

SHALL BE CONSIDERED A RAMP AND SHALL COMPLY WITH 4.8.

4.8.2.7 SLOPE & RISE THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION SHALL BE 1:12. THE MAXIMUM RISE FOR ANY RUN SHALL BE 30" (760mm). CURB RAMPS AND RAMPS TO BE CONSTRUCTED ON EXISTING SITES OR IN EXISTING BUILDINGS OR FACILITIES MAY HAVE SLOPES AND RISE AS SHOWN IN TABLE

2. IF SPACE LIMITATIONS PROHIBIT THE USE OF A 1:12 SLOPE OR LESS (SEE 4.1.6).

4.8.3 CLEAR WIDTHS THE MINIMUM CLEAR WIDTH OF A RAMP SHALL BE 36" (915mm).

4.8.4 LANDINGS RAMPS SHALL HAVE LEVEL LANDINGS AT THE BOTTOM AND TOP OF EACH RUN. LANDINGS SHALL HAVE THE FOLLOWING FEATURES:

- (1) THE LANDING SHALL BE AT LEAST AS WIDE AS THE RAMP RUN LEADING TO IT.
- (2) THE LANDING LENGTH SHALL BE A MINIMUM OF 60" (1525mm) CLEAR.
- (3) IF RAMPS CHANGE DIRECTION AT LANDINGS, THE MINIMUM LANDING SIZE SHALL BE 60" BY 60" (1525mm) BY (1525mm).
- (4) IF A DOORWAY IS LOCATED AT A LANDING, THEN THE AREA IN FRONT OF THE DOORWAY SHALL COMPLY WITH 4.13.6.

4.8.5 HANDRAILS IF A RAMP RUN HAS A RISE GREATER THAN 6" (250mm) OR A HORIZONTAL PROJECTION GREATER THAN 72" (1830mm) THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. HANDRAILS SHALL COMPLY WITH 4.26 AND SHALL HAVE THE FOLLOWING FEATURES:

- (1) HANDRAILS SHALL BE PROVIDED ALONG BOTH SIDES OF RAMP SEGMENTS. THE INSIDE HANDRAIL ON SWITCHBACK OR DOGLEG RAMPS SHALL ALWAYS BE CONTINUOUS.
- (2) IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 12" (305mm) BEYOND THE TOP AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH THE FLOOR OR GROUND SURFACE.
- (3) THE CLEAR SPACE BETWEEN THE HANDRAIL AND THE WALL SHALL BE 1-1/2" (38mm).
- (4) GRIPPING SURFACES SHALL BE CONTINUOUS.
- (5) TOP OF HANDRAIL GRIPPING SURFACES SHALL BE MOUNTED BETWEEN 30" & 34" (760mm & 865mm) ABOVE RAMP SURFACES.
- (6) ENDS OF HANDRAILS SHALL BE EITHER ROUNDED OR RETURNED SMOOTHLY TO FLOOR WALL OR POST.
- (7) HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

4.8.6 CROSS SLOPE & SURFACES THE CROSS SLOPE OF RAMP SURFACES SHALL BE NO GREATER THAN 1:50. RAMP SURFACES SHALL COMPLY WITH 4.5.

4.8.7 EDGE PROTECTION RAMPS AND LANDINGS WITH DROP-OFFS SHALL HAVE CURBS, WALLS, RAILINGS, OR PROJECTING SURFACES THAT PREVENT PEOPLE FROM SLIPPING OFF THE RAMP. CURBS SHALL BE A MINIMUM OF 2" (50mm) HIGH (SEE FIG. 17).

4.8.8 OUTDOOR CONDITIONS OUTDOOR RAMPS AND THEIR APPROACHES SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

## 4.9 STAIRS.

4.9.1 MINIMUM NUMBER STAIRS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.9.

4.9.2 TREADS & RISERS ON ANY GIVEN FLIGHT OF STAIRS, ALL STEPS SHALL HAVE UNIFORM RISER HEIGHTS AND UNIFORM TREAD WIDTHS. STAIR TREADS SHALL BE NO LESS THAN 11" (280mm) WIDE, MEASURED FROM RISER TO RISER (SEE FIG. 18(a)). OPEN RISERS ARE NOT PERMITTED ON ACCESSIBLE ROUTES.

4.9.3 NOSINGS THE UNDERSIDES OF NOSINGS SHALL NOT BE ABRUPT. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE NO GREATER THAN 1/2" (13mm). RISERS SHALL BE SLOPED OR THE UNDERSIDE OF THE NOSING SHALL HAVE AN ANGLE NOT LESS THAN 60 DEGREES FROM THE HORIZONTAL. NOSINGS SHALL PROJECT NO MORE THAN 1-1/2" (38mm) (SEE FIG. 18).

4.9.4 HANDRAILS STAIRWAYS SHALL HAVE HANDRAILS AT BOTH SIDES OF ALL STAIRS. HANDRAILS SHALL COMPLY WITH 4.26 AND SHALL HAVE THE FOLLOWING FEATURES:

- (1) HANDRAILS SHALL BE CONTINUOUS ALONG BOTH SIDES OF STAIRS. THE INSIDE HANDRAIL ON SWITCHBACK OR DOGLEG STAIRS SHALL ALWAYS BE CONTINUOUS (SEE FIG. 19(a) & (b)).
- (2) IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 12" (305mm) PLUS THE WIDTH OF ONE TREAD BEYOND THE BOTTOM RISER. AT THE TOP, THE EXTENSION SHALL BE PARALLEL WITH THE FLOOR OR GROUND SURFACE. AT THE BOTTOM, THE HANDRAIL SHALL CONTINUE TO SLOPE FOR A DISTANCE OF THE WIDTH OF ONE TREAD FROM THE BOTTOM RISER. THE REMAINDER OF THE EXTENSION SHALL BE HORIZONTAL (SEE FIG. 19(c) & (d)). HANDRAIL EXTENSIONS SHALL COMPLY WITH 4.4.
- (3) THE CLEAR SPACE BETWEEN HANDRAILS AND WALLS SHALL BE 1-1/2" (38mm).
- (4) GRIPPING SURFACES SHALL BE UNINTERRUPTED BY NEVEL POSTS, OTHER CONSTRUCTION ELEMENTS, OR OBSTRUCTIONS.
- (5) TOP OF HANDRAIL GRIPPING SURFACE SHALL BE MOUNTED BETWEEN 30" & 34" (760mm) & 865mm) ABOVE STAIR NOSINGS.
- (6) ENDS OF HANDRAILS SHALL BE EITHER ROUNDED OR RETURNED SMOOTHLY TO FLOOR WALL OR POST.
- (7) HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

4.9.5 TACTILE WARNINGS AT STAIRS (REMOVED & RESERVED).

4.9.6 OUTDOOR CONDITIONS OUTDOOR STAIRS AND THEIR APPROACHES SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

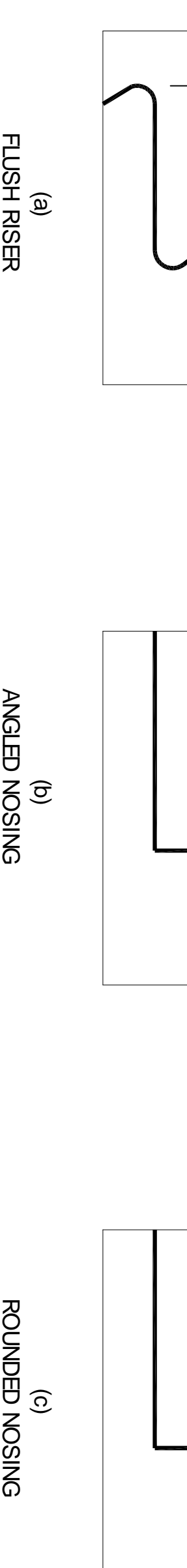
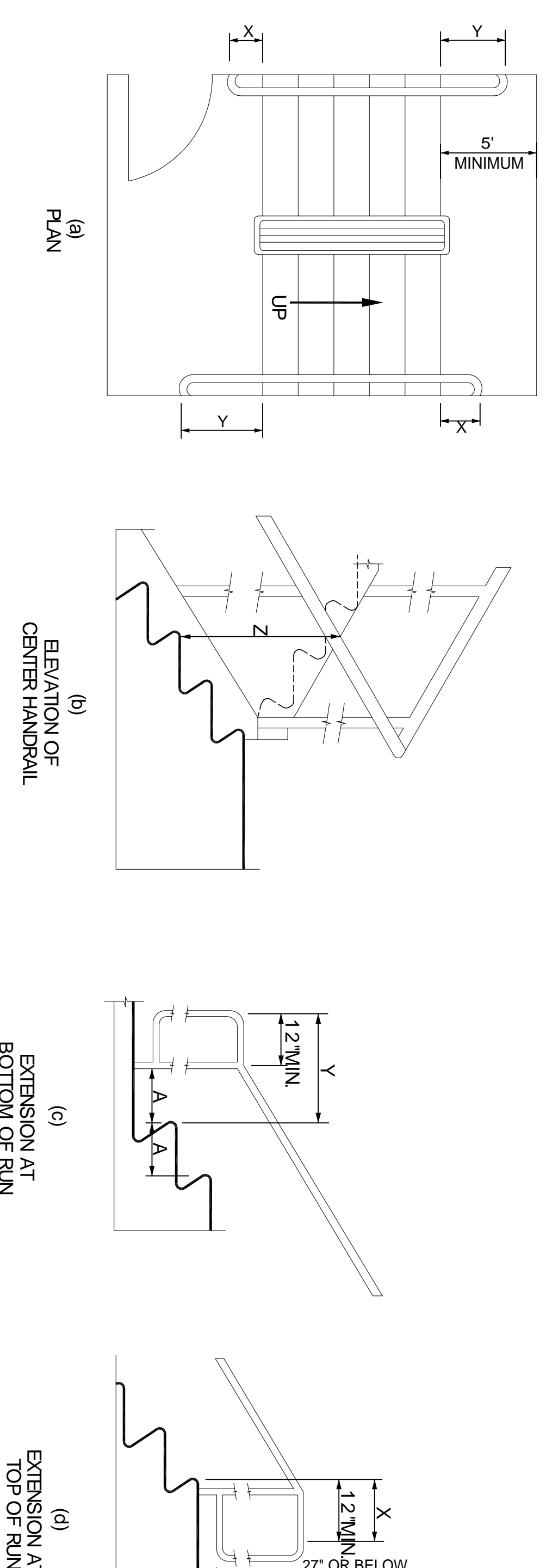


FIG. 18

## USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS

N.T.S.



### NOTE

X - IS THE 1 1/2" MINIMUM HANDRAIL EXTENSION REQUIRED AT EACH TOP RISER.

Y - IS THE MINIMUM HANDRAIL EXTENSION OF 12" PLUS THE DEPTH OF ONE TREAD THAT IS REQUIRED AT EACH BOTTOM RISER

Z - THE HEIGHT OF THE HANDRAIL, MEASURED ABOVE STAIR TREAD NOSING, SHALL BE UNIFORM AND NOT LESS THAN 34" AND NOT MORE THAN 38".

## STAIR HANDRAILS

N.T.S.

## 4.10 ELEVATORS.

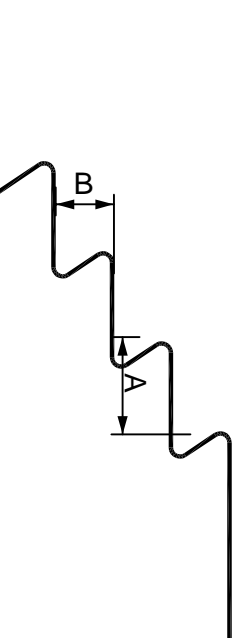
4.10.1 GENERAL ACCESSIBLE ELEVATORS SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.10 AND WITH THE ASME A17.1-1990. SAFETY CODE FOR ELEVATORS AND ESCALATORS. FREIGHT ELEVATORS SHALL NOT BE CONSIDERED AS MEETING THE REQUIREMENTS OF THIS SECTION UNLESS THE ONLY ELEVATORS PROVIDED ARE USED AS COMBINATION PASSENGER AND FREIGHT ELEVATORS FOR THE PUBLIC AND EMPLOYEES.

4.10.2 AUTOMATIC OPERATION ELEVATOR OPERATION SHALL BE AUTOMATIC. EACH CAR SHALL BE EQUIPPED WITH A SELF-LEVELING FEATURE THAT WILL AUTOMATICALLY BRING THE CAR TO FLOOR LANDINGS WITHIN A TOLERANCE OF 1/2" (13mm) UNDER RATED LOADING, ZERO TO LOADING CONDITIONS. THIS SELF-LEVELING FEATURE SHALL BE AUTOMATIC AND INDEPENDENT OF THE OPERATING DEVICE AND SHALL CORRECT THE OVERTRAVEL OR UNDERTRAVEL.

4.10.3 HALL CALL BUTTONS CALL BUTTONS IN ELEVATOR LOBBIES AND HALLS SHALL BE CENTERED AT 42" (1065mm) ABOVE THE FLOOR. SUCH CALL BUTTONS SHALL HAVE VISUAL SIGNALS TO INDICATE WHEN EACH CALL IS REGISTERED AND WHEN EACH CALL IS ANSWERED. CALL BUTTONS SHALL BE A MINIMUM OF 3" (76mm) IN THE SMALLEST DIMENSION. THE BOTTOM DESIGNATING THE DIRECTION SHALL BE ON TOP. BUTTONS SHALL BE RAISED OR FLUSH. OBJECTS MOUNTED BEHIND HALL CALL BUTTONS SHALL NOT PROJECT INTO THE ELEVATOR LOBBY MORE THAN 4" (100mm).

4.10.4 HALL LANTERNS A VISIBLE AND AUDIBLE SIGNAL SHALL BE PROVIDED AT EACH HOISTWAY ENTRANCE TO INDICATE WHICH CAR IS ANSWERING A CALL. AUDIBLE SIGNALS SHALL SOUND ONCE FOR THE UP DIRECTION AND TWICE FOR THE DOWN DIRECTION OR SHALL HAVE VERBAL ANNUNCIATORS THAT SAY "UP" OR "DOWN". VISIBLE SIGNALS SHALL HAVE THE FOLLOWING FEATURES:

- (1) HALL LANTERN FIXTURES SHALL BE MOUNTED SO THAT THEIR CENTERLINE IS AT LEAST 2 1/2" (64mm) IN THE SMALLEST DIMENSION.
- (2) VISUAL ELEMENTS SHALL BE AT LEAST 2-1/2" (64mm) IN THE SMALLEST DIMENSION.
- (3) SIGNALS SHALL BE VISIBLE FROM THE VICINITY OF THE HALL CALL BUTTON, IN-CAR LANTERNS LOCATED IN CARS, VISIBLE FROM THE VICINITY OF HALL CALL BUTTONS, AND CONFORMING TO THE ABOVE REQUIREMENTS, SHALL BE ACCEPTABLE.



A - TREAD DEPTH SHALL BE 1 1/2" MINIMUM.

B - RISER SHALL BE 4" MINIMUM, OR 7" MAXIMUM, MEASURED VERTICALLY BETWEEN THE LEADING EDGE OF THE ADJACENT TREADS.

## STAIR DETAIL

N.T.S.