

**15-DAY EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DIVISION OF THE STATE ARCHITECT (DSA-AC)

REGARDING THE CALIFORNIA BUILDING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2

2013 CALIFORNIA BUILDING CODE
INTERVENING CODE CYCLE**

LEGEND FOR EXPRESS TERMS

1. California 45-Day language will appear in (begin underline) underline (end underline) or (begin strikeout) ~~strikeout~~ (end strikeout).
2. Amended or repealed 15-Day language will appear in (begin double underline) double underline (end double underline) or (begin double strikeout) ~~double strikeout~~ (end double strikeout).
3. Notation: Authority and reference citations are provided at the end of each chapter.

**CHAPTER 11B
ACCESSIBILITY TO PUBLIC BUILDINGS,
PUBLIC ACCOMMODATIONS, COMMERCIAL BUILDINGS AND PUBLIC HOUSING**

ITEM 11B.16

11B-226 Dining surfaces and work surfaces
11B-226.3 Dining surfaces exceeding 34 inches in height

Note to reader: Item 11B.16 has been withdrawn.

ITEM 11B.24

DIVISION 3: BUILDING BLOCKS

11B-308 Reach ranges

11B-308.1 General. Reach ranges shall comply with *Section 11B-308*.

11B-308.2 Forward reach. ...

11B-308.3 Side reach. ...

(begin underline) **11B-308.4 Suggested reach ranges for children.** *Where building elements such as coat hooks, lockers, or operable parts are designed for use primarily by children, the suggested dimensions of Table 11B-308.4* (begin double strikeout) ~~may be used~~ (end double strikeout) (begin

double underline) shall be permitted. (end double underline) These dimensions apply to either forward or side reaches.

Table 11B-308.4 Suggested Dimensions for Children's Use

<u>Suggested Reach Ranges for Children Ages 3 through 12</u>			
<u>Forward or Side Reach</u>	<u>Ages 3 and 4</u>	<u>Ages 5 through 8</u>	<u>Ages 9 through 12</u>
<u>High (maximum)</u>	<u>36 in (915 mm)</u>	<u>40 in (1015 mm)</u>	<u>44 in (1120 mm)</u>
<u>Low (minimum)</u>	<u>20 in (510 mm)</u>	<u>18 in (455 mm)</u>	<u>16 in (405 mm)</u>

(end strikeout)

ITEM 11B.31

DIVISION 4: ACCESSIBLE ROUTES

(begin underline) **11B-411 Destination-oriented elevators**

11B-411.1 General. Destination-oriented elevators shall comply with Section 11B-411 and with ASME A17.1. They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

11B-411.1.1 Floor designations. In facilities served by destination-oriented elevator systems, floor designations shall be numeric characters only. Floor designations shall be "one" (1) or "zero" (0) at the main entry level and shall increase by one for each successive higher story or level. The initial floor below the main entry level shall be designated "minus one" (-1) and the designation for each successive lower story or level shall decrease by one. Stories or levels shall not be designated by alphabetic characters.

Exceptions:

1. In existing facilities where new elevators are installed or existing elevators are altered into a destination-oriented elevator system, levels within stories, such as mezzanines located above or below the main entry level ~~may~~ shall be permitted to be designated with an alpha-numeric character such as "M2", indicating "mezzanine" and the "story number", respectively, in which it is located, provided there is no duplication with alphanumeric designations of elevator cars in the facility.

(begin double strikeout)

2. Non-successive floor numbering shall be permitted where a specific floor number is omitted or where a floor is frequented only by service personnel for maintenance, repair or occasional monitoring of equipment.

(end double underline)

11B-411.1.2 Car designations. Elevator cars shall be designated with a single alphabetic character.

Exception: Elevator systems with more than 26 elevators (begin double strikeout) ~~may~~ (end double strikeout) (begin double underline) shall be permitted to (end double underline) use alpha-numeric designations such as "A1".

11B-411.2 Elevator landing requirements. Elevator landings shall comply with Section 11B-411.2.

11B-411.2.1 Hall call consoles. Hall call consoles shall comply with Sections 11B-411.2.1 and 11B-309.

11B-411.2.1.1 Location. Hall call consoles shall be wall-mounted. On floors with a building entry, including parking and transfer levels, each hoistway entrance shall be adjacent to a hall call console. On other floors, a minimum of one hoistway entrance shall be adjacent to a hall call console.

Exception: Hall call consoles beyond those required by 11B-411.2.1.1 (begin double strikeout) ~~may~~ (end double strikeout) (begin double underline) shall be permitted to (end double underline) be provided outside the elevator landing and (begin double strikeout) ~~may~~ (end double strikeout) (begin double underline) to (end double underline) be wall-mounted, pedestal-mounted, or mounted on a kiosk or security turnstile.

11B-411.2.1.2 Required features. Hall call consoles shall include a touch screen or keypad with display screen (begin double strikeout) ~~where provided~~, (end double strikeout) an accessibility function button, and audio output loudspeaker.

11B-411.2.1.2.1 Keypads. Keypads shall be in a 12-key ascending telephone keypad layout. Characters and symbols shall be centered on the corresponding button. The number five key shall have a single raised dot. The dot shall have a base diameter of 0.118 inch (3 mm) minimum and 0.120 inch (3.05 mm) maximum and a height of 0.025 inch (0.6 mm) minimum and 0.037 inch (0.9 mm) maximum. Keypads shall have a star (★) on the lower left button and a minus sign (-) on the lower right button. From any level above and below the main egress level, when the star button is pressed an elevator shall be dispatched to the main egress level.

11B-411.2.1.2.2 Touch screen. Touch screen display shall comply with Section 11B-411.2.1.2.4. The touch screen shall provide written or visual instruction on the screen as to its use.

11B-411.2.1.2.3 Accessibility function button. The accessibility function button shall be identified by the International Symbol of Accessibility and a raised indication. The International Symbol of Accessibility shall comply with Section 11B-703.7.2.1, and shall be 5/8 inch (15.9 mm) minimum in height. The indication shall be three raised dots. Each dot shall have a base diameter of 0.59 inch (1.5 mm) minimum and 0.063 inch (1.6 mm) maximum and a height of 0.025 inch (0.6 mm) minimum and 0.037 inch (0.9 mm) maximum. The dots shall be spaced 1/4 inch (6.4 mm), measured center to center, in the form of an equilateral triangle with a vertex pointing up. The accessibility function button shall not be provided with a key repeat function.

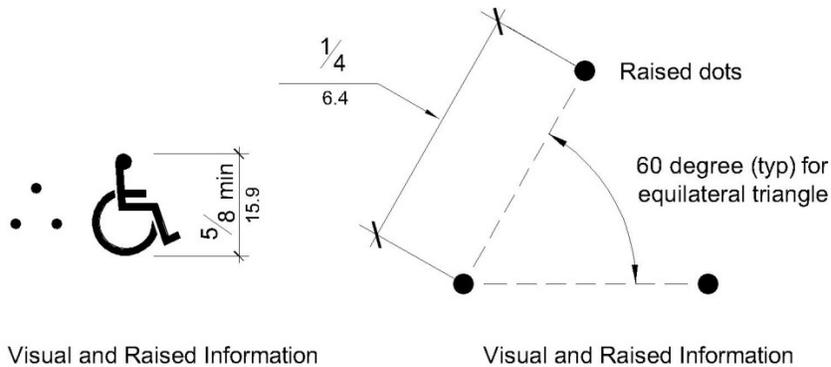


Figure 11B-411.2.1.2.3
Destination-Oriented Elevator Accessibility Function Button Indication

11B-411.2.1.2.4 Display screen. Upon activation of the accessibility function button, the display screen shall display information on the location and use of the (★) and (-) buttons, (begin double strikeout) ~~including but not limited to~~ (end double strikeout) user input confirmation, elevator assignment characters, direction to the assigned elevator, and error messages. The display screen shall comply with 11B-411.2.1.2.4.

11B-411.2.1.2.4.1 Contrast. Display screens shall provide contrast with light characters and symbols on a dark background or dark characters and symbols on a light background. The background shall be solid and static.

11B-411.2.1.2.4.2 Size. Elevator assignment characters shall be 1 inch high (25 mm) minimum.

11B-411.2.1.2.4.3 Duration. Elevator assignment characters shall be displayed for a minimum of 5 seconds.

11B-411.2.1.2.5 Audio output. Upon activation of the accessibility function button, the audio output shall provide verbal announcements, (begin double strikeout) ~~including but not limited to~~ (end double strikeout) (begin double underline) of (end double underline) operating instructions, (begin double underline) location and use of the (★) and (-) buttons, (end double underline) user input confirmation, announcement of the elevator assignment characters, direction to the assigned elevator, and error messages. Audio output shall be recorded or digitized human speech, and shall be delivered through a loudspeaker. Auditory volume shall be at least 10 dB above ambient sound level, but shall not exceed 80 dB, measured 36 inches (915 mm) in front of the console. At hall call console locations where the ambient sound level varies, auditory volume shall be maintained at the required volume by an automatic gain control or shall be set at not less than 75 dB.

11B-411.2.1.3 Arrangement. Hall call console arrangement of required features shall comply with Section 11B-411.2.1.3.

11B-411.2.1.3.1 Keypad call console arrangement. (begin double strikeout) ~~Where keypad call consoles are provided,~~ (begin double strikeout) ~~The~~ (end double strikeout) (begin double underline) the (end double underline) display screen shall be located directly above the keypad. The accessibility function button shall be located directly below the keypad at a height of 36" (915 mm) to 42" (1067 mm) above the finish floor.

11B-411.2.1.3.2 Touch screen call console arrangement. (begin double underline) Where touch screen call consoles are provided, the (end double underline) (begin double strikeout) ~~The~~ (end double strikeout) touch screen shall be located directly above the accessibility function button. The accessibility function button shall be located at a height of 36" (915 mm) to 42" (1067 mm) above the finish floor.

11B-411.2.1.3.3 Proximity of required elements. Required features shall be provided on a hall call console assembly or as individual elements grouped in close proximity. (begin double strikeout) ~~The top of the hall call console assembly or the top of the touch screen and each control or group of controls shall be sloped away from the user at 15 to 25 degrees from the vertical plane.~~ (end double strikeout)

(begin double underline) **11B-411.2.1.3.4 Position.** The face of individual elements or group of individual elements that are operated by user input shall slope away from the user at 15 to 25 degrees from the vertical plane. The face of hall call console assemblies and the face of touch screens shall be sloped away from the user at 7 to 25 degrees from the vertical plane. Display screens and touch screens shall be positioned so glare is reduced on the screen. (end double underline)

11B-411.2.1.4 Additional features. Hall call console additional features, if provided, shall comply with 11B-309 and 11B-411.2.1.4.

11B-411.2.1.4.1 Hall call console additional buttons. Hall call console buttons provided in addition to the accessibility function button and keypad buttons shall comply with 11B-411.2.1.4.1. Buttons in addition to the accessibility function button are not permitted on hall call consoles using a touch screen.

11B-411.2.1.4.1.1 Arrangement. Buttons shall be arranged in columns to the right of the keypad with horizontal spacing 1.5 times minimum the horizontal spacing between the numeric keys and with the same vertical spacing as the numeric keys.

11B-411.2.1.4.1.2 Identification. Buttons shall be identified by raised characters and symbols, white on a black background, complying with Section 11B-703.2 and Braille complying with Section 11B-703.3. Identification shall be placed immediately to the left of the control button to which the designation applies.

11B-411.2.1.4.2 Security or access controls. Security or access control system card readers associated with elevator operation shall be (begin double strikeout) ~~located~~ (end double strikeout) in close proximity to each hall call console and in a consistent location manner throughout the facility.

11B-411.2.1.5 Button requirements. Keypad buttons, the accessibility function button, and additional hall call console buttons shall comply with 11B-411.2.1.5.

11B-411.2.1.5.1 Size. Buttons shall have square shoulders, be 3/4 inch (19.1 mm) minimum in the smallest dimension and shall be raised 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm) above the surrounding surface. The buttons shall be activated by a mechanical motion that is detectable.

11B-411.2.1.5.2 Color. Characters and symbols on buttons, where provided, shall be white on a black background.

11B-411.2.1.6 Identification of floors served. In buildings with two or more elevator banks, each serving a different group of specific floors, hall call consoles located on floors with a building entry, including parking and transfer levels, shall be provided with signage complying with Sections 11B-703.2, 11B-703.3, and 703.5 on the surface of or above the hall call console stating "FLOORS n1 – n2", where n1 - n2 represents the range of floors served. Characters shall be white on a black background. (begin double underline) When the accessibility function button is pressed, the audio output shall provide a verbal announcement of the floors served by the elevator group. (end double underline)

11B-411.2.1.7 Elevator car assignment. (begin double underline) When the accessibility function button is pressed, elevator (end double underline) (begin double strikeout) Elevator (end double strikeout) car assignment shall comply with Section 11B-411.2.1.7.

11B-411.2.1.7.1 Assignment by keypad hall call console. (begin double strikeout) ~~When the accessibility function button is pressed the~~ (end double strikeout) (begin double underline) The (end double underline) audio output shall provide (begin double strikeout) ~~a~~ (end double strikeout) verbal (begin double strikeout) ~~announcement of the floors served by the elevator group and~~ (end double strikeout) instruction for the user to enter a destination floor. The selected destination floor shall be confirmed by verbal announcement and on the display screen. Verbal and visible indication of an invalid input shall be provided. The display screen shall indicate the elevator assignment characters and a verbal announcement shall be made of the assigned elevator responding to the call. Visual and verbal direction to the assigned elevator shall be provided.

11B-411.2.1.7.2 Assignment by touch screen hall call console. (begin double strikeout) ~~When the accessibility function button is pressed the~~ (end double strikeout) (begin double underline) The (end double underline) audio output shall provide (begin double strikeout) ~~a~~ (end double strikeout) verbal (begin double strikeout) ~~announcement of the floors served by the elevator group and~~ (end double strikeout) instruction for the user to press the accessibility function button as a response to verbal direction in order to select the destination floor. The selected destination floor shall be confirmed by verbal announcement and on the display screen. Verbal and visible indication of an invalid input shall be provided. The display screen shall indicate the elevator assignment characters and a verbal announcement shall be made of the assigned elevator responding to the call. Visual and verbal direction to the assigned elevator shall be provided.

Exceptions. In addition to assignment by Section 11B-411.2.1.7.2, (begin double strikeout) ~~when the accessibility function button is pressed,~~ (end double strikeout) (begin double underline) a verbal announcement providing the user with (end double underline) an option to select an alternative mode of operation (begin double strikeout) ~~may~~ (end double strikeout) (begin double underline) shall be permitted. Alternative operation shall (end double underline) (begin double strikeout) ~~be~~ (end double strikeout) provided (end double strikeout) by one of the following options:

1. Virtual keypad. (end double underline) (begin double strikeout) ~~A virtual telephone keypad may be provided.~~ (end double strikeout) The size of the keypad shall be a nominal 4" wide by 5" high in a 12-key ascending telephone keypad layout centered in the console. Characters and symbols shall be centered on the corresponding button. Keypads shall have a star (★) on the lower left button and a minus sign (-) on the lower right button. Operation shall be by contact with the touch screen with a press on the key. The audio output shall provide user input confirmation after each key is pressed. Keys shall not be provided with a key repeat function. From any level above and below

the main egress level, when the star button is pressed an elevator shall be dispatched to the main egress level.

2. (begin double underline) *Gesture-based mode of operation.* (end double underline) (begin double strikeout) ~~A gesture-based mode of operation may be provided.~~ (end double strikeout) *Operation shall be by contact with the touch screen, without specific contact with an icon, and using established non-proprietary gestures for selection and input, including but not limited to tapping, sliding, and tap-hold contact-release to select. The audio output shall provide verbal direction on use of the touch screen, and indication of floor selection options until assignment to the elevator is given.*

11B-411.2.1.7.3 Assignment by security credential. If a security system or other form of access control system is provided, (begin double strikeout) ~~when the accessibility function button is pressed,~~ (end double strikeout) (begin double underline) *and security systems controlling elevator access are in operation,* (end double underline) *the audio output shall provide a verbal announcement and direction to the location of the access control activation sensor, such as "present security credential at the sensor immediately to the left". Upon presentation of security credential, the destination floor shall be confirmed by verbal announcement and on the display screen. The display screen shall indicate the elevator assignment characters and a verbal announcement shall be made of the assigned elevator responding to the call. Visual and verbal direction to the assigned elevator shall be provided.*

11B-411.2.1.7.4 Adjacency assignment. The (begin double underline) *system shall assign* (end double underline) *an elevator car immediately to the left or right of the hall call console* (begin double strikeout) ~~shall be assigned.~~ (end double strikeout)

Exception: The most adjacent elevator serving the selected floor shall be assigned by hall call consoles located outside the elevator landing.

11B-411.2.2 Elevator car identification at elevator landings. Elevator car identification shall comply with Section 11B-411.2.2.

11B-411.2.2.1 Visible identification. Above or adjacent to each elevator car entrance there shall be a visible identification fixture with a car designation character. The identification fixture shall be 80 inches (2032 mm) minimum above the finish floor or ground to the bottom of the fixture. The characters on the fixture shall be upper case with a height of 4 (102 mm) inches minimum complying with Sections 11B-703.5.1, 11B-703.5.3, 11B-703.5.4, 11B-703.5.7, and 703.5.8.

Exception: Existing buildings (begin double strikeout) ~~may~~ (end double strikeout) (begin double underline) *shall be permitted to* (end double underline) *have a visible identification fixture with a car designation character adjacent to each elevator car entrance centered at 72 inches (1829 mm) above the finish floor or ground. The character on the fixture shall be upper case with a height of 2 1/2 (64 mm) inches minimum complying with Sections 11B-703.5.1, 11B-703.5.3, 11B-703.5.4, 11B-703.5.7, and 703.5.8.*

11B-411.2.2.2 Verbal identification. (begin double underline) *When the accessibility function button is pressed, verbal* (end double underline) (begin double strikeout) ~~Verbal~~ (end double strikeout) *announcement of the car designation shall be provided at the elevator car entrance upon arrival. Audio output shall be recorded or digitized human speech, and shall be delivered through a loudspeaker. The verbal annunciator shall have a frequency of 300 Hz minimum and 3000 Hz maximum. Auditory volume shall be at least 10 dB above ambient sound level, but shall not exceed 80 dB, measured 36 inches (915 mm) in front of the elevator entrance and at 48"*

above the floor. At elevator entrances where the ambient sound level varies, auditory volume shall be maintained at the required volume by an automatic gain control or shall be set at not less than 75 dB.

11B-411.2.3 Signs on jambs of elevator hoistway entrances. Signs on jambs of elevator hoistway entrances shall comply with Section 11B-411.2.3.

11B-411.2.3.1 Floor designation signs. Floor designation signs complying with Sections 11B-703.2 and 11B-703.4.1 shall be provided on both jambs of elevator hoistway entrances. Signs shall be provided in both raised characters and Braille. Raised characters shall be 2 inches (51 mm) high. A raised star placed to the left of the floor designation, shall be provided on both jambs at the main entry level. The outside diameter of the star shall be 2 inches (51 mm) and all points shall be of equal length. Raised characters, including the star, shall be white on a black background. Braille complying with Section 11B-703.3 shall be placed below the corresponding raised characters and the star. The Braille translation for the star shall be "MAIN". Applied plates are acceptable if they are permanently fixed to the jamb.

11B-411.2.3.2 Car designation signs. Car designation signs complying with Sections 11B-703.2 and 11B-703.4.1 shall be provided on both jambs of the hoistway immediately below the floor designation. Signs shall be provided in both raised characters and Braille. Raised characters shall be 2 inches (51 mm) high. Raised characters shall be white on a black background. Braille complying with Section 11B-703.3 shall be placed below the corresponding raised characters. Applied plates are acceptable if they are permanently fixed to the jamb.

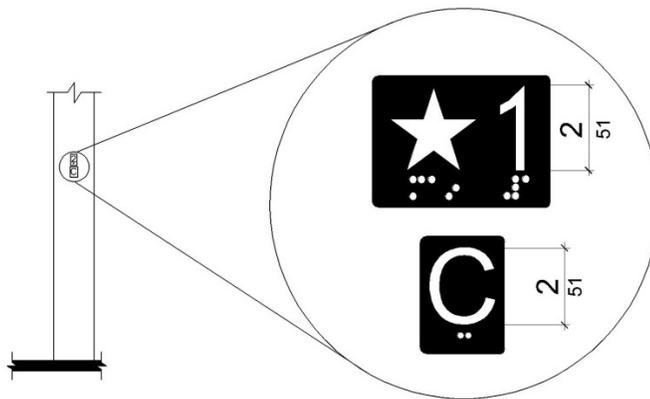


Figure 11B-411.2.3
Floor Designation and Car Designation Signs on Jambs
of Destination-Oriented Elevator Hoistway Signs

11B-411.3 Elevator door requirements. Hoistway and car doors shall comply with Section 11B-411.3.

11B-411.3.1 Type. Elevator door type shall comply with Section 11B-407.3.1.

11B-411.3.2 Operation. Elevator hoistway and car doors shall open and close automatically.

11B-411.3.3 Reopening device. Elevator doors shall be provided with a reopening device complying with Section 11B-411.3.3 that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.

11B-411.3.3.1 Height. *The height of the reopening device shall comply with Section 11B-407.3.3.1.*

11B-411.3.3.2 Contact. *The device contact shall comply with Section 11B-407.3.3.2.*

11B-411.3.3.3 Duration. *The door reopening device duration shall comply with Section 11B-407.3.3.3.*

11B-411.3.4 Door delay. *Door delay shall comply with Section 11B-407.3.5.*

11B-411.3.5 Width. *The width of elevator doors shall comply with Table 11B-407.4.1.*

11B-411.4 Elevator car requirements. *Elevator cars shall comply with Section 11B-411.4.*

11B-411.4.1 Car dimensions. *Inside dimensions of elevator cars and clear width of elevator doors shall comply with Section 11B-407.4.1.*

11B-411.4.2 Floor surfaces. *Floor surfaces in elevator cars shall comply with Section 11B-407.4.2.*

11B-411.4.3 Platform to hoistway clearance. *Platform to hoistway clearance shall comply with Section 11B-407.4.3.*

11B-411.4.4 Leveling. *Elevator car leveling shall comply with Section 11B-407.4.4.*

11B-411.4.5 Illumination. *The level of illumination at the car controls shall comply with Section 11B-407.4.5.*

11B-411.4.6 Elevator car controls. *Where provided, elevator car controls shall comply with Sections 11B-411.4.6 and 11B-309.4.*

11B-411.4.6.1 Location. *Controls shall be located within one of the reach ranges specified in Section 11B-308.*

11B-411.4.6.2 Buttons. *Car control buttons shall comply with Sections 11B-407.4.6.2.1 and 11B-407.4.6.2.4. The car shall not have non-functional, exposed floor buttons.*

11B-411.4.6.3 Emergency controls. *Emergency controls shall comply with Section 11B-407.4.6.4.*

11B-411.4.7 Designations and indicators of car control buttons. *Designations and indicators of car control buttons shall comply with Section 11B-411.4.7.*

11B-411.4.7.1 Type. *Control button type shall comply with Section 11B-407.4.7.1.1.*

11B-411.4.7.2 Location. *Raised characters or symbols and Braille designations shall comply with Section 11B-407.4.7.1.2.*

11B-411.4.7.3 Symbols. *The control button for the emergency stop, alarm, door open, door close, and phone, shall be identified with raised symbols and Braille as shown in Table 11B-407.4.7.1.3.*

11B-411.4.7.4 Button spacing. *Button spacing shall comply with Section 11B-407.4.7.1.5.*

11B-411.4.8 Car position indicators. Audible and visible car position indicators shall be provided in elevator cars.

11B-411.4.8.1 Visible indicators. Visible indicators shall comply with Section 11B-411.4.8.1.

11B-411.4.8.1.1 Size. Characters shall comply with Section 11B-407.4.8.1.1.

11B-411.4.8.1.2 Location. Location of indicators shall comply with Section 11B-407.4.8.1.2.

11B-411.4.8.2 Audible indicators. Audible indicators shall comply with Section 11B-411.4.8.2.

11B-411.4.8.2.1 Signal type. The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.

11B-411.4.8.2.2 Signal level. The verbal annunciator signal level shall comply with Section 11B-407.4.8.2.2.

11B-411.4.8.2.3 Frequency. The verbal annunciator frequency shall comply with Section 11B-407.4.8.2.3.

11B-411.4.9 Emergency communication. Emergency communication shall comply with Section 11B-407.4.9.

11B-411.4.10 Support rail. Support rails complying with Section 11B-407.4.10 shall be provided on at least one wall of the car.

11B-411.4.11 Floor destination indicators. There shall be on each elevator car door jamb a visual display indicating floor destinations.

11B-411.4.11.1 Height. Floor destination characters shall be 1 inch (25 mm) high minimum complying with Section 11B-703.5.3.

11B-411.4.11.2 Contrast. Visual display shall provide contrast with light characters on a dark background or dark characters on a light background. The background shall be solid and static.

11B-411.4.11.3 Duration. Floor destination characters shall be displayed upon elevator car arrival at the input floor and shall not extinguish until the elevator car arrives at the destination floor.

(end underline)

ITEM 11B.45

DIVISION 7: COMMUNICATION ELEMENTS AND FEATURES

11B-705.1 Detectable warnings

11B-705.1.1 General. ...

11B-705.1.1.3 (begin underline) **Color and** (end underline) **Contrast.** (begin underline) Detectable warning surfaces at transit boarding platform edges, bus stops, hazardous vehicular areas, reflecting pools, and track crossings shall comply with Section 11B-705.1.1.3.1. Detectable warnings at other locations shall comply with either Section 11B-705.1.1.3.1 or Section 11B-705.1.1.3.2. The material

used to provide visual contrast shall be an integral part of the surface.

11B-705.1.1.3.1 Detectable warning surfaces shall be yellow and approximate FS 33538 of Federal Standard 595C.

11B-705.1.1.3.2 (end underline) Detectable warning surfaces shall (begin underline) provide a 70 percent minimum visual (end underline) contrast (begin strikeout) ~~visually~~ (end strikeout) with adjacent walking surfaces (begin strikeout) ~~either light-on-dark, or dark-on-light. The material used to provide contrast shall be an integral part of the surface.~~ (end strikeout) Contrast (begin underline) in percent (end underline) shall be determined by:

Contrast (begin underline) percent (end underline) = $[(B1-B2)/B1] \times 100$ (begin strikeout) ~~percent~~ (end strikeout) where
B1 = light reflectance value (LRV) of the lighter area and
B2 = light reflectance value (LRV) of the darker area.

Exception: Where the detectable warning surface does not (begin strikeout) ~~adequately contrast with~~ (end strikeout) (begin underline) provide a 70 percent minimum contrast with (end underline) adjacent (begin double underline) walking (end double underline) surfaces, a 1 inch (25 mm) wide (begin underline) minimum (end underline) (begin double strikeout) ~~black strip~~ (end double strikeout) (begin double underline) visually contrasting surface (end double underline) shall separate (begin strikeout) ~~yellow~~ (end strikeout) (begin underline) the (end underline) detectable warning from adjacent (begin double underline) walking (end double underline) surfaces. (begin double underline) The visually contrasting surface shall contrast with both the detectable warning and adjacent walking surfaces either light-on-dark, or dark-on-light. (end double underline)

11B-705.1.1.4 Resiliency. ...

(begin strikeout) **11B-705.1.1.5 Color.** ~~Detectable warning surfaces shall be yellow conforming to FS 33538 of Federal Standard 595C.~~

Exception: ~~Detectable warning surfaces at curb ramps, islands or cut-through medians shall not be required to comply with Section 11B-705.1.1.5.~~ (end strikeout)

11B-705.1.2 Locations. ...

11B-705.1.2.1 Platform edges. ...

11B-705.1.2.2 Curb ramps. Detectable warnings at curb ramps shall extend 36 inches (914 mm) in the direction of travel. Detectable warnings shall extend the full width of the ramp run (begin underline) less 2 inches (51 mm) maximum on each side. (end underline) excluding any flared sides. Detectable warnings shall be located so the edge nearest the curb is 6 inches (152 mm) minimum and 8 inches (203 mm) maximum from the line at the face of the curb marking the transition between the curb and the gutter, street or highway.

Exception: On parallel curb ramps, detectable warnings shall be placed on the turning space at the flush transition between the street and sidewalk. (begin underline) Detectable warnings shall extend the full width of the turning space at the flush transition between the street and the sidewalk less 2 inches (51 mm) maximum on each side. (end underline)

11B-705.1.2.3 Islands or cut-through medians. Detectable warnings at pedestrian islands or cut-through medians shall be 36 inches (914 mm) minimum in depth extending the full width of the

pedestrian path or cut-through (begin underline) less 2 inches (51 mm) maximum on each side, (end underline) placed at the edges of the pedestrian island or cut-through median, and shall be separated by 24 inches (610 mm) minimum of walking surface without detectable warnings.

Exception: *Detectable warnings shall be 24 inches (610 mm) minimum in depth at pedestrian islands or cut-through medians that are less than 96 inches (2438 mm) in length in the direction of pedestrian travel.*

Notation

Authority: Government Code Section 4450.

Reference(s): Government Code Sections 4450 through 4461, 12955.1 and 14679; Health and Safety Code Section 18949.1 and 19952 through 19959; and Vehicle Code Section 22511.8.