathing rooms shall be mounted at 58 inches (1473 mm) minimum and 60 inches (1524 mm) maximum above the finish floor or ground surface measured from the centerline of the symbol. Where a door is provided the symbol shall be mounted within 1 inch (25 mm) of the vertical centerline of the door.

DSA

Advisory 11B-703.7.2.6 Toilet and bathing facilities geometric symbols. There is no requirement for providing gender pictograms in combination with the geometric identification symbols required at doorways leading to men's, women's and unisex toilet and bathing facilities.

When toilet and bathing facilities have doorway openings instead of doors, such as at airports or stadiums, the geometric identification symbol should be located at the proper height adjacent to the opening or incorporated into the required tactile identification sign. For example, the geometric symbol may be used as the sign background with raised characters and Braille per Sections 11B-703.2 and 11B-703.3. ■

11B-703.7.2.6.1 Men's toilet and bathing facilities. A triangle symbol shall be located at entrances to men's toilet and bathing facilities. The triangle symbol shall be an equilateral triangle 1/4 inch (6.4 mm) thick with edges 12 inches (305 mm) long and a vertex pointing upward. The color of the triangle symbol shall contrast with color of the door or surface on which the triangle symbol is mounted, either light on a dark background or dark on a light background.

Exception: Within secure perimeter of detention and correctional facilities, geometric symbols shall not be required to be 1/4 inch (6.4 mm) thick.

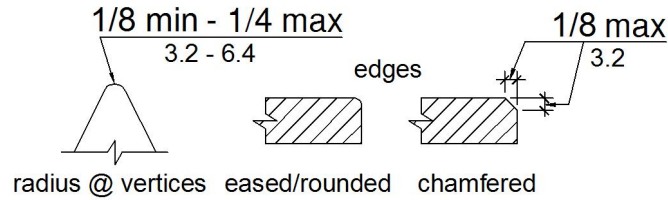
11B-703.7.2.6.2 Women's toilet and bathing facilities. A circle symbol shall be located at entrances to women's toilet and bathing facilities. The circle symbol shall be 1/4 inch (6.4 mm) thick and 12 inches (305 mm) in diameter. The color of the circle symbol shall contrast with the color of the door or surface on which the circle symbol is mounted, either light on a dark background or dark on a light background.

Exception: Within secure perimeter of detention and correctional facilities, geometric symbols shall not be required to be 1/4 inch (6.4 mm) thick.

11B-703.7.2.6.3 Unisex toilet and bathing facilities. A combined circle and triangle symbol shall be located at entrances to unisex toilet and bathing facilities. The combined circle and triangle symbol shall consist of a circle symbol 1/4 inch (6.4 mm) thick and 12 inches (305 mm) in diameter with a 1/4 inch (6.4 mm) thick equilateral triangle symbol superimposed on and geometrically inscribed within the 12-inch (305 mm) diameter of the circle symbol. The vertices of the triangle symbol shall be located 1/4 inch (6.4 mm) maximum from the edge of the circle symbol with a vertex pointed upward. The color of the triangle symbol shall contrast with the color of the circle symbol, either light on a dark background or dark on a light background. The color of the circle symbol shall contrast with the color of the door or surface on which the combined circle and triangle symbol is mounted, either light on a dark background or dark on a light background.

Exception: Within secure perimeter of detention and correctional facilities, geometric symbols shall not be required to be 1/4 inch (6.4 mm) thick.

11B-703.7.2.6.4 Edges and vertices on geometric symbols. Edges shall be eased or rounded at 1/16 inch (1.59 mm) minimum, or chamfered at 1/8 inch (3.2 mm) maximum. Vertices shall be radiused between 1/8 inch (3.2 mm) minimum and 1/4 inch (6.4 mm) maximum.



**FIGURE 11B-703.7.2.6.4
EDGES AND VERTICES ON GEOMETRIC SYMBOLS**

11B-703.7.2.7 Pedestrian traffic-control buttons. Pole-supported pedestrian traffic-control buttons shall be identified with color coding consisting of a textured horizontal yellow band 2 inches (51 mm) in width encircling the pole, and a 1-inch-wide (25 mm) dark border band above and below this yellow band. Color coding shall be placed immediately above the control button. Control buttons shall be located no higher than 48 inches (1219 mm) above the ground surface adjacent to the pole.

11B-703.8 Variable message signs.

11B-703.8.1 General. High resolution variable message sign (VMS) characters shall comply with Sections 11B-703.5 and 11B-703.8.12 through 11B-703.8.14. Low resolution variable message sign (VMS) characters shall comply with Section 11B-703.8.

11B-703.8.2 Case. Low resolution VMS characters shall be uppercase.

11B-703.8.3 Style. Low resolution VMS characters shall be conventional in form, shall be sans serif, and shall not be italic, oblique, script, highly decorative, or of other unusual forms.

11B-703.8.4 Character height. The uppercase letter "I" shall be used to determine the allowable height of all low resolution VMS characters of a font. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. The uppercase letter "I" of the font shall have a minimum height complying with Table 11B-703.8.4.

Exception: In assembly seating where the maximum viewing distance is 100 feet (30.5 m) or greater, the height of the uppercase "I" of low resolution VMS fonts shall be permitted to be 1 inch (25 mm) for every 30 feet (9144 mm) of viewing distance, provided the character height is 8 inches (203 mm) minimum. Viewing distance shall be measured as the horizontal distance between the character and where someone is expected to view the sign.

Table 11B-703.8.4 Low Resolution VMS Character Height

Height Above Floor to Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1016 mm) to less than or equal to 70 inches (1778 mm)	Less than 10 feet (3048 mm)	2 inches (51 mm)
	10 feet (3048 mm) and greater	2 inches (51 mm), plus 1/5 inch (5.1 mm) per foot (305 mm) of viewing distance above 10 feet (3048 mm)
Greater than 70 inches (1778 mm) to less than or equal to 120 inches (3048 mm)	Less than 15 feet (4572 mm)	3 inches (76 mm)
	15 feet (4572 mm) and greater	3 inches (76 mm), plus 1/5 inch (5.1 mm) per foot (305 mm) of viewing distance above 15 feet (4572 mm)
Greater than 120 inches (3048 mm)	Less than 20 feet (6096 mm)	4 inches (102 mm)
	20 feet (6096 mm) and greater	4 inches (102 mm), plus 1/5 inch (5.1 mm) per foot (305 mm) of viewing distance above 20 feet (6096 mm)

11B-703.8.5 Character width. The uppercase letter “O” shall be used to determine the allowable width of all low resolution VMS characters of a font. Low resolution VMS characters shall comply with the pixel count for character width in Table 11B-703.8.5.

Table 11B-703.8.5 Pixel Count for Low Resolution VMS

Character Height	Character Width Range	Stroke Width Range	Character Spacing Range
7	5-6	1	2
8	6-7	1-2	2-3
9	6-8	1-2	2-3
10	7-9	2	2-4
11	8-10	2	2-4
12	8-11	2	3-4
13	9-12	2-3	3-5
14	10-13	2-3	3-5
15	11-14	2-3	3-5

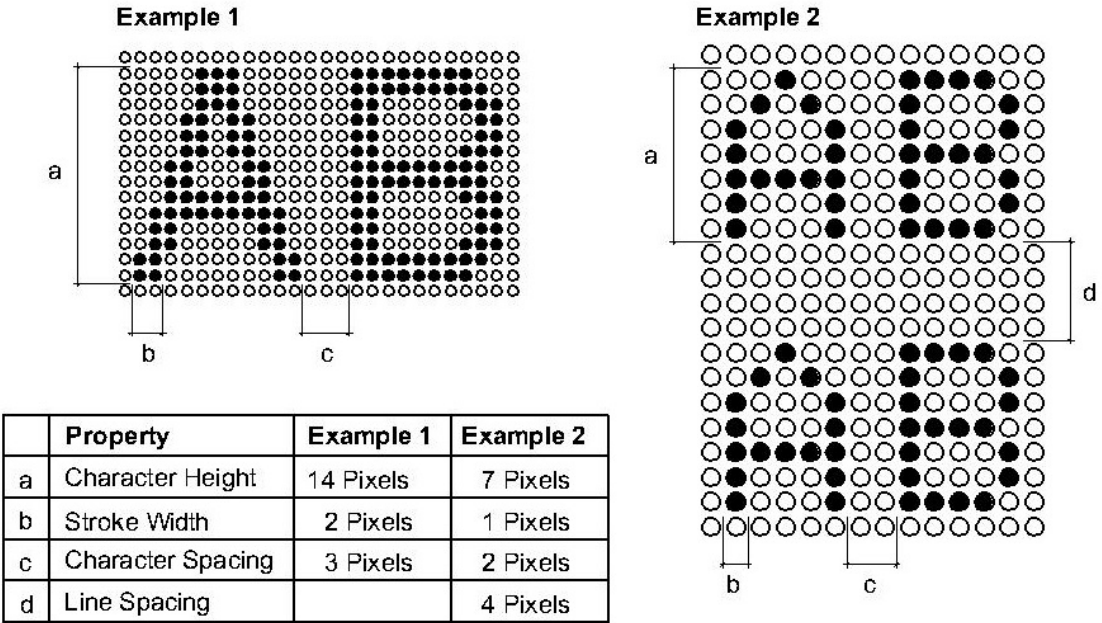


Figure 11B-703.8.5
Low Resolution VMS Characters

11B-703.8.6 Stroke width. The uppercase letter “I” shall be used to determine the allowable stroke width of all low resolution VMS characters of a font. Low resolution VMS characters shall comply with the pixel count for stroke width in Table 11B-703.8.5.

11B-703.8.7 Character spacing. Spacing shall be measured between the two closest points of adjacent low resolution VMS characters within a message, excluding word spaces. Low resolution VMS character spacing shall comply with the pixel count for character spacing in Table 11B-703.8.5.

11B-703.8.8 Line spacing. Low resolution VMS characters shall comply with Section 11B-703.5.9.

11B-703.8.9 Height above floor. Low resolution VMS characters shall be 40 inches (1016 mm) minimum above the floor of the viewing position, measured to the baseline of the character. Heights of low resolution variable message sign characters shall comply with Table 11B-703.8.4, based on the size of the characters on the sign.

11B-703.8.10 Finish. The background of low resolution VMS characters shall have a non-glare finish.

11B-703.8.11 Contrast. Low resolution VMS characters shall be light characters on a dark background.

11B-703.8.12 Protective covering. Where a protective layer is placed over VMS characters through which the VMS characters must be viewed, the protective covering shall have a non-glare finish.

11B-703.8.13 Brightness. The brightness of variable message signs in exterior locations shall automatically adjust in response to change in ambient light levels.

11B-703.8.14 Rate of change. Where a VMS message can be displayed in its entirety on a single screen, it shall be displayed on a single screen and shall remain motionless on the screen for a minimum 3 seconds or one second minimum for every 7 characters of the message including spaces whichever is longer.