

Americans with Disabilities Act (ADA) Federal Guidelines

The information provided here is distilled from the 2010 ADAAG Final Rule and the ANSI A117.1 - 2010 Standards and shall be applied to all building interior signage at Littleton Public Schools.

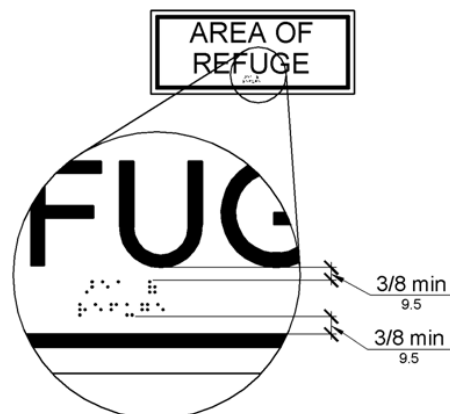
A. ROOM IDENTIFICATION SIGNS:

(using characters that are both tactile and visual)

1. Material Finish: non-glare
2. Color Contrast:
Light characters against dark backgrounds or Dark characters against light backgrounds
3. Tactile Character Depth:
1/32 inch minimum above their background.
4. Tactile (Raised) Character Form:
 - Uppercase only.
 - Sans Serif type styles only.
Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.
 - Character height:
½ inch minimum and 2 inches maximum.
 - Character proportions:
Compliant fonts must meet the following: The width of the upper case “O” shall be 55% - 110% of the character height of the upper case “I”. The stroke thickness of the upper case “I” shall be 15% maximum of the character height.
5. Character (Letter) Spacing:
1/8 inch minimum and 4 times the tactile character stroke width maximum, measured from the top surface of the tactile text, between the two closest points of adjacent characters (excluding word spaces).
Note: when using beveled letters, the law allows for a minimum character space of 1/16 inch measure from the base of the letters.
6. Line Spacing:
3/8 inch minimum and 150% of the character height maximum.
7. Raised borders and decorative elements: 3/8 inch minimum from tactile characters.
8. Braille:
 - Tactile characters must be accompanied by Grade 2 Braille.
 - Braille shall have a domed or rounded shape.
 - Braille shall be located below corresponding text.

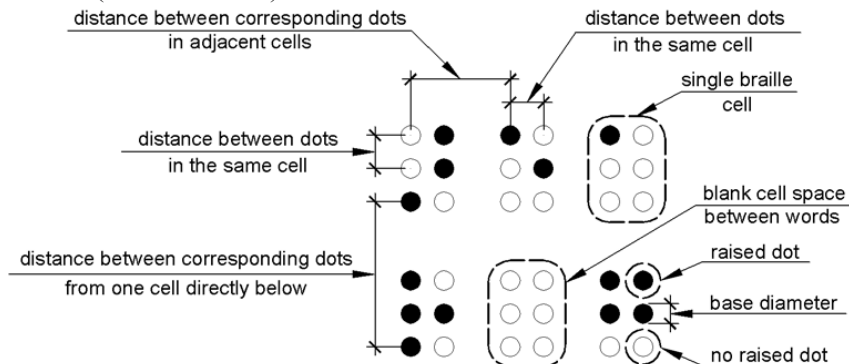
If text is multi-lined, Braille shall be placed below the entire text.

 - Braille shall be separated by 3/8 inch minimum from tactile characters, raised borders, or symbols



- Braille must be lowercase. The indication of uppercase letter(s) shall only be used for proper nouns and names, individual letters of the alphabet, initials, acronyms, or before the first word of sentences.

- Dot Height: 0.025-0.037 inch (0.6-0.9 mm)
- Dot base diameter: 0.059-0.063 inch (1.5-1.6 mm)
- Distance between any two dots in same cell, center to center: 0.090-0.100 inch (2.3-2.5 mm)
- Distance between corresponding dots in adjacent cells, center to center: 0.241-0.300 inch (6.1-7.6 mm)
- Distance between corresponding dots from one cell to the cell directly below, center to center: 0.395-0.400 inch (10.0-10.2 mm)



9. Pictograms:

- Pictograms or symbols must be located on a field of at least 6 inches in height.
- Pictograms and their fields should have a non-glare finish.
- Pictograms should contrast with their backgrounds. Use either a light pictogram on a dark field, or a dark pictogram on a light field.
- Pictograms are not required to be tactile.
- Pictograms are required to have descriptive text located directly below the pictogram field. Braille and tactile text may not intrude into the 6 inch field.

10. Symbols:

Symbols of accessibility shall have a non-glare finish and contrast with their backgrounds. These international symbols should be used to identify the following:



International Symbol of Accessibility



Volume-Controlled Telephone



International TTY Symbol



International Symbol of Access For Hearing Loss

11. Mounting height and location:

- Height: All tactile characters shall be 48 inches minimum and 60 inches maximum above the adjacent floor, measured from the baseline of the characters.
- Location: All room signs should be mounted adjacent to the latch side of the door. Exceptions:
 - Signs for double doors may be mounted on the inactive leaf. If both doors are active, mount sign to the right of the right hand door.
 - Signs can be mounted on push doors that open in and have automatic door closures without hold-open devices.
 - If no wall space exists on the latch side of the door, mount sign on the nearest adjacent wall.
- Distance from door: Signs shall have a minimum 18 x 18 inches space on the floor, centered on the sign, beyond the arc of any door swing between the closed position and 45° open position.

B. DIRECTIONAL AND INFORMATIONAL SIGNS

Signs that provide direction to or information about spaces within a facility are generally wall mounted, projected, or suspended overhead. They are not required to contain tactile characters or Braille, but must meet the requirements for visual characters:

- Characters shall contrast with their background, and both shall have a non-glare finish.
- Characters can be uppercase, lowercase, or a combination of both.
- Type style shall be conventional in form and match typical room signage. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.
- Character width shall be as described above for room signs.
- Character line spacing: 100% - 150% of the character height.
- Character stroke thickness of the uppercase letter “T” shall be 15% - 25% of the height of the character.
- Spacing between individual characters, excluding word spaces, shall be 10% - 25% of character height.
- Character height is based on height above the floor and minimum viewing distance. *Refer to the chart below for character height recommendations.*

Visual Character Height		
Height to Finished Floor or Ground from Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 - 70 inches	less than 6 feet	5/8 inch
	6 feet or more	5/8 inch, plus 1/8 inch per foot of viewing distance beyond 6 feet
>70-120 inches	less than 15 feet	2 inches
	15 feet or more	2 inches, plus 1/8 inch per foot of viewing distance beyond 15 feet
More than 120 inches	less than 21 feet	3 inches
	21 feet or more	3 inches, plus 1/8 inch per foot of viewing distance beyond 21 feet

Character height is based on the uppercase letter “T”.

Minimum viewing distance is measured as the horizontal distance where an obstruction prevents further approach toward the sign.

General Specifications

All signs must comply with all Federal and State laws, codes and regulations and all municipal ordinances or regulations in effect at the time the work is performed.

A. MATERIALS

All materials should be new and free from defects:

1. Plastics
 - Thickness, color, and type as specified in the sign type drawings.
 - Material to be free from scratches or defects and be clean and edges finished per manufacturer’s instructions.
 - Sheet materials and sampling shapes shall be of thickness recommended by sign fabricator to produce straight or evenly curved surfaces, free from waviness, wrinkles or other deformation except as otherwise herein specified or indicated on drawings.
2. Coatings and Finishes
 - All aluminum, metal or fasteners shall be finish coated with an appropriate primer and color coat, with corrosion inhibitors guaranteed for four (4) years against fading, chipping, cracking, peeling, and

discoloration. Colors as specified in sign type drawings.

- All holes, penetrations and cut edges of pre-finished metals must be free of burrs, primed and painted to maintain a corrosion-proof finish.

3. Miscellaneous Materials

- Any metal hardware used for construction not previously covered shall be of stainless steel, aluminum, or steel with galvanized coating.
- Wood, Alucobond, fiberglass, brick, stainless steel, or any other material must be of top grade quality and as specified on drawings.

B. WORKMANSHIP

Any work required under this section that is not described in detail shall be constructed in accordance with approved shop drawings.

1. Accuracy of Work

All work shall be fabricated and erected square, plumb, straight and true. Cut-out letters, numbers, and images shall be cut to continuous, sharp, even line of profile as indicated on drawings. Provide all supporting and anchoring means as required for proper installation. All curved areas to be true. No kinks, creases, oil-canning or dimpling will be accepted.

2. Exposed Joints

Exposed joints should be continuously welded, ground and polished smooth and shall not be visible. Mitered corners shall be snug, neat and tight-fitting in an even, smooth plane.

3. Accessories, Anchorage, Mounting Devices and Spacers Accessories, anchorage, mounting devices and spacers shall be guaranteed non-staining to adjacent walls and sign finish for a period of five (5) years from final acceptance. Ferrous mountings may be sleeved with non-ferrous metal covers matching adjacent finishes, cemented on with non-hydroscopic glue, or other suitable protective measures may be proposed to comply with this guarantee.

C. INSTALLATION

All signs shall be placed as indicated above and/or on the drawings or as directed by LPS or its representative. Signs shall be secured with adhesive, two-sided foam tape, mechanical fasteners or as recommended by the manufacturer and approved on shop drawings specified hereinafter, of sizes required to assure secure attachment. For exterior ground-mounted signs, survey of ground conditions related to soil content, density and compaction are the responsibility of the installer prior to submitting a bid. Removal and/or replacement of asphalt, concrete, existing footings and poles are the responsibility of the installer unless otherwise specified on drawings.

D. DRAWINGS

Shop drawings and final sign schedules showing text and location shall be submitted in PDF file format or equivalent; submittals must be approved by the District before any work under this section has begun. Supplemental drawings indicating post-approval changes or alterations shall be submitted to LPS or its representative and approved before fabrication, as needed.

E. SAMPLES

Furnish LPS representative samples of the finish materials. Colors shall match color samples or standard color system code furnished by LPS or its representative. All colors shall be approved by LPS or its representative.

F. GUARANTEE AND SERVICE

Contractor shall furnish a written guarantee to the effect that all material and work furnished under this section is guaranteed for one (1) year to be free from defects and faulty workmanship, and that any defective materials or work shall be promptly repaired or replaced without additional cost to LPS. Contractor shall, during the first year of operation, fully maintain and service the signs, making regular inspections, and servicing and replacing tubes and electrical equipment as may be necessary to maintain the signs in operation without additional cost to LPS. Any guarantees for additional time or services as required in other sections of this document or as noted on specifications are to be in addition to this section.

G. PROTECTION

All exposed surfaces shall be protected until final acceptance of the work in a manner sufficient to prevent damage or discoloration. Any work damaged or discolored in any way before final acceptance of the work shall be replaced without additional cost to LPS.

H. CLEAN-UP

During the process of the work, the premises shall be kept reasonably free of all debris and waste materials resulting from the work under this section. Upon completion and before final acceptance of work, all debris, rubbish, leftover materials, tools and equipment shall be removed from the site.

I. FINAL CLEANING

Final cleaning of all surfaces shall be carefully done strictly in accordance with the manufacturer's instructions.

Quality of Manufacture

Sign sizes, layouts and formats have been carefully determined to meet existing codes, guidelines, and to form a visually cohesive sign system. Any deviation must be approved by the LPS Operations and Maintenance Department.

A. COLOR PALETTE

1. Background: Reflex Blue C
2. Text: White
3. Bar/Stripe: White

B. COLOR SPECIFICATIONS

Use the following material colors (or equivalent matches) for all LPS interior signage.

1. Reflex Blue C
 - a. Hex #001489 or equivalent
 - b. Websafe #000099 or equivalent
 - c. RGB: 0, 20, 137
 - d. CMYK: cyan-100, magenta-89, yellow-0, black-0
2. White: Bright White

C. FABRICATION METHODS

1. Digital Printing
Computer-generated artwork printed directly (or applied) to second surface of clear acrylic substrate. Print quality should be 1200 x 600 or higher resolution using UV-stable inks. Color management software should be used for consistent color reproduction.
2. Silk-screening
Silk-screen ink applied to second surface of clear acrylic substrate.
This is an economical method for producing custom background colors. Silk-screened text and/or graphics should only be considered for permanent signs where large quantities are needed.
3. Engraving
The engraving process is commonly used to create tactile (raised) text and graphics through the layering of material. Subsurface text and graphics are created by engraving into the front face of the material. Reverse-engraved text and graphics are created by engraving the back side of material with a clear face and a colored back and then paint-filling the engraved areas. These engraving methods can be used alone or in combination.
4. Braille
Use the Raster™ Method patented process for placing Braille dots on architectural signs using a special carbide engraving bit, manual insertion device (Raster™ Pen) or automated insertion device (Auto-Raster™) and UV stable clear acrylic Rasters™.
5. Painting
Spray paint for consistent, even color and coverage.

D. MATERIALS

1. Acrylic:
 - a. Clear non-glare P-99 Plexiglas or equivalent
 - b. Clear non-glare P-95 Plexiglas or equivalent
 - c. Reflex Blue C matte Plexiglas or equivalent
2. Tape:
 - a. Interior Sign Mounting, 3/4" VHB tape: 3M 4956 Gray, 3M 5962 Black, 3M 4910 Clear, or equal.
3. Braille: Clear Rasters™

E. TYPOGRAPHY

To maintain design standards it is important that not only the type style, but also the letter spacing, line spacing, use of upper and lower case letters, and layout style remain constant, no matter who is creating the signage.

1. Type Style (font):

Truetype **Helvetica Neue Regular** is the designated Littleton Public Schools font standard and should be used for all signage. Alternatively, **Halva Regular** or **Arial Narrow** may be used with prior approval.
2. Letter Spacing:

Spacing between characters should be as follows:

 - Tactile text - use a profile cutter to create beveled characters. This will allow the characters to be placed closer together for a more pleasing look.
 - Letter spacing should match the drawings in this manual. This may require tighter spacing than 100%.
3. Line Spacing:
 - 50-100% for related text
 - 100-150% to separate unrelated text or lists
4. Layout / Paragraph Style: Flush left (except as noted below for door-mounted signs)
5. Letter Height: Refer to individual sign type drawings and descriptions below for specific character heights.
6. Use of Upper and Lower Case Letters:

Room identification signs shall use all upper case letters. Directional signage may use a combination of upper and lower case letters, as in normal sentence construction.

F. ARROWS & SYMBOLS

1. Arrows

The standard arrow is a square tip arrow, white on the typical blue field, as shown below. The arrow is to be justified left and shall precede the copy to which it applies.



2. ADA Symbols

International Symbol of Accessibility is used to identify and show direction to accessible entries, exits and restrooms. The symbol should be sized large enough to be identified from a decision point. The symbol should always face to the right as shown and never be used with a slashed circle (indicating “No”).



3. Common Symbols



Type 1 – Room ID Numbers on Door Frames

Usage:

Identification of room numbers on door frame header at entry to all occupiable rooms or spaces.

Size: 1.5" x 6.0"

Total Thickness: 1/8"

Front Face

- Material: 1/8" single piece acrylic, integral matte finish Reflex Blue C or clear non-glare with blue field applied on 2nd surface. *Alternative: 1/16" front piece, solid blue or clear and back-finished as above, with back piece as below.*
- White room number, engraved or reverse-engraved: 1.0" height, minimum 1/32" deep.
- Font: Helvetica Neue Regular or approved alternative.

Back Piece (if required with front-face number cut-outs)

- Material: 1/16" matte finish white acrylic, or clear acrylic with white field applied on 2nd surface.

Sign Manufacture

- All edges to be smooth and corners sanded to remove sharpness.
- All printed or screened colors to be opaque with even color and coverage.

Installation

- Outside interior entry doors to rooms, mount on door frame header above door latch, with edge of sign aligned with the latch edge of door.
- At interior face of public entries to classrooms, mount at center of door frame header.
- At exterior exits from classrooms, mount on exterior face of door frame header above door latch.

Type 2 – Utility Room ID Signs with Permanent Information

Usage:

Rooms related to building system functions or support and not subject to change, such as: Mechanical, Electrical, Custodial, Telecom, Elevator Equipment

Size: 4.0" x 8.0"

Front Face

- Material: 1/8" single piece acrylic, integral matte finish Reflex Blue C or clear non-glare with blue field applied on 2nd surface.
- White tactile room number:
1.0 inch number height, raised 1/32" with beveled edge.
- White tactile primary descriptive text: 0.75 inch letter height, raised 1/32" with beveled edge.
- White tactile supplemental descriptive text (e.g., Roof Access, Tunnel Access, Electrical Panels):
½ inch minimum letter height, raised 1/32".
- Font: Helvetica Neue Regular or approved alternative.

Sign Manufacture

- All edges to be smooth and corners sanded to remove sharpness.
- All printed or screened colors to be opaque with even color and coverage.

Installation

- On center of doors where scheduled; otherwise, spacing and mounting heights as per A.11, above.

Type 3 – Normally Occupied Room ID Signs

Usage:

Building primary functions where usage is instructional, collaborative or administrative and only infrequently subject to change, such as: Classrooms, Offices, Teaching Labs, Lecture Rooms

Size: 4.0" x 8.0"

Front Face

- Material: 1/8" single piece acrylic, integral matte finish Reflex Blue C or clear non-glare with blue field applied on 2nd surface.
- White tactile room number: 1.0 inch number height, raised 1/32" with beveled edge.
- Font: Helvetica Neue Regular or approved alternative.
- Clear Raster™ Braille.

Sign Manufacture

- All edges to be smooth and corners sanded to remove sharpness.
- All printed or screened colors to be opaque with even color and coverage.

Installation: Spacing and mounting heights as per A.11, above.

Type 4 – Intermittently Occupied or Common Space ID Signs

Usage:

Building group or public functions where usage is for assembly, group activities, research/study, technical processes or meetings and only infrequently subject to change, such as:

- Library/Media Center
- Theater/Auditorium
- Cafeteria/Cafetorium
- Kitchen
- Gymnasium
- Locker Room
- Staff Room (if scheduled)
- Conference Room (if scheduled)

Size: 4.0" x 8.0"

Front Face

- Material: 1/8" single piece acrylic, integral matte finish Reflex Blue C or clear non-glare with blue field applied on 2nd surface.
- White tactile room number: 1.0 inch number height, raised 1/32" with beveled edge.
- White tactile descriptive text: 1.0 inch (preferred) to minimum 3/4 inch letter height, raised 1/32" with beveled edge.
- Font: Helvetica Neue Regular or approved alternative.
- Clear Raster™ Braille.

Sign Manufacture

- All edges to be smooth and corners sanded to remove sharpness.
- All printed or screened colors to be opaque with even color and coverage.

Installation: Spacing and mounting heights as per A.11, above.

Type 5 – Restroom Identification Signs

Usage:

All restrooms except ensuite toilets attached to private offices.

Size: 9.0" x 6.0"

Front Face

- Material: 1/8" single piece acrylic, clear non-glare with blue field applied on 2nd surface or integral matte finish Reflex Blue C.
- White pictograms: Digital printed or silkscreened on 2nd surface with blue field for single-piece clear acrylic plate, or white tactile raised 1/32" applied to 1st surface of integral blue acrylic plate. 6 inch total field with proportional male and/or female figure(s), with or without wheelchair symbol shall be separated from text field by minimum 1/16" white bar.
- White tactile descriptive text:
1.0 inch number height, raised 1/32" with beveled edge.
- Font: Helvetica Neue Regular or approved alternative.
- Clear Raster™ Braille.

Sign Manufacture

- All edges to be smooth and corners sanded to remove sharpness.
- All printed or screened colors to be opaque with even color and coverage.

Installation: Spacing and mounting heights as per A.11, above.

Type 6 – Miscellaneous Other Identification Signs

Usage: Elevators, stairs or ramps connecting two separate floors.

Size: 9.0" x 6.0"

Details: Similar to Type 5, above, as scheduled and adjusted for appropriate text and symbols.

Installation: Spacing and mounting heights as per A.11, above.

Type 7 – Wayfinding Signs

Usage: At lobbies and corridor intersections, to direct visitors to common spaces or groups of rooms.

Size: 18.0" x 18.0" (typical)

Details: Similar to room signs, as above.

Number, location and text for specific signs shall be determined by the building administrator and the **LPS Operations & Maintenance Department** after installation of other new building signage.

END OF SECTION 10 14 00