Volume : II Effective Date :
Chapter : 3 Revision Date : 05/15/2002
Section : 1 Subject : **GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES**
Directive : 4

1. **SCOPE**: This directive establishes LA DOTD policy for barrier rail end treatment, and sidewalk and curb placement on urban bridges with design speeds of 45 mph or less.

2. **PURPOSE**: To establish an acceptable policy for handling barrier rail end treatment, and sidewalk and curb placement for a variety of urban site conditions, and thereby eliminate the need to obtain design exceptions.

3. **POLICY**: The following criteria and options will apply to the design of guardrail, curbs and sidewalks on urban projects.

   I. General Criteria

      a) This criteria will only apply to urban projects with design speeds of 45 mph or less.

      b) GR-200 is the guardrail standard plan and will be used for new projects. For off-system projects refer to standard plan GR-203A and GR-203B.

      c) The standard guardrail length is 75 ft., and will be used on all urban bridges which utilize guardrail, and have sufficient room for standard installation.

      d) Guardrail will not be placed on the trailing ends of urban multi-lane bridges, but will be placed on the trailing ends of two-lane bridges.

      e) A decision should be made no later than plan-in-hand whether sidewalks should be included on the bridge. If it is likely in the future that sidewalks are needed, then sidewalks should be added to the bridge even if it is not added to the roadway section at this time. (This may save a lot of renovation later due to the Americans with Disabilities Act).

   II. Design Options

      A. Bridges without sidewalks (Detail nos. 1-2):

         1. Sketch 1 (standard guardrail length is 75 ft.): The barrier rail is offset 4’ from the edge of the travel lane, and the standard guardrail attached. The 4" curb is flared out from the 1’ roadway offset to connect to the barrier rail which is offset 4’ from the travel lane. (Guardrail placed behind the 4” curb is acceptable).

         2. Detail no. 2 (insufficient room for standard guardrail):
            The following solutions are listed in priority order:

            a) Use the T-Intersection guardrail configuration
               (See Standard plan GR-200, X = 25’ minimum)
            b) Use a 40’ maximum or 10’ minimum turned-down barrier rail transition
               (See special detail BR-03 or BR-05)
            c) Add sidewalk on bridge (see option ll.B.2) and drop guardrail

B. Bridges with sidewalks (Detail nos. 3-6):

Detail nos. 3- 4 show the placement of the sidewalks on the outside of the barrier rail, while detail nos. 5-6 show it placed on the inside of the rail. It will often be acceptable to place the sidewalk on the inside of the barrier rail, however, there may be times where it is desirable to separate pedestrian traffic. Each project should be considered on a case by case basis with proper consideration for the following parameters in determining the sidewalk placement:

Bridge length, design speed, traffic volume, pedestrian volume, locations of schools, playgrounds, parks, etc. that may attract children, or any other pertinent information that may logically influence sidewalk placement. For example, on longer bridges such as urban overpasses, or on bridges that anticipate a heavy amount of child pedestrians with significant vehicular traffic, it may be desirable to separate pedestrian traffic.

1. Sidewalks outside of barrier rail (detail nos. 3-4):
   The following solutions are listed in priority order:

   a) Use the 40’ turned-down barrier rail transition
      (See special detail BR-03)
   b) Use a shortened 10’ turned-down barrier rail transition
      (See special detail BR-05)
   c) Place sidewalk inside barrier rail (see option II.B.2)

2. Sidewalks inside of barrier rail (detail nos. 5-6):

   a) An 8" curb is used to separate the sidewalk for the full length of the bridge and approach slabs, and is then transitioned to a 6" curb outside of the approach slabs (10’ transition typical). Sidewalks placed inside the barrier rail should preferably have a width of 6’.

   b) If there is insufficient room to provide a 8" curb for the full approach slab length past the bridge end, as in the case of side streets intersecting in the approach slab, then a 6" curb should be extended to the intersecting street.

4. **EFFECTIVE DATE**: This policy becomes effective immediately on all projects.

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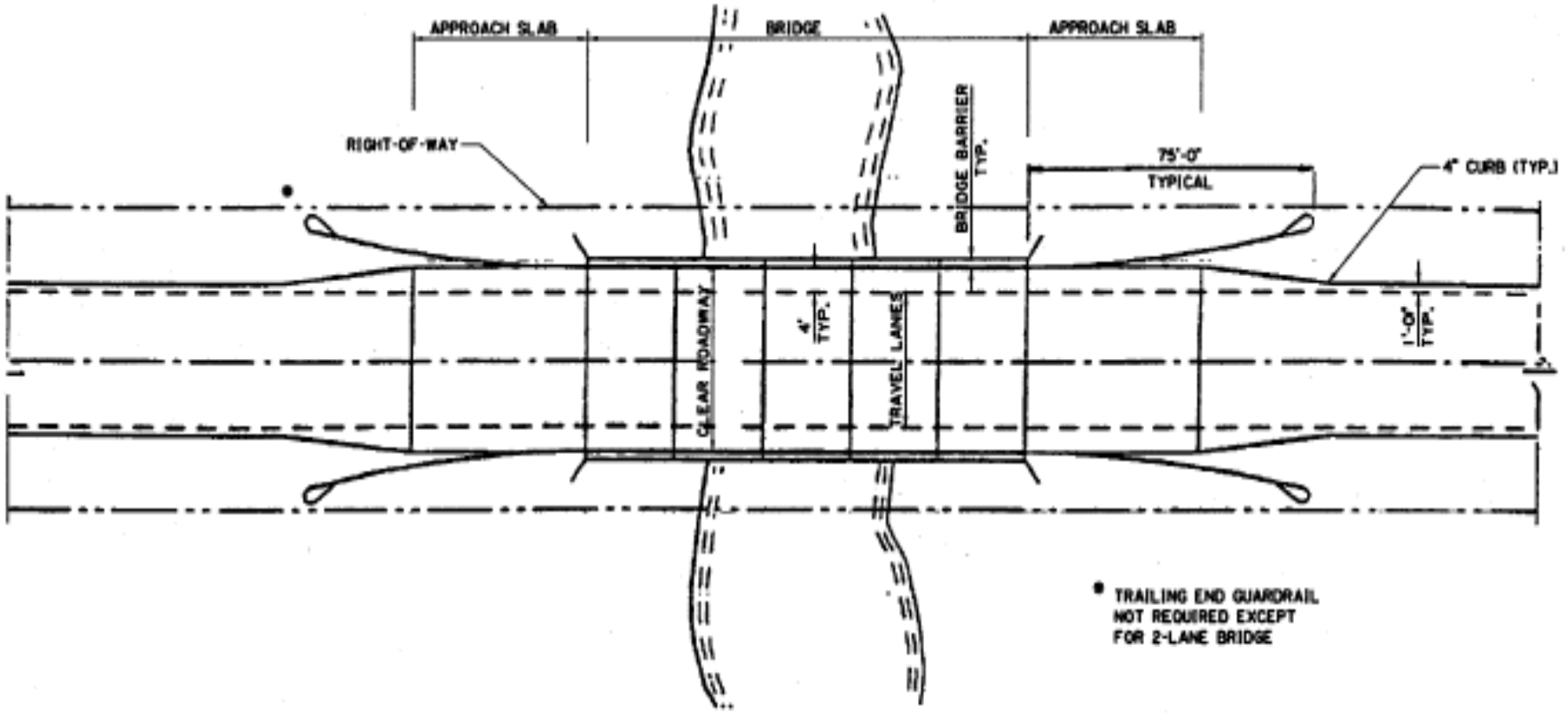
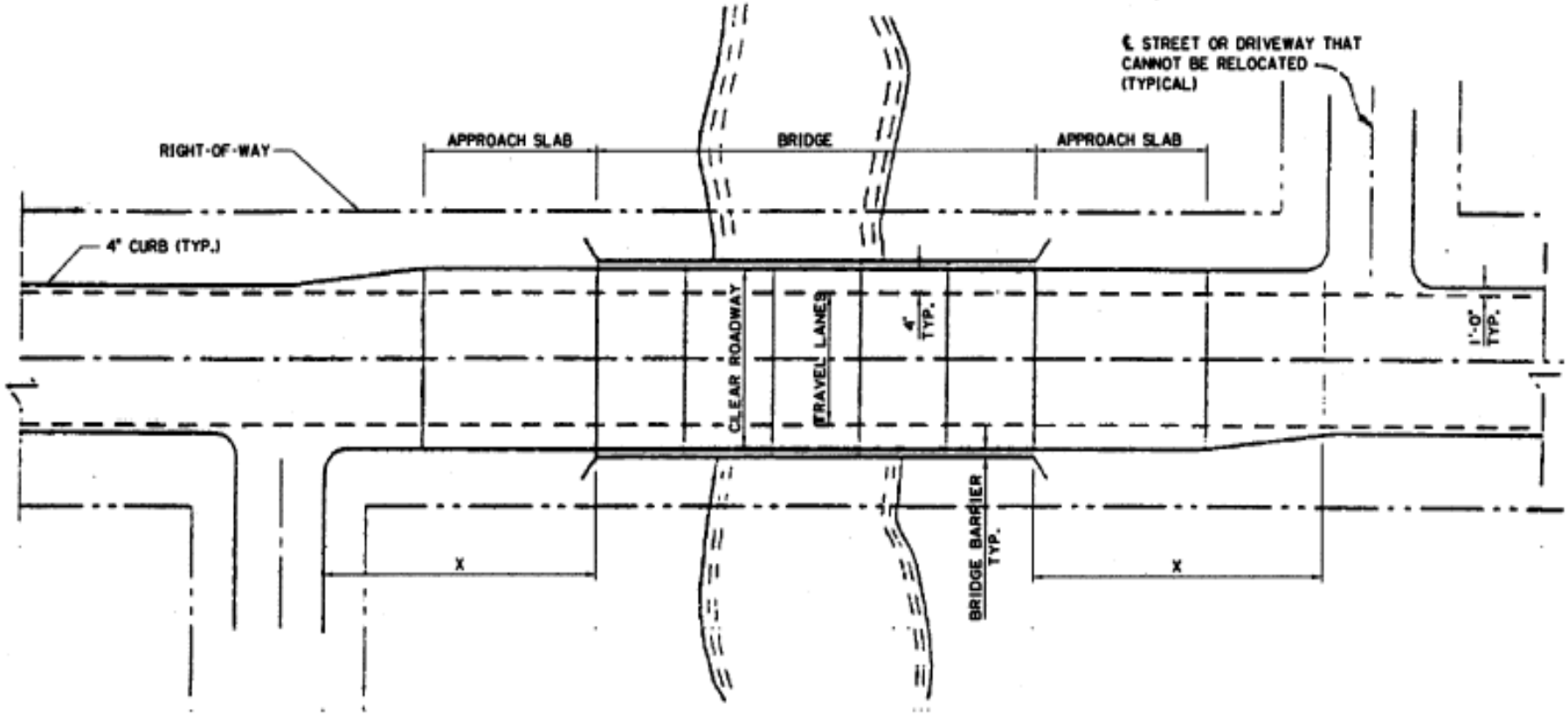


1. PLAN VIEW - NO SIDEWALKS

DETAIL NO. 1
GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES
FORM NO. 11.5.1.4

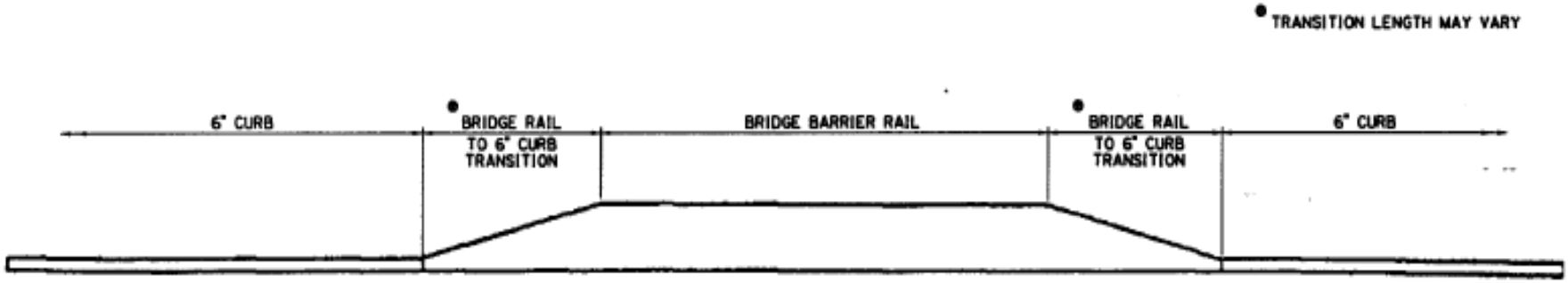
BRIDGE AND STRUCTURAL DESIGN



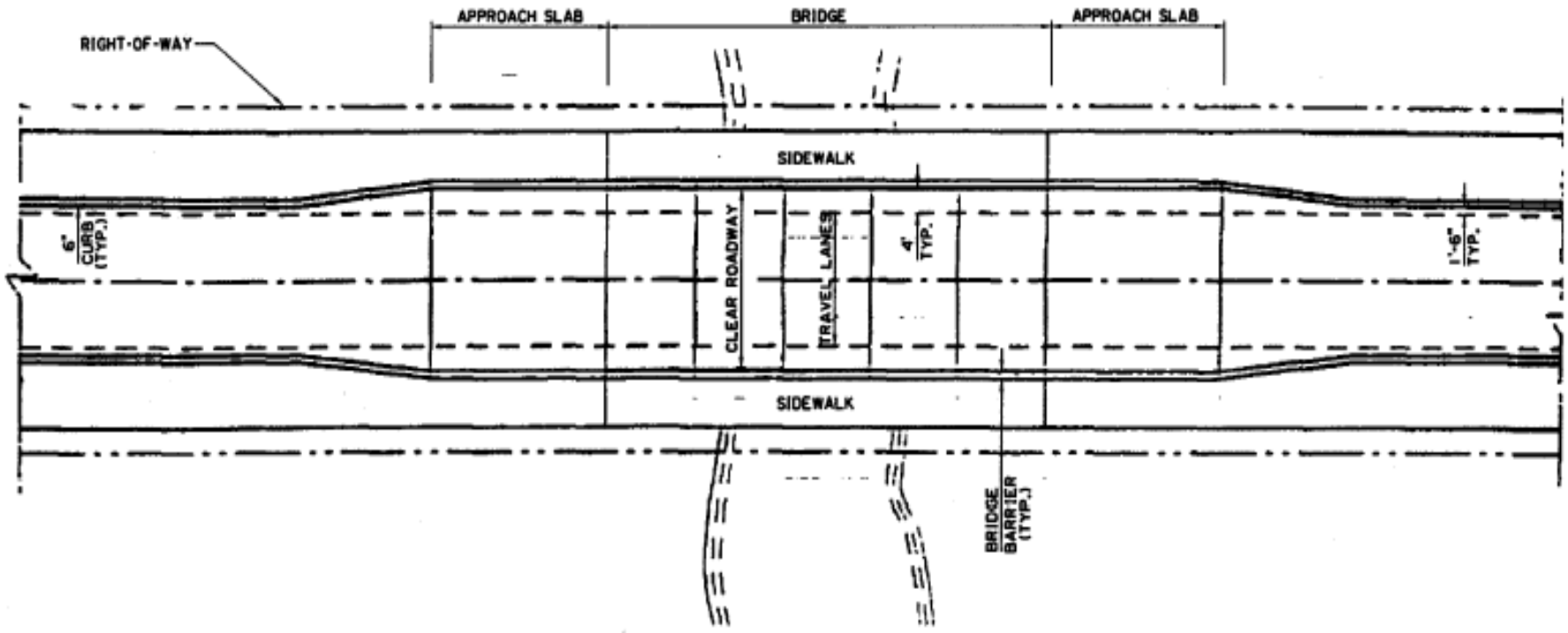
2. PLAN VIEW - NO SIDEWALKS

DETAIL NO. 2
GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES
EDSM NO. 11.3.1.4

BRIDGE AND STRUCTURAL DESIGN



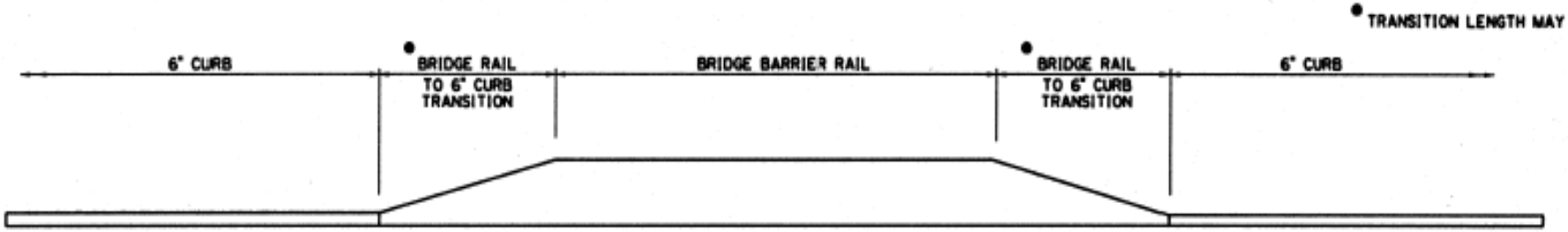
ELEVATION VIEW - RAIL & CURB TRANSITION



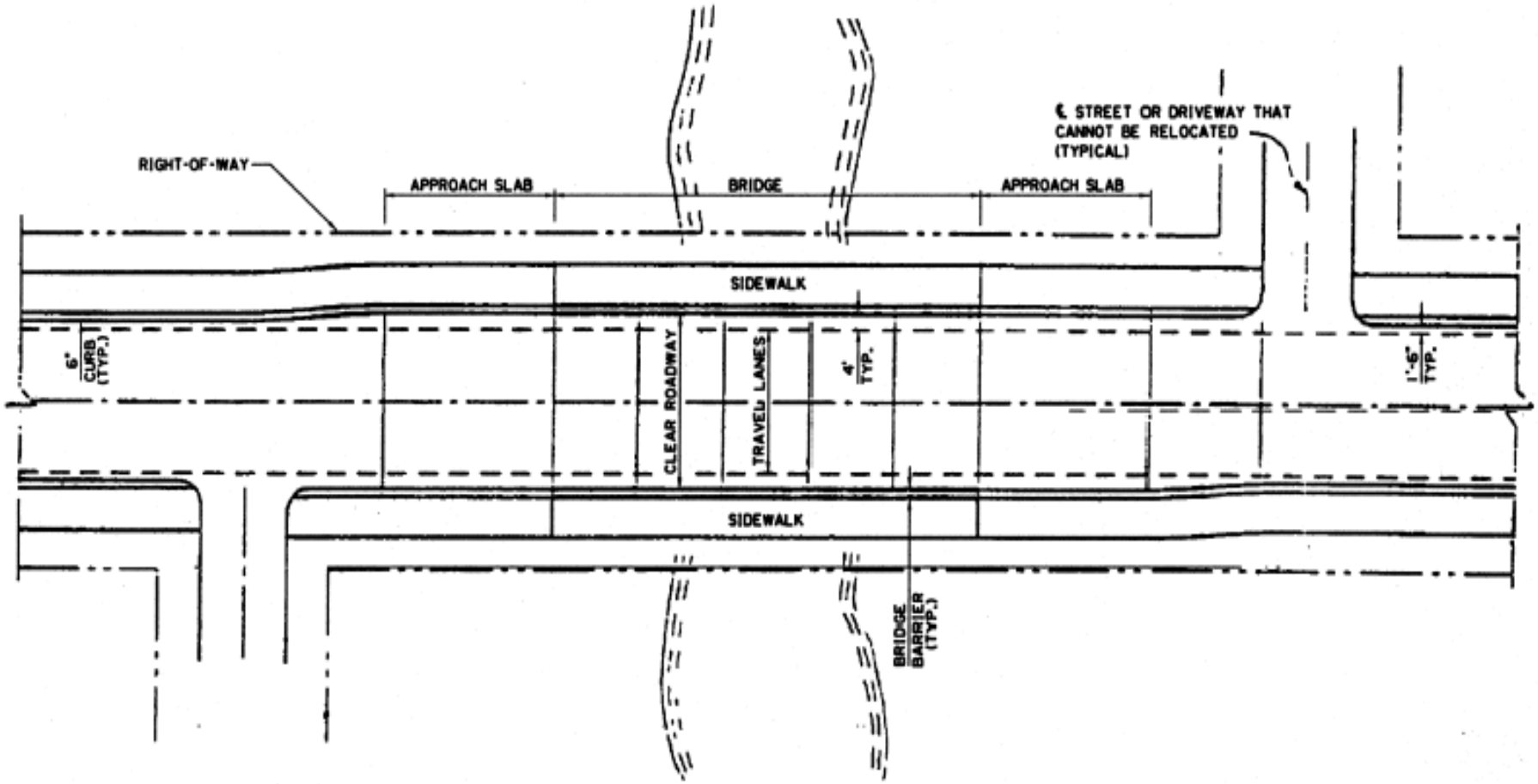
3. PLAN VIEW - SIDEWALKS OUTSIDE OF BRIDGE RAIL

DETAIL NO. 3
GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES
EDSM NO. 11.3.1.4

BRIDGE AND STRUCTURAL DESIGN



ELEVATION VIEW - RAIL & CURB TRANSITION

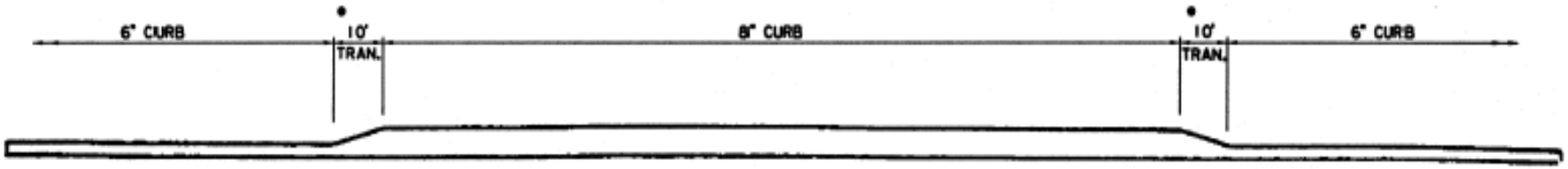


4. PLAN VIEW - SIDEWALKS OUTSIDE OF BRIDGE RAIL

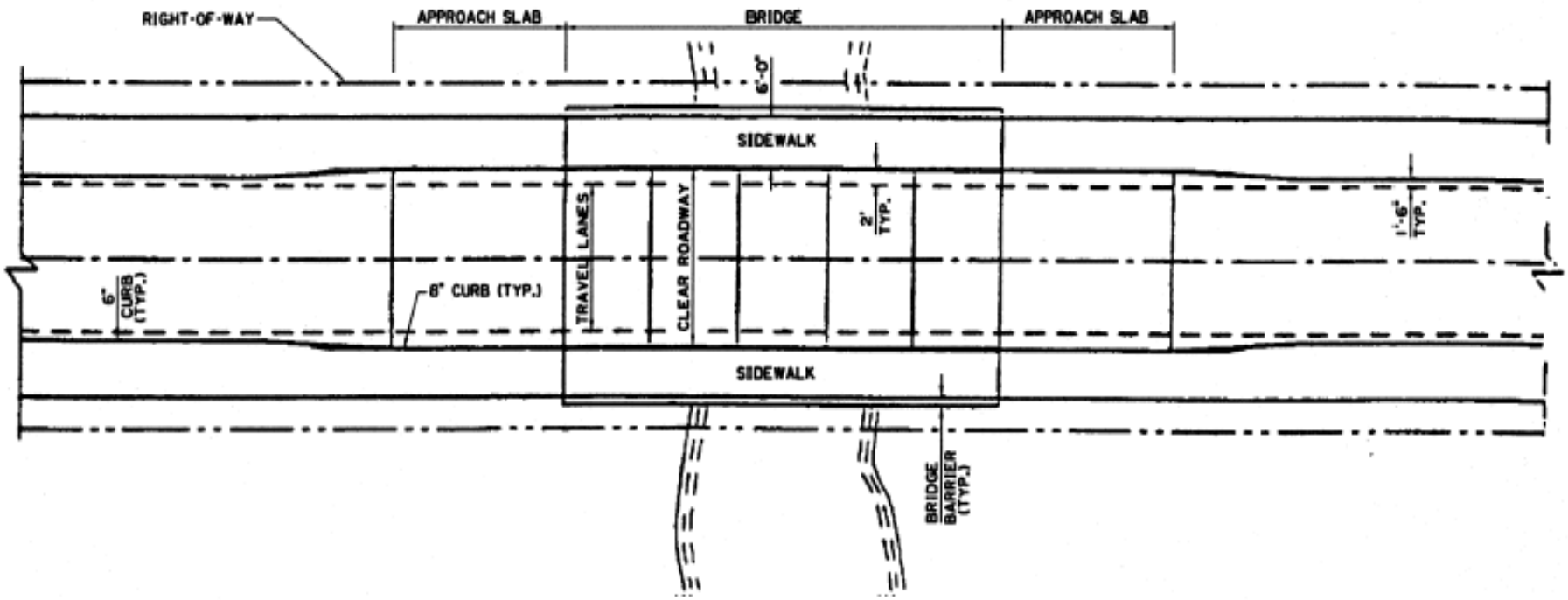
DETAIL NO. 4
GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES
EDM NO. 11.3.1.4

BRIDGE AND STRUCTURAL DESIGN

• 10' TRANSITION FROM 8" TO 6" CURB



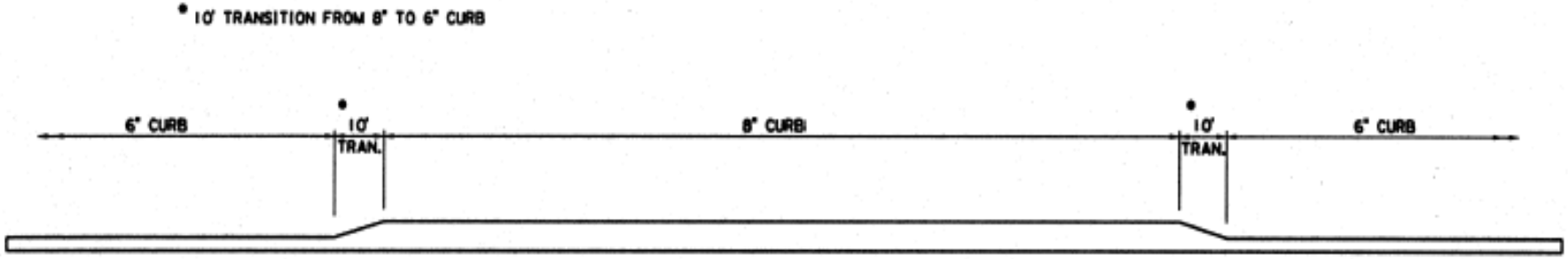
ELEVATION VIEW - CURB TRANSITION



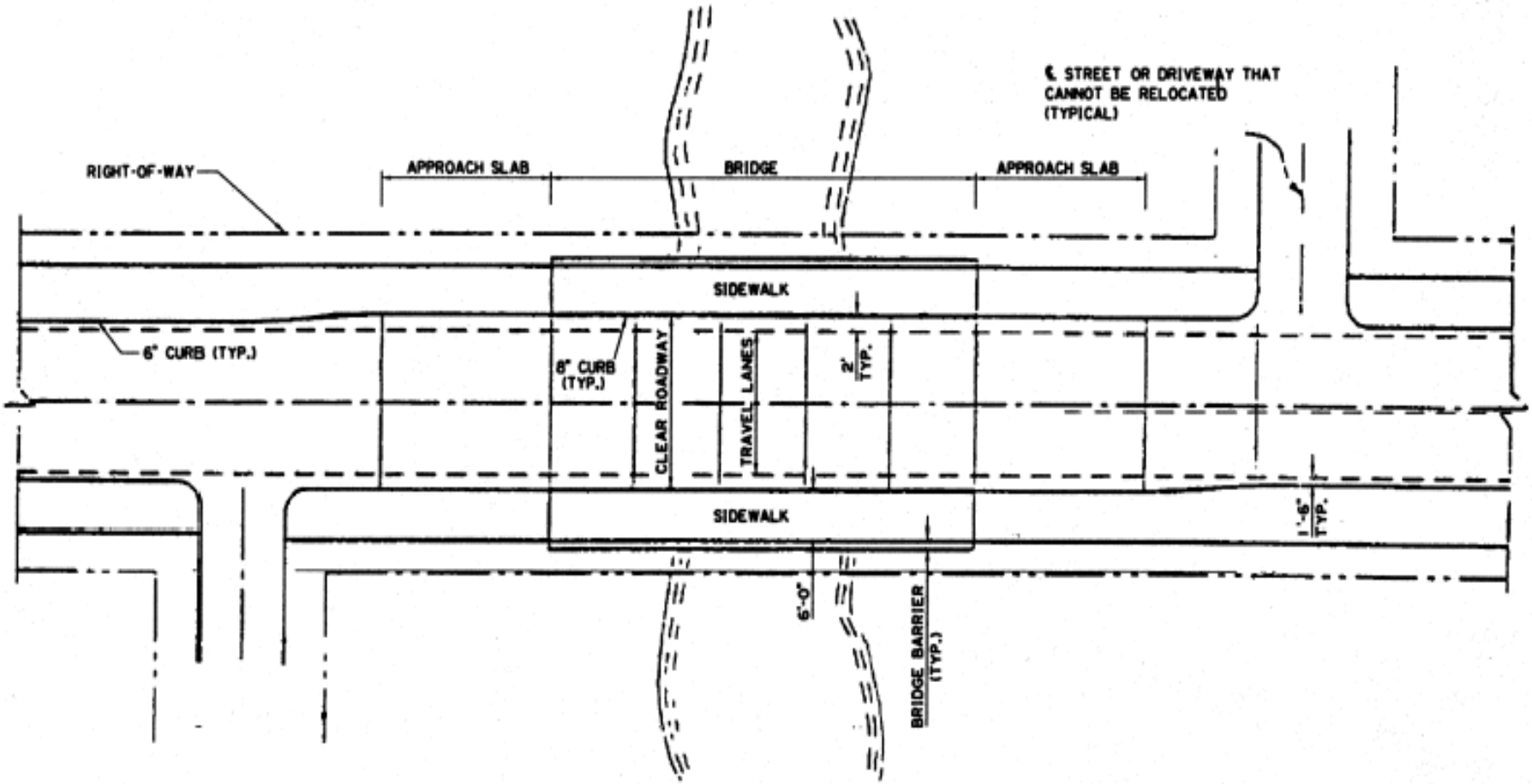
5. PLAN VIEW - SIDEWALKS INSIDE OF BRIDGE RAIL

DETAIL NO. 5
GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES
(CDSM NO. 11.3.1.4)

BRIDGE AND STRUCTURAL DESIGN



ELEVATION VIEW - CURB TRANSITION



6. PLAN VIEW - SIDEWALKS INSIDE OF BRIDGE RAIL

DETAIL NO. 6
GUARDRAIL, OTHER BRIDGE RAIL END TREATMENT, CURBS AND SIDEWALKS ON URBAN BRIDGES
EDSM NO. 11.3.1.4

BRIDGE AND STRUCTURAL DESIGN