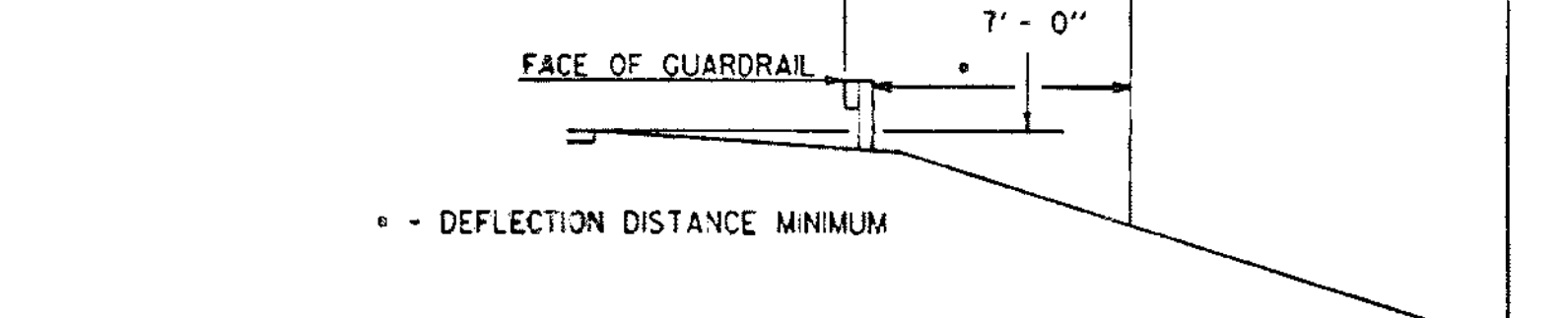


GUARDRAIL DEFLECTION CHART
(PER AASHTO - ROADSIDE DESIGN GUIDE - 1988)

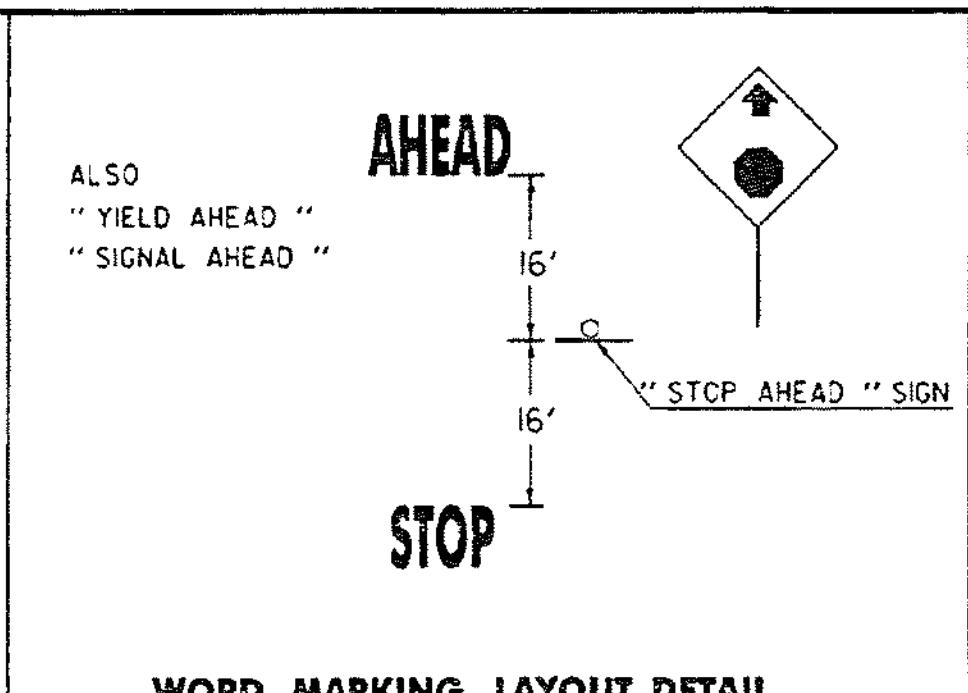
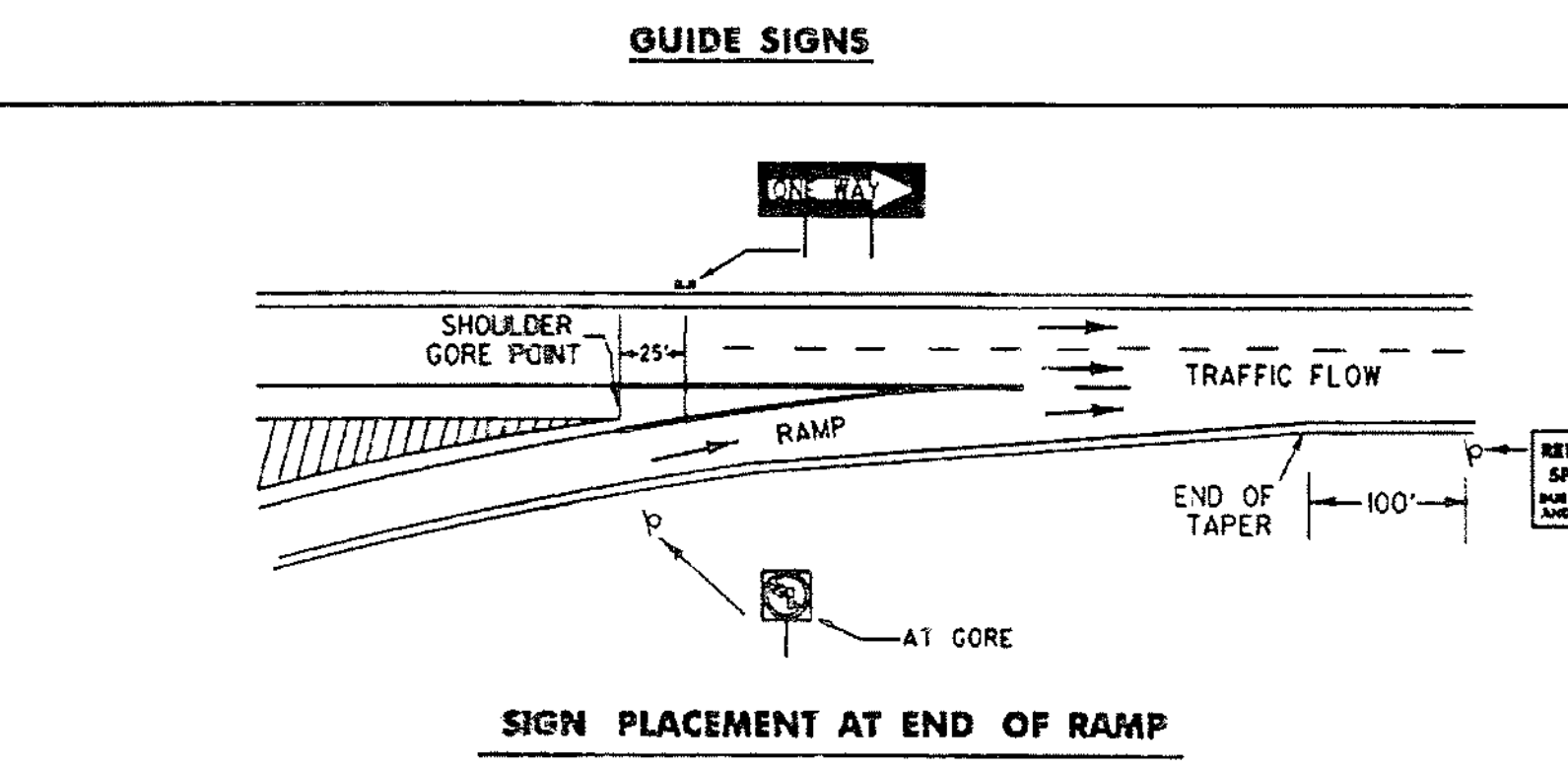
| TYPE | SPACING | DEFLEC. |
|---------------------------|---------|---------|
| Three Cable w/Steel Posts | 16'-0" | 12 ft. |
| w/Wooden Posts | 12'-6" | 12 ft. |
| w-Beam w/WEAK Posts | 12'-6" | 7 ft. |
| w/STRONG Posts | 6'-3" | 3 ft. |
| Box Beam | 6'-0" | 5 ft. |
| Thrie Beam w/Weak Posts | 12'-6" | 4 ft. |
| w/STRONG Posts | 6'-3" | 2 ft. |

WHEN PLACED BEHIND GUARDRAIL AND BEYOND THE DEFLECTION DISTANCE FOR THAT PARTICULAR RAIL, SIGN POSTS DO NOT HAVE TO BE PLACED ON YIELDING SUPPORTS. SIGN POSTS SHALL BE PLACED ON YIELDING SUPPORTS WHEN THEY CAN BE STRUCK BY AN ERRANT VEHICLE LEAVING THE ROADWAY AT AN ENCRoACHMENT ANGLE OF APPROXIMATELY 15 DEGREES OR LESS.

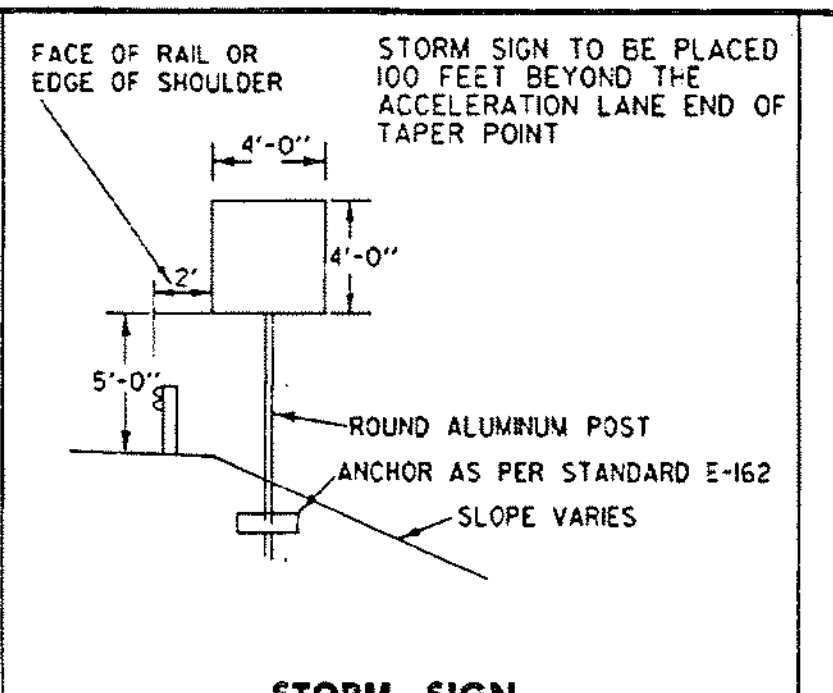
This chart lists the theoretical deflection distance upon impact of various guardrail with different type and post spacing.



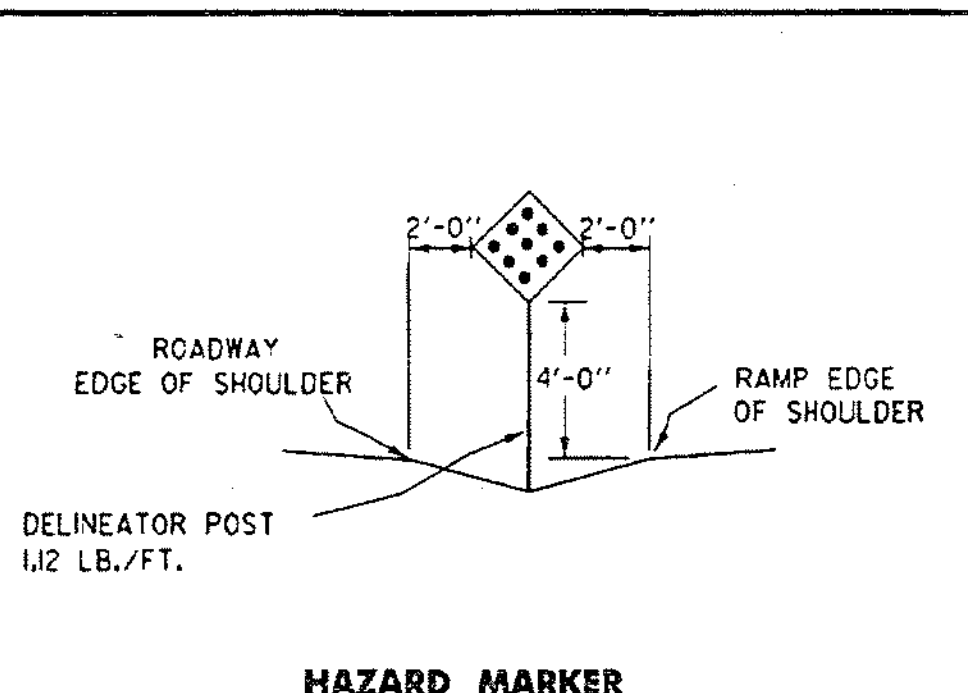
INSTALLATION DETAILS
NORMALLY SIGNS SHOULD BE MOUNTED AT 93° TO THE DIRECTION OF TRAFFIC, ON CURVED ALIGNMENT THE ANGLE OF PLACEMENT SHOULD BE DETERMINED BY THE PATH OF APPROACHING TRAFFIC RATHER THAN BY THE ROADSIDE EDGE AT THE POINT WHERE THE SIGN IS LOCATED. WHEN INSTALLING OVERHEAD SIGNS, CANT THE SIGN FROM THE TOP TOWARD APPROACHING TRAFFIC AT A THREE DEGREE TILT ANGLE.



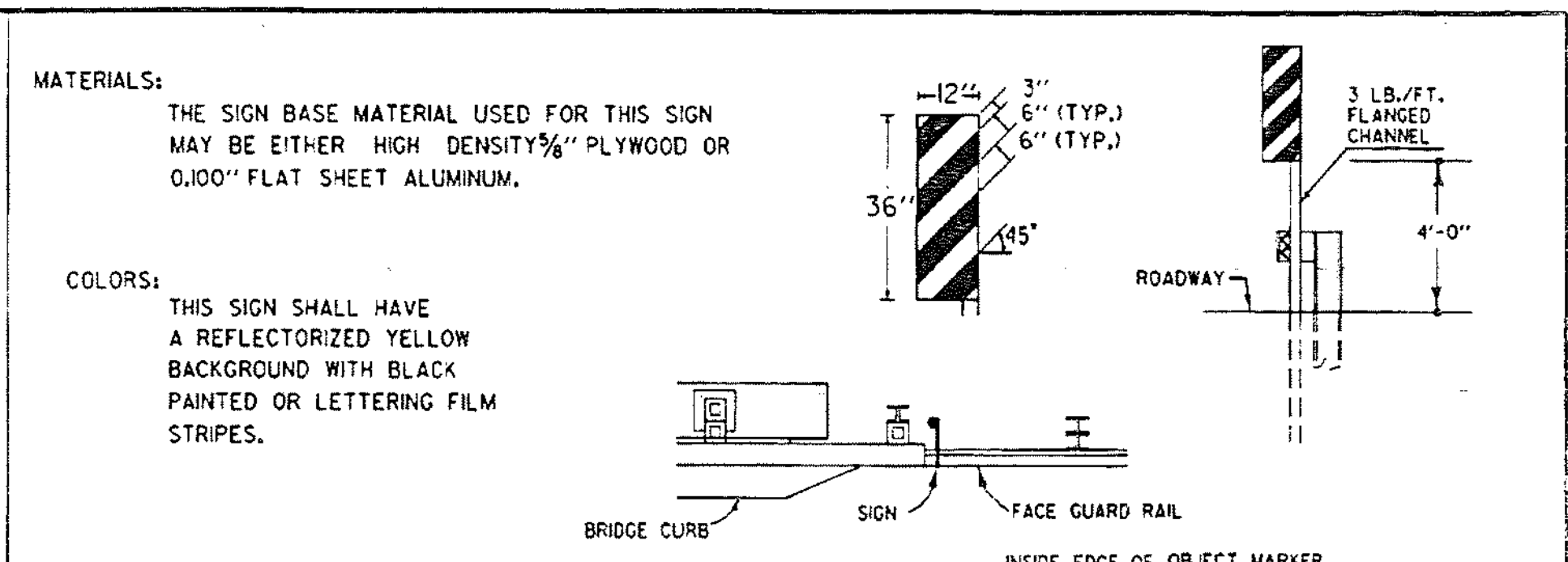
WORD MARKING LAYOUT DETAIL



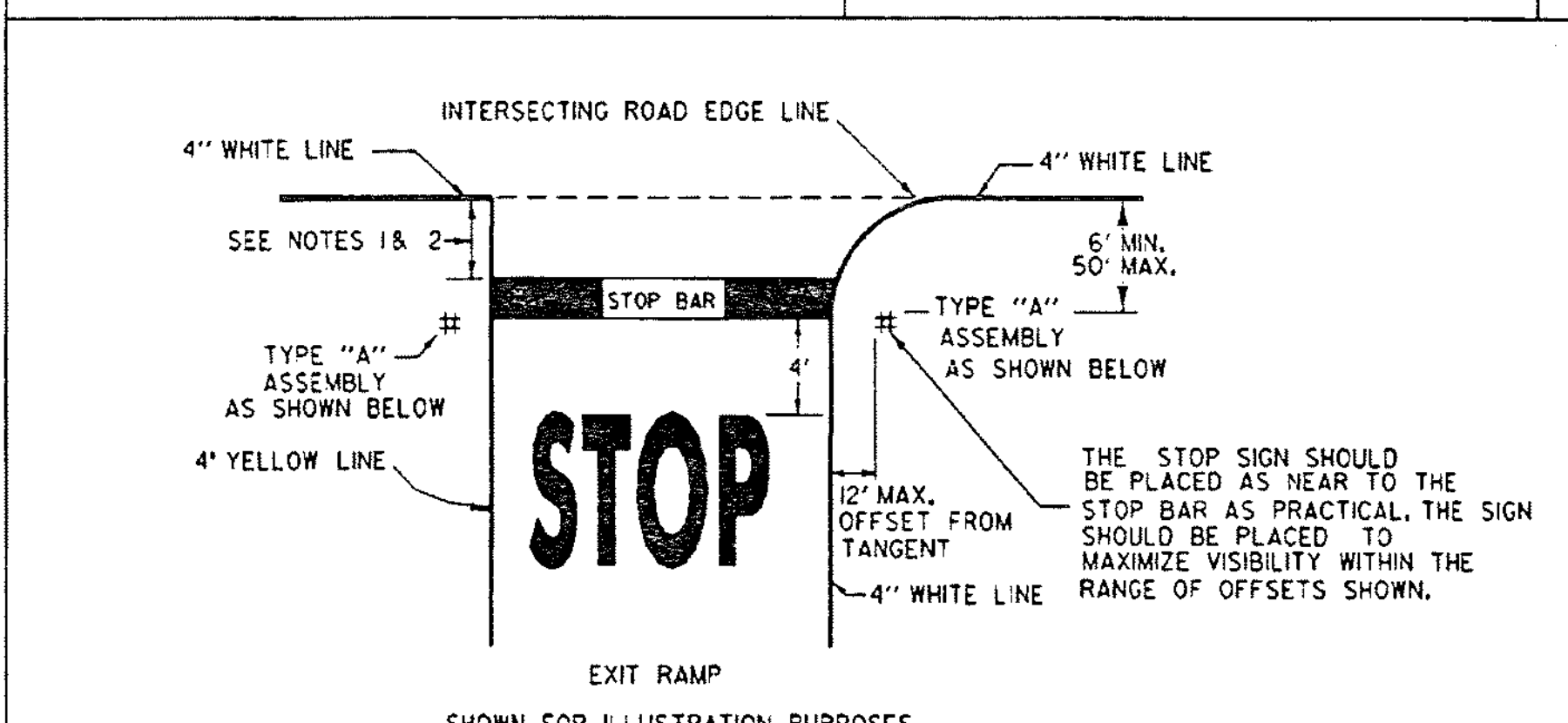
STORM SIGN



HAZARD MARKER



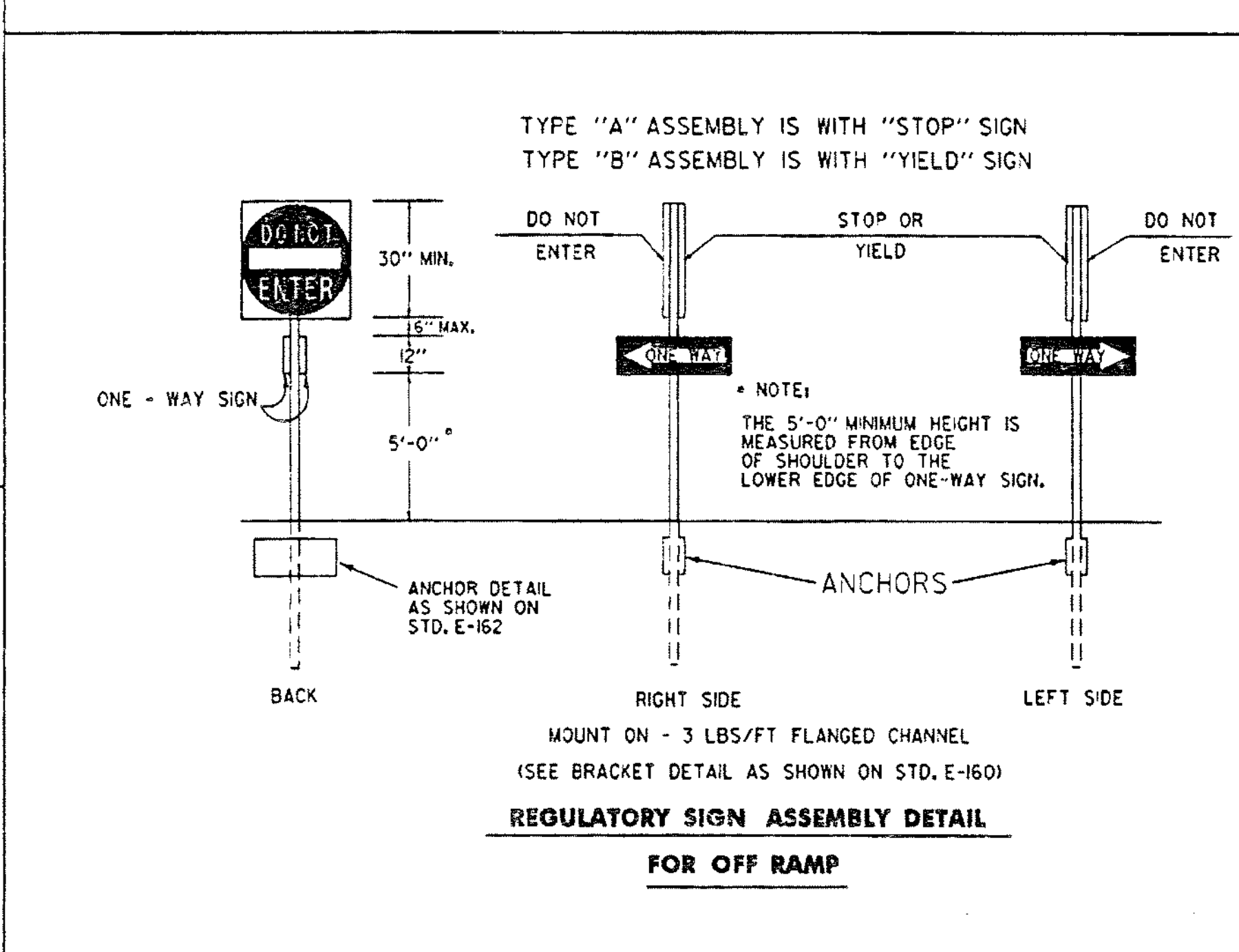
OBJECT MARKER



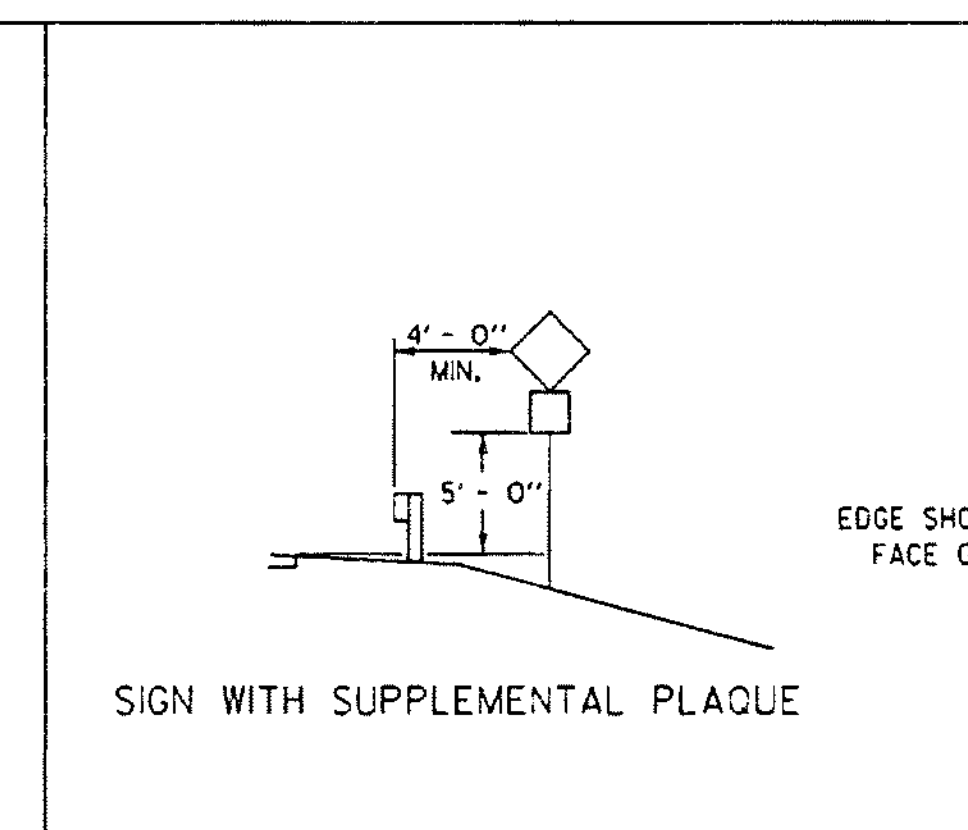
PAVEMENT MARKING & STOP SIGN LOCATION DETAILS FOR OFF RAMP

NOTES:
1. THE STOP BAR SHOULD BE PLACED AT THE DESIRED STOPPING POINT, IN NO CASE MORE THAN 30' OR LESS THAN 4' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
2. AT A SIGNALIZED INTERSECTION, DELETE WORDING "STOP" AND THE STOP SIGN AND PLACE STOP BAR A MINIMUM OF 40' FROM THE NEAREST SIGNAL HEAD FOR THE APPROACH.
3. EXCLUDE THE STOP BAR FOR A YIELD CONDITION.

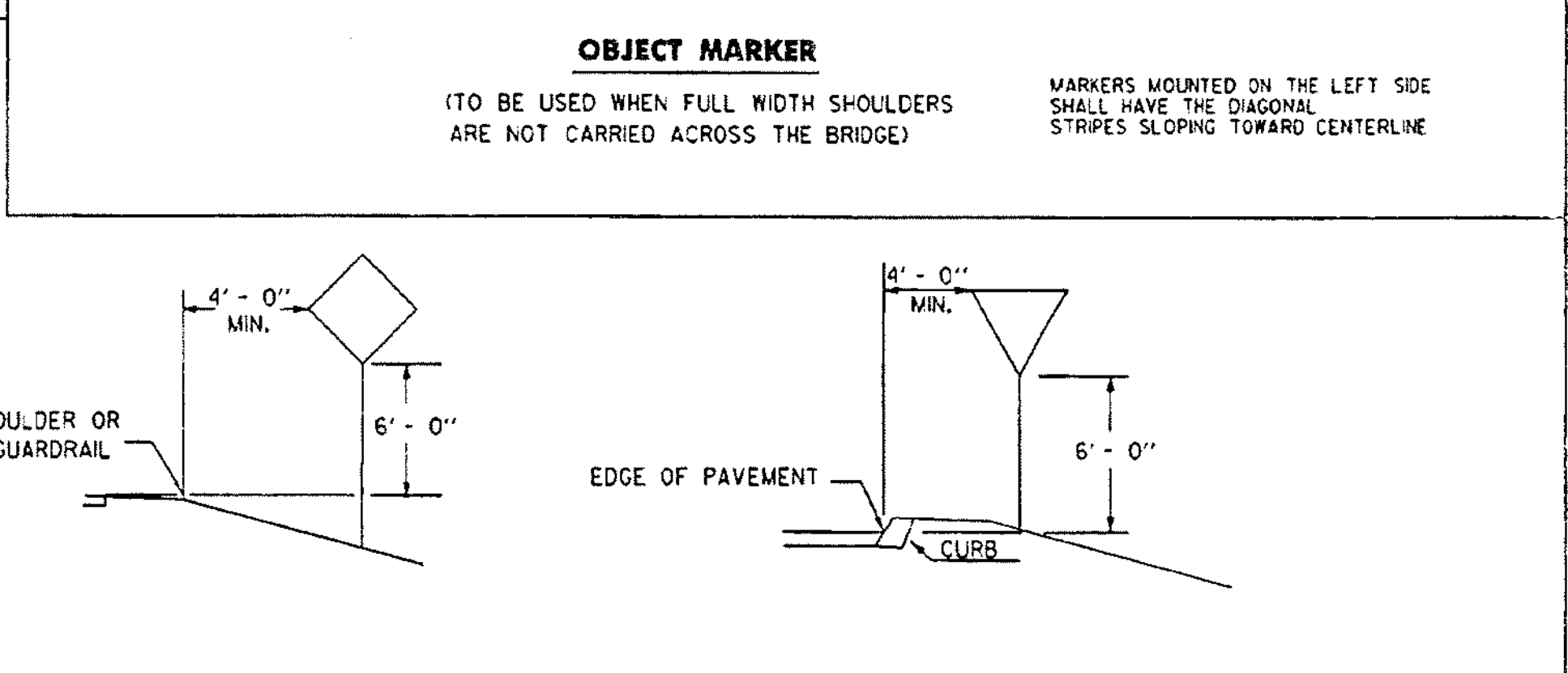
PAVEMENT MARKING & STOP SIGN LOCATION DETAILS FOR OFF RAMP



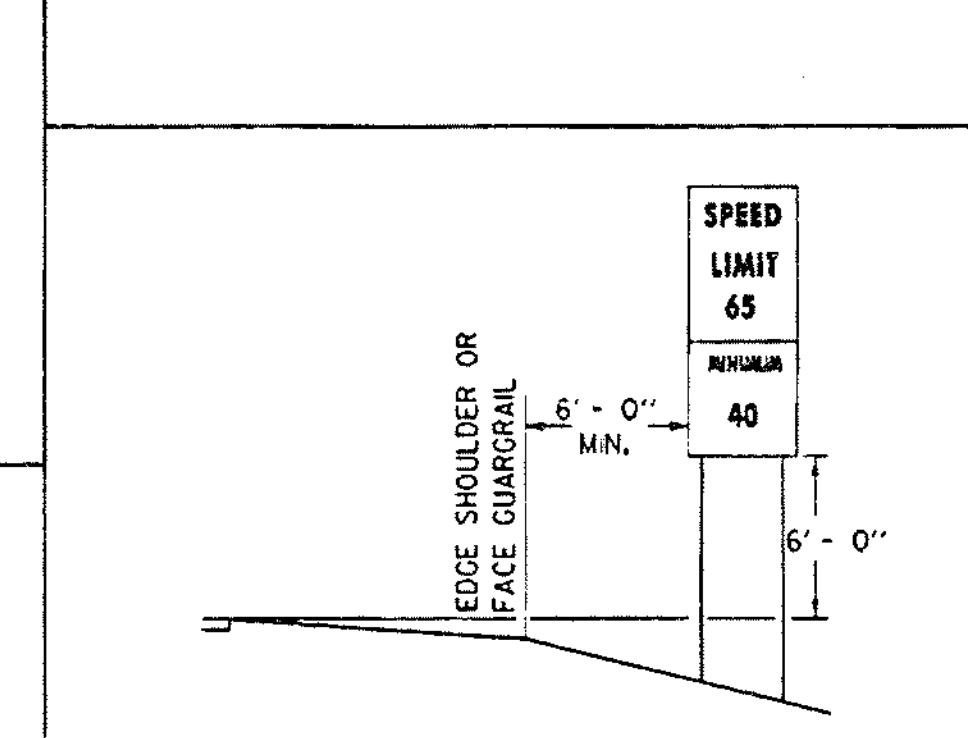
REGULATORY SIGN ASSEMBLY DETAIL FOR OFF RAMP



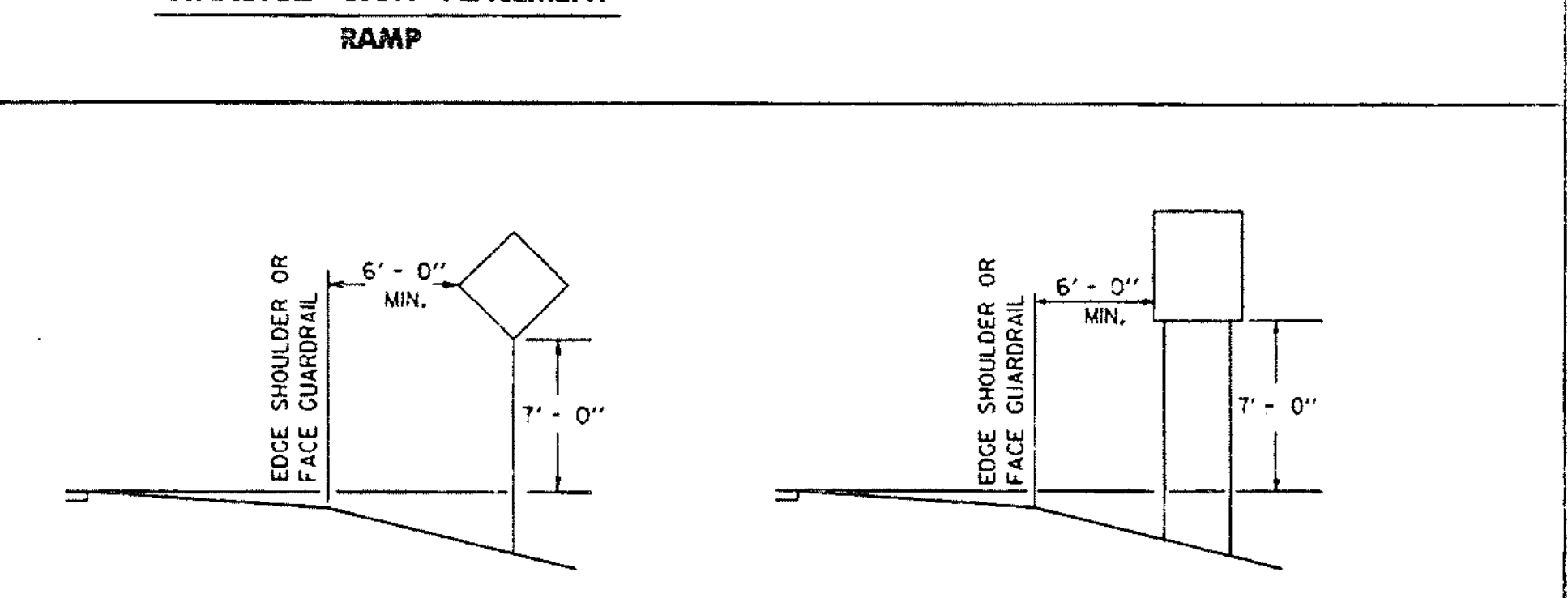
SIGN WITH SUPPLEMENTAL PLAQUE



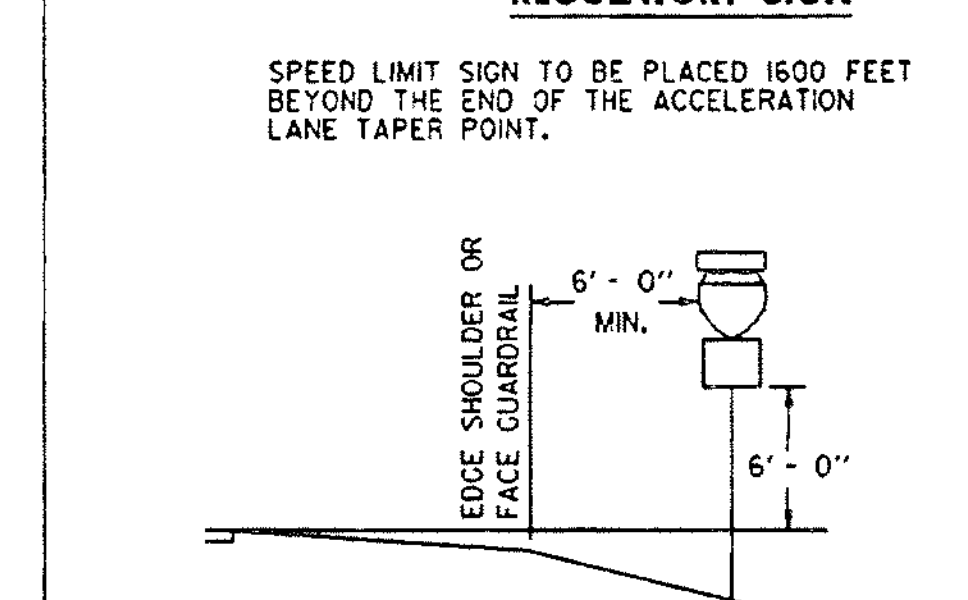
STANDARD SIGN PLACEMENT RAMP



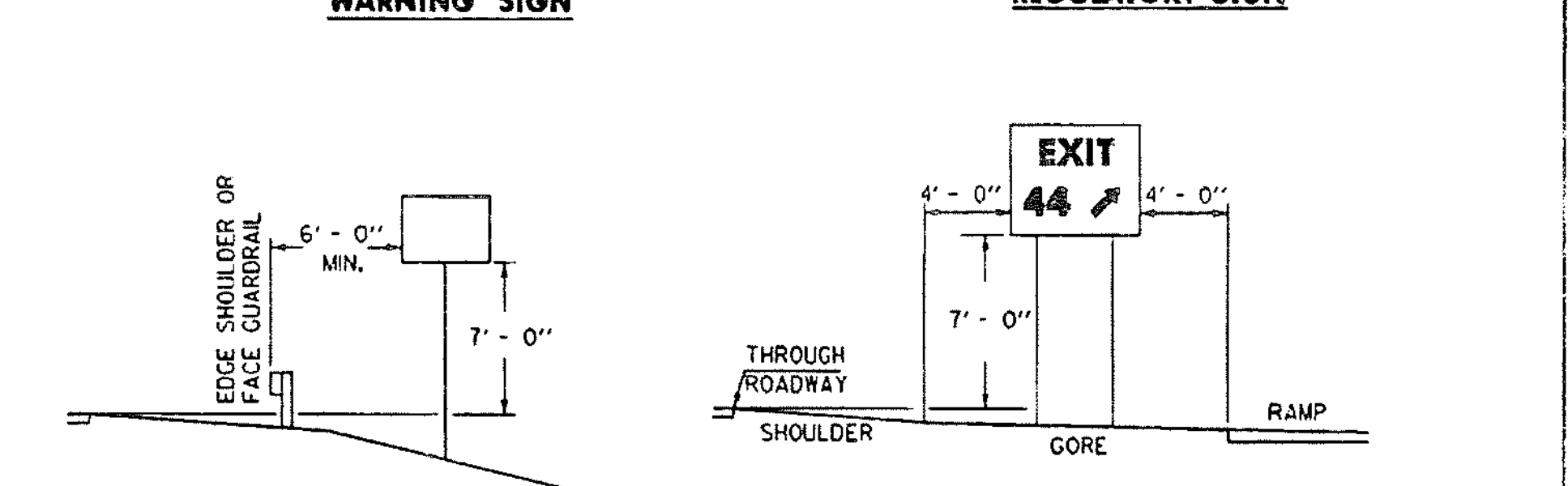
REGULATORY SIGN



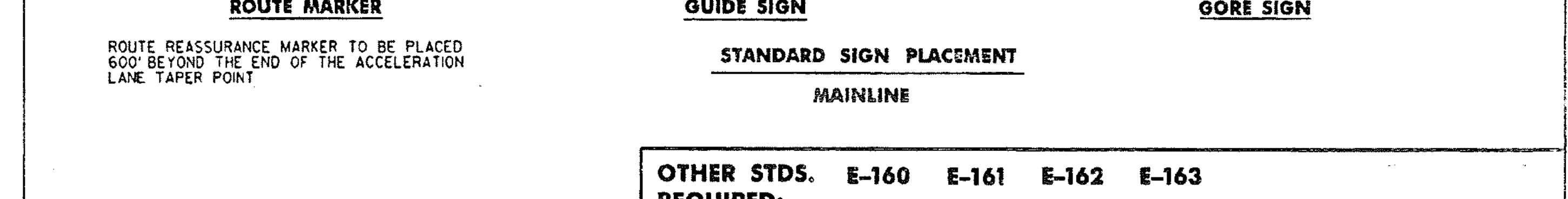
WARNING SIGN



ROUTE MARKER



GUIDE SIGN



STANDARD SIGN PLACEMENT MAINLINE

REVISIONS AND CORRECTIONS
APR. 01, 1988 - DATE OF ORIGINAL ISSUE
JUNE 21, 1989 - FHWA - CHANGE TO 7' FUSE PLATE CLEARANCE
AUG. 08, 1995 - DELETED TWO RAIL ALUMINUM FROM DEFLECTION CHART AND MINOR NOTE REVISIONS

APPROVED
Stephen D. MacCathran
DIRECTOR OF ENGINEERING
David A. Ross
TRAFFIC AND SAFETY ENGINEER

STANDARD SIGN PLACEMENT EXPRESSWAY AND FREEWAY

OTHER STDS. E-160 E-161 E-162 E-163 REQUIRED:

STANDARD E-120