4.6 PARKING AND PASSENGER LOADING ZONES.

4.6.1 MINIMUM NUMBER. PARKING SPACES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.6(2.3.3(2)(a)). PASSENGER LOADING ZONES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.6.5 AND 4.6.6.

4.6.2 LOCATION. ACCESSIBLE PARKING SPACES SERVING A PARTICULAR BUILDING SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE ENTRANCE. IN PARKING FACILITIES THAT DO NOT SERVE A PARTICULAR BUILDING, THE ROUTE OF TRAVEL TO AN ACCESSIBLE PEDESTRIAN ENTRANCE OF THE PARKING FACILITY SHOULD BE SHORTEST. IN BUILDINGS WITH MULTIPLE ACCESSIBLE ENTRANCES WITH ADJACENT PARKING, ACCESSIBLE PARKING SPACES SHALL BE DISPERSED AND LOCATED CLOSE ALONG THE ACCESSIBLE ROUTE OF TRAVEL.

4.6.3* PARKING SPACES. PARKING SPACES FOR DISABLED PEOPLE SHALL BE AT LEAST 96" (2440 mm) WIDE AND SHALL HAVE AN ADJACENT ACCESS AISLE 60" (1525 mm) WIDE MINIMUM. PARKING SPACES AND AISLES SHALL BE LEVEL WITH SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS. ADJACENT ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE. PARKED VEHICLE OVERHANGS SHALL NOT REDUCE THE CLEAR WIDTH OF AN ACCESSIBLE CIRCULATION ROUTE. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS.

EXCEPTION: IF ACCESSIBLE PARKING SPACES FOR USE PRIMARILY FOR HANDICAPPED PERSONS ARE PROVIDED, THEY SHOULD HAVE AN ADJACENT ACCESSIBLE AISLE AT LEAST 60" (1525mm) WIDE COMPLYING WITH 4.3, GROUND AND FLOOR SURFACES.

4.6.4* SIGNAGE. ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED FOR THE USE OF PEOPLE WITH A VALID PERMIT OR THE PERMIT OF DISABILITY (SEE 4.5.6). SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.

4.6.5 PASSENGER LOADING ZONES. PASSENGER LOADING ZONES SHALL PROVIDE AN ACCESS AISLE AT LEAST 60" (1525mm) WIDE AND THE FULL LENGTH ADJACENT AND PARALLEL TO THE VEHICLE PULL-UP SPACE (SEE FIG. 10). IF SPACES ARE GRANGED FOR USE BY VANS, A VEHICLE PULL-UP SPACE WITH ACCESS AISLE PROVIDED WITH IT SHALL BE MARKED TO ALLOW A VEHICLE TO PULL UP ALONGSIDE THE ACCESS AISLE. ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS.

4.6.6 VERTICAL CLEARANCE. PASSENGER LOADING ZONES SHALL PROVIDE AN ACCESS AISLE AT LEAST 114" (2895mm) WIDE AND 20' (6096mm) LONG ADJACENT AND PARALLEL TO THE VEHICLE PULL-UP SPACE (SEE FIG. 10). IF VEHICLES ARE EXPECTED TO USE THE ACCESS AISLE, THEN THE VERTICAL CLEARANCE SHALL BE 114" (2895mm) MINIMUM. ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS.

4.7 CURB RAMPS.

4.7.1 LOCATION. CURB RAMPS COMPLYING WITH 4.7 SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES CURBS.

4.7.2 SLOPE. SLOPES OF CURB RAMPS SHALL COMPLY WITH 4.5.2. THE SLOPE SHALL BE MEASURED IN THE DIRECTION OF THE CURB RAMP. THE SLOPE OF THE FLARED SIDES OF A CURB RAMP SHALL BE NO GREATER THAN 10:1. THE SLOPE MEASURED PARALLEL TO THE CURB RAMP SHALL BE A MINIMUM OF 36" (915mm) LONG. THE SLOPE OF THE CURB RAMP SHALL NOT EXCEED 1:12.

4.7.3 WIDTH. THE MINIMUM WIDTH OF A CURB RAMP SHALL BE 36", EXCLUSIVE OF FLARED SIDES.

4.7.4 SURFACE. SURFACES OF CURB RAMPS SHALL COMPLY WITH 4.5.

4.7.5 SIDES OF CURB RAMPS. IF A CURB RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK across THE RAMP, OR WHERE IT IS NOT PROTECTED BY GUARDRAILS OR HANDRAILS, IT SHALL BE FLARED. THE SLOPE OF THE FLARED SIDE SHALL BE A MINIMUM OF 10:1 (SEE FIG. 12(a)). SIDES SHOULD BE PROVIDED WHERE A WALKING SURFACE BORDERS THE RAMP (SEE FIG. 12(b)).

4.7.6 BUILT-UP CURB RAMPS. BUILT-UP CURB RAMPS SHALL BE LOCATED SO THAT THEY DO NOT PRODUCE ANY VEHICLE MOVEMENT LINES (SEE FIG. 13).

4.7.7 WARNING TEXTURES. (REMOVED AND RESERVED).

4.7.8 OBSTRUCTIONS. CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.

4.7.9 LOCATION AT MARKED CROSSWALKS. CURB RAMPS AT MARKED CROSSWALKS SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK, EXCLUDING ANY FLARED SIDES.

4.7.10 DIAGONAL CURB RAMPS. IF DIAGONAL (OR CORNER TYPE) CURB RAMPS HAVE RETURNED SIDES, THEY SHALL BE PROVIDED WITH A MINIMUM OF 48" (1220mm) OF CURB FACE BETWEEN THE PROJECTIONS OF THE FLARED SIDES FOR PEDESTRIAN USE. [illegible] CURB RAMPS.

4.7.11 TRAPS. ANY RAMP PLACED IN CROSSING SHALL BE CUT PERPENDICULAR TO THE WALK WITH THE RAMP OR THE TOP OF THE FLARE PERPENDICULAR TO THE GUTTER. A LEDGE OF 36" (915mm) LONG IN THE PATH OF THE FLARE PERPENDICULAR TO THE GUTTER.

4.7.12 UNCURBED INTERSECTIONS. (REMOVED AND RESERVED).

4.8 RAMPS.

4.8.1* GENERAL. ANY PART OF AN ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 SHALL BE CONSIDERED A RAMP AND SHALL COMPLY WITH 4.8.

4.8.2* SLOPE AND RISE. THE RISE FOR ANY RAMP SHALL BE LESS THAN 6" (150mm). THE SLOPE OF RAMPS SHALL BE NO STEEPER THAN 1:12 [illegible] 1. IF SPACE LIMITATIONS PREVENT THE USE OF A 1:12 SLOPE OR LESS (SEE 4.1.6).

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

4.8.4 LANDINGS. EVERY RAMP 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 DOOWAY 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" (152mm) OR A HORIZONTAL PROJECTION GREATER THAN 72" (1830mm) THEN HANDRAILS ARE REQUIRED ON BOTH SIDES OF THE RAMP RUN. 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 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" (760 mm & 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 GRIPS, POSTS & SUPPORTS. THE CROSS SECTIONS OF THE RAMP SURFACES SHALL BE NO GREATER THAN 1/2". [illegible] SHALL COMPLY WITH 4.5.

4.8.7 RAMP PROTECTION. RAMPS AND LANDINGS THAT EXTEND OUTWARD SHALL HAVE CURBS, WALLS, RAILINGS, OR PROTRUDING SURFACES WITHIN 4" (102mm) OF THE SURFACE TO PREVENT SLIPPING OFF THE RAMP.

4.8.8 OUTDOOR CONDITIONS. OUTDOOR RAMPS AND THEIR APPROACHES SHALL BE DESIGNED SO 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 ALL TREADS SHALL BE UNIFORM WIDTH. STAIRS WITH OPEN RISERS ARE NOT PERMITTED ON ACCESSIBLE ROUTES.

4.9.3 NOSINGS. THE PROTRUSION OF NOSINGS SHALL BE UNIFORM. THE PROTRUSION OF NOSINGS SHALL NOT EXCEED 1-1/2" (38mm). NOSINGS SHALL PROJECT NO MORE THAN 1-1/2" (38mm) (SEE FIG. 16).

4.9.4 HANDRAILS. HANDRAILS SHALL BE PROVIDED ON 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) BEYOND THE TOP AND BOTTOM OF THE STAIRS. [illegible] (SEE FIG. 19(a) & (b)). 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 NEWEL 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 WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

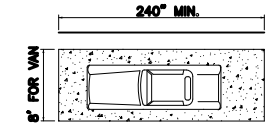


FIG. 10

ACCESS AISLE AT PASSENGER LOADING ZONES
N.T.S.

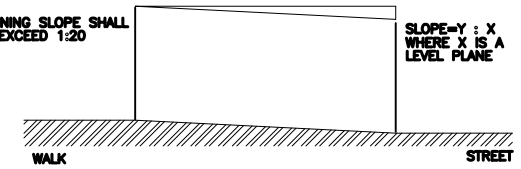


FIG. 11

MEASUREMENT OF CURB RAMP SLOPES
N.T.S.

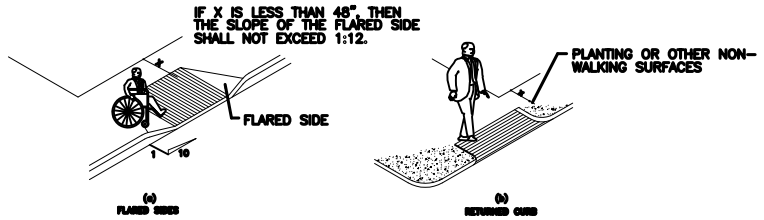


FIG. 12

SIDES OF CURB RAMPS
N.T.S.

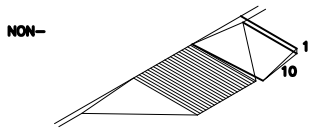


FIG. 13

BUILT-UP CURB RAMP
N.T.S.

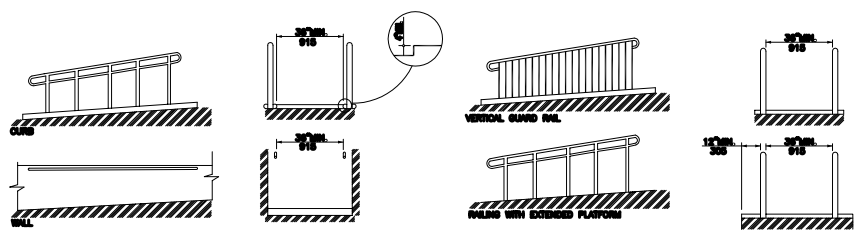


FIG. 17

EXAMPLES OF EDGE PROTECTION AND HANDRAIL EXTENSIONS
N.T.S.

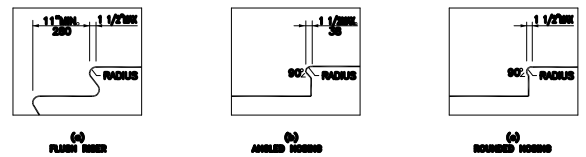
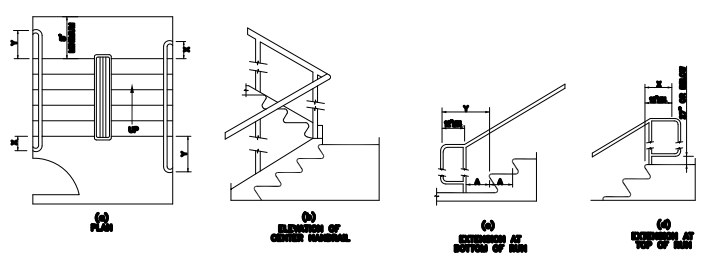


FIG. 18

USEABLE TREAD WIDTH AND EXAMPLES OF ACCEPTABLE NOSINGS
N.T.S.



NOTE:
X IS THE 11" 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

FIG. 19

STAIR HANDRAILS
N.T.S.

4.10 ELEVATORS.

4.10.1 GENERAL. ACCESSIBLE ELEVATORS SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.3 AND THE RELEVANT PORTIONS OF 4.10 AND 4.11. THE ELEVATOR CAR SHALL BE ACCESSIBLE AND DIMENSIONED TO ACCOMMODATE A WHEELCHAIR. ELEVATOR CONTROLS, HARDWARE, AND MIRRORS SHALL BE ACCESSIBLE AND COMMODIOUS FOR PASSENGERS AND PROVIDE CLEARANCE 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 LEVEL WITHIN THE TOLERANCE GIVEN IN 4.10.3 REGARDLESS OF LOAD. THIS SELF-LEVELING FEATURE SHALL BE AUTOMATIC AND INDEPENDENT OF THE OPERATING DEVICE AND SHALL CORRECT THE OVERRUNS AND UNDERRUNS.

4.10.3 HALL CALL BUTTONS. CALL BUTTONS IN ELEVATOR LOBBIES AND HALLS SHALL BE CENTERED AT 42" (1067mm) ABOVE THE FLOOR. EACH CALL BUTTON SHALL HAVE VISUAL INDICATOR TO SHOW THAT ONCE ONE CALL IS REGISTERED, NO FURTHER CALLS WILL BE REGISTERED UNTIL THE CALL HAS BEEN ANSWERED. THE VISUAL INDICATOR SHALL BE EXTINGUISHED WHEN THE ELEVATOR LOBBY HAS BE ANSWERED. CALL BUTTONS SHALL BE PROJECT INTO THE ELEVATOR LOBBY NOT MORE THAN 4" (102mm).

4.10.4 HALL ARRIVAL SIGNALS. AN AUDIBLE AND VISUAL SIGNAL SHALL BE PROVIDED AT EACH HALLWAY ELEVATOR TO INDICATE THAT THE ELEVATOR IS ARRIVING OR HAS ARRIVED. THE SIGNAL SHALL SOUND ONCE FOR THE UP DIRECTION AND TWICE FOR THE DOWN DIRECTION OR HAVE ONE UNIQUE SIGNAL DESIGNATED THAT SAY "UP" OR "DOWN". VISIBLE SIGNALS SHALL COMPLY WITH THE FOLLOWING:

(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 3-1/2" (94mm) IN THE SMALLEST DIMENSION.
(3) SIGNALS SHALL BE VISIBLE FROM THE VICINITY OF THE HALL CALL BUTTON. IN-CAR SIGNALS LOCATED OVER DOORS MUST BE VISIBLE IN THE VICINITY OF THE CALL BUTTONS, AND CONFORMING TO THE ABOVE REQUIREMENTS, SHALL BE ACCEPTABLE.

4.10.5 RAISED & BRAILLE CHARACTERS ON HOISTWAY EXPERIENCES. ALL ELEVATOR HOISTWAY EXPERIENCES SHALL HAVE RAISED AND BRAILLE CHARACTERS PROVIDED ON EITHER JAMBS NEXT TO THE HOISTWAY DOOR. THE CENTERLINE OF THE CHARACTERS SHALL BE 60" (1525mm) ABOVE THE FLOOR. THE CHARACTERS SHALL BE 2" (51mm) HIGH MINIMUM. EACH ARRIVAL FLOOR WILL ALSO HAVE CHARACTERS DESIGNATING THE FLOOR IN THE JAMBS.

4.10.6* DOOR PROTECTION/REVERSING DEVICE. ELEVATOR DOORS SHALL OPEN AND CLOSE AUTOMATICALLY. THEY SHALL BE PROVIDED WITH A REVERSING DEVICE THAT WILL CAUSE THE DOORS TO REOPEN IF AN OBSTRUCTION IS ENCOUNTERED. THE DOORS SHALL REMAIN FULLY OPENED UNTIL THE OBSTRUCTION IS REMOVED. IF THE DOORS ARE OBSTRUCTED BY AN OBJECT OR PERSON, THE DOORS SHALL BE CAPABLE OF COMPLETING THEIR OPERATIONS AND CLOSING IN ACCORDANCE WITH AN EXPANDED CYCLE OF 20 SECONDS. THE DOORS SHALL REMAIN OPEN FOR A MINIMUM OF 5 SECONDS AFTER THE LAST PERSON HAS CLEARED THE DOORWAY. THE DOORS SHALL REOPEN AUTOMATICALLY IF THE DOORWAY IS OBSTRUCTED FOR A MINIMUM OF 5 SECONDS. [illegible] 4.10.7. THE DOORS SHALL CLOSE AT LEAST 10" (255mm) PER SECOND. DOORS MAY CLOSE MORE SLOWLY WHEN CALLED TO DO SO BY A CAR CONTROL.

4.10.7* DOOR & SIGNAL TIMING FOR HALL CALLS. THE MINIMUM ACCEPTABLE TIME FROM NOTIFICATION THAT A CAR IS ANSWERING A CALL UNTIL THE DOORS OF THAT CAR SHOW TO CLOSE SHALL BE CALCULATED FROM THE FOLLOWING FORMULA:

T=D/(1.5'/S) OR T=D/(445mm/S)

WHERE T = TIME, THE ELEVATOR HAS A DISTANCE OF ONE OF DIAMETERS FROM A POINT IN THE HALLWAY AT WHICH THE CALL IS REGISTERED, D = DISTANCE FROM A POINT IN THE HALLWAY AT WHICH THE CALL IS REGISTERED TO THE FARTHEST CAR CALL LOCATION IN THAT HALLWAY, S = SPEED OF ELEVATOR IN FEET/SECOND (FPS) OR MILLIMETERS/SECOND. THE MINIMUM TIME FOR ELEVATOR DOORS TO REMAIN FULLY OPEN IN RESPONSE TO A CAR CALL SHALL BE 5 SECONDS.

4.10.8 DOOR SPACE FOR CARGO. THE MINIMUM TIME FOR ELEVATOR DOORS TO REMAIN FULLY OPEN IN RESPONSE TO A CAR CALL SHALL BE 5 SECONDS.

4.10.9 DOOR SPACE FOR WHEELCHAIRS. THE ACCEPTABLE DIMENSIONS OF ELEVATOR DOORS WHEN FULLY OPEN SHALL BE AT LEAST 36" (915mm) CLEAR WIDTH. THE DOOR SHALL BE PROVIDED WITH A SOFT OBSTRUCTION DETECTOR AT THE LEADING EDGE OF THE DOOR. THE DOOR SHALL REMAIN OPEN UNTIL THE OBSTRUCTION IS REMOVED. THE DOOR SHALL REOPEN AUTOMATICALLY IF THE OBSTRUCTION IS NOT REMOVED WITHIN 20 SECONDS.

4.10.10 FLOOR SELECTION. THE LEVEL OF ILLUMINATION AT THE CAR CONTROLS, PLATFORM, AND CAR THRESHOLD AND LANDING SILL SHALL BE AT LEAST 5 FOOTCANDLES (53.8 LUX).

4.10.12* CAR CONTROLS. ELEVATOR CONTROL PANELS SHALL HAVE THE FOLLOWING FEATURES:

(1) BUTTONS. ALL CONTROL BUTTONS SHALL BE AT LEAST 3/4" (19mm) IN THEIR SMALLEST DIMENSION. THEY SHALL BE RAISED OR FLUSH.

(2) TACTILE, BRAILLE, AND VISUAL CHARACTERS DESIGNATING ALL CONTROL BUTTONS SHALL BE PROVIDED. THE TACTILE, BRAILLE, AND VISUAL CHARACTERS DESIGNATING ALL CONTROL BUTTONS SHALL BE LOCATED ON THE BUTTON TO THE LEFT OF THE BUTTON. THE TACTILE CHARACTERS SHALL BE AT LEAST 3/4" (19mm) HIGH. THE BRAILLE CHARACTERS SHALL BE LOCATED BELOW THE TACTILE CHARACTERS. THE VISUAL