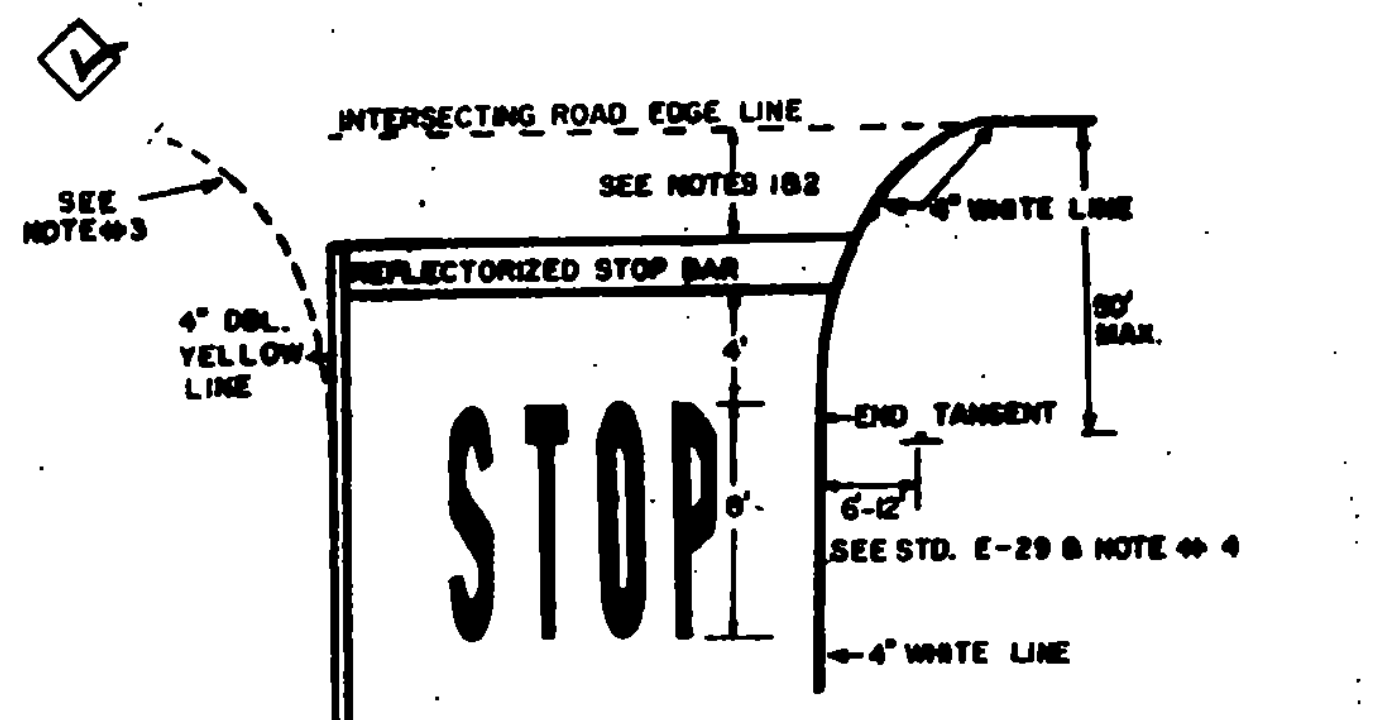
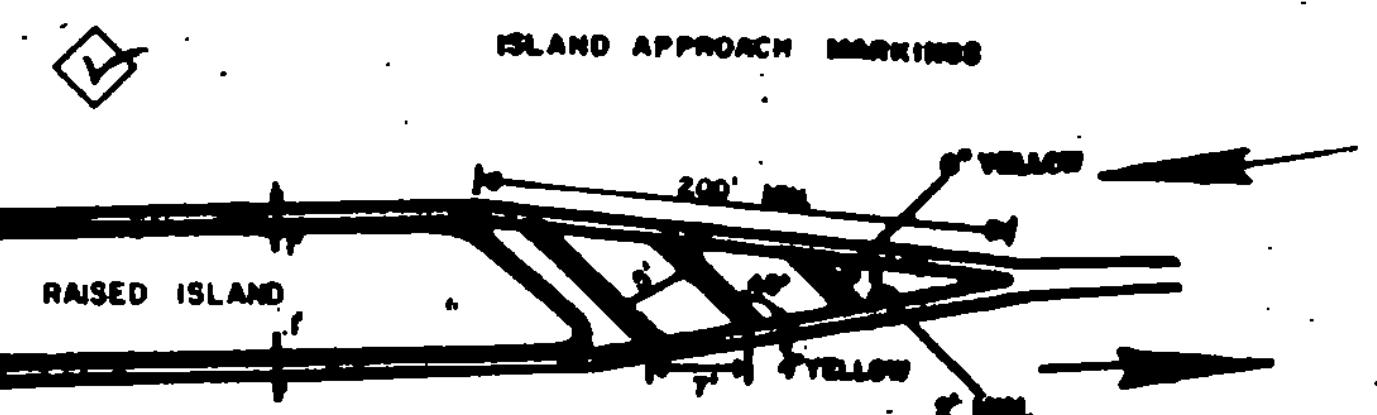
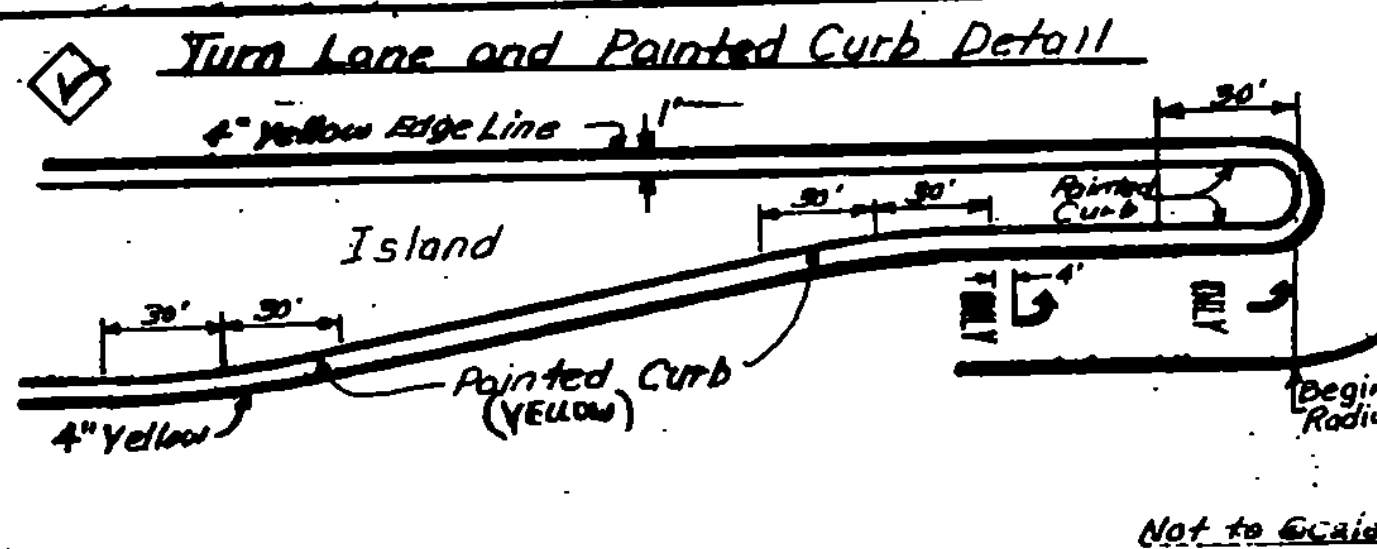
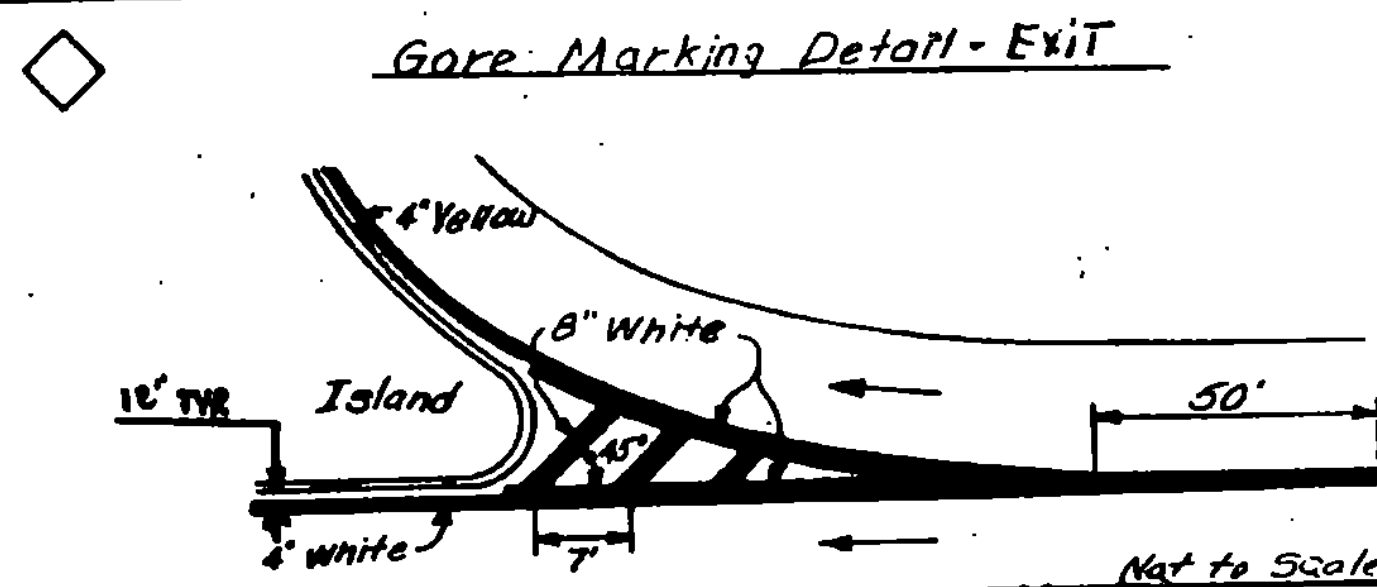
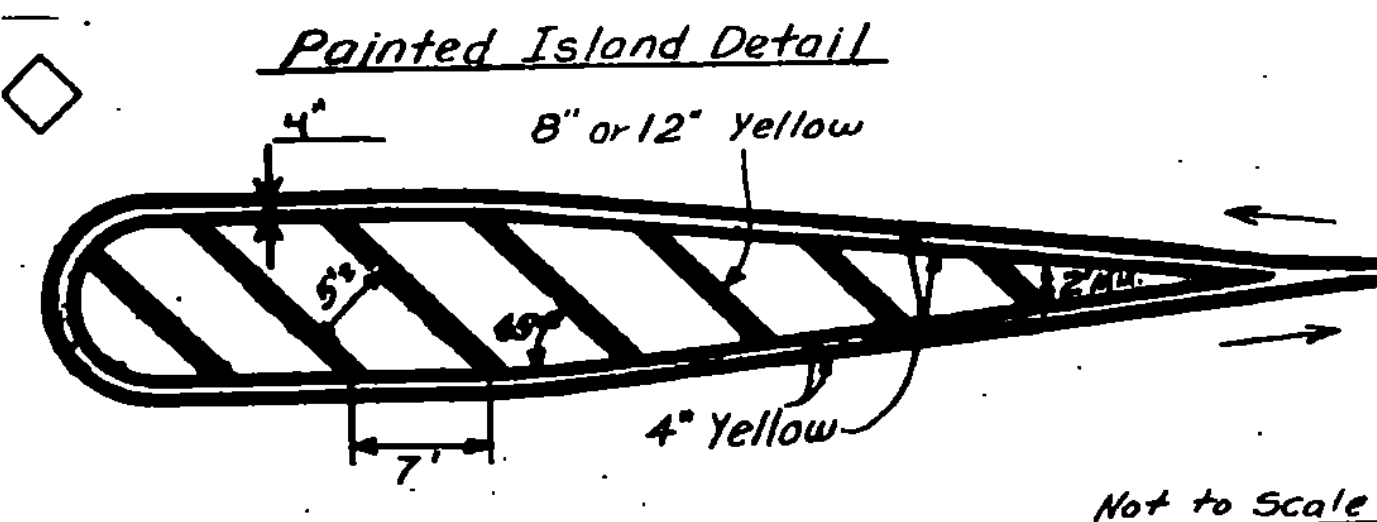
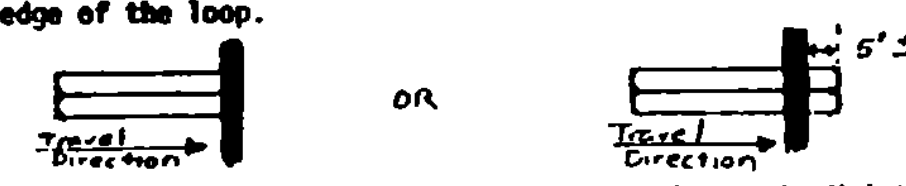




1. THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT. IN NO CASE MORE THAN 30' OR LESS THAN 4' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
2. WHEN A TRAFFIC SIGNAL IS PRESENT, DELETE WORDING "STOP" AND PLACE STOP BAR A MINIMUM OF 40' FROM THE NEAREST SIGNAL HEAD.
3. ON ONE-WAY RAMP THE 4" DOUBLE YELLOW CENTERLINE SHALL BE REPLACED WITH A 4" SINGLE YELLOW EDGE LINE.
4. ON ONE-WAY RAMP THE STOP SIGN SHALL BE REPLACED WITH A TYPE "X" ASSEMBLY ON EACH SIDE OF THE RAMP. A TYPE "X" ASSEMBLY CONSIST OF A STOP SIGN, A "DO NOT ENTER" SIGN AND TWO "ONE WAY" SIGNS.

APPLICATION NOTES

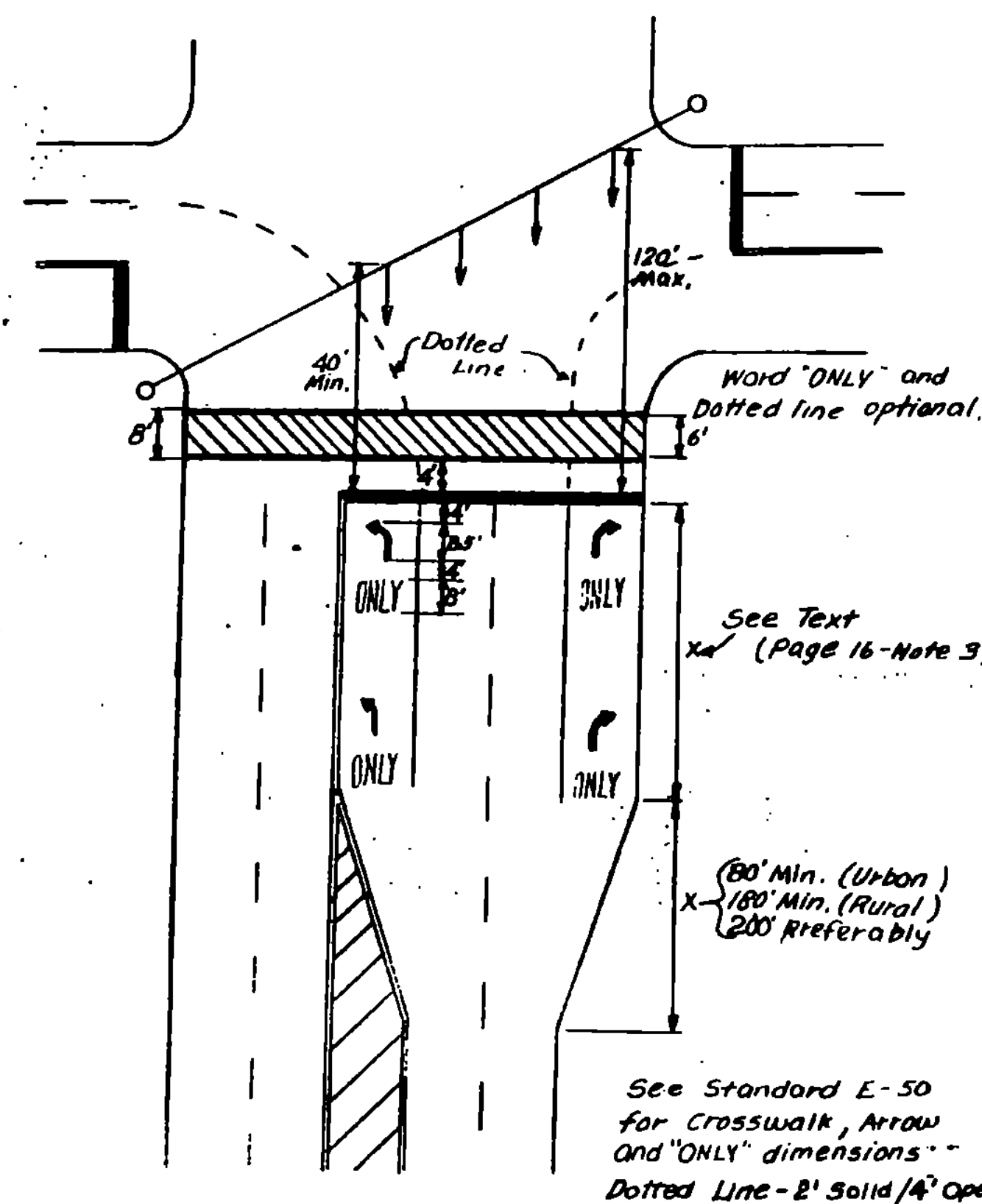
1. Edge lines shall be placed 1'-0" from curb, minimum.
2. Lane widths based on available roadway width. Preference shall be given to thru lanes with a preferred width of 12'. Left and right turn lanes may be between 10'-12' in width.
3. Exclusive turn lanes (left or right) - Turn lane lanes shall be solid and extend back from the stopbar an adequate distance to store turning vehicles. Generally, the lane line will extend back to the point of full lane width. The edge line taper rate should be 15:1 (minimum). In urban areas an 80' minimum is required. In both rural and urban areas a 200' taper is desirable. An estimate of length required can be determined by dividing the average hourly turning volume by the number of cycles per hour. Multiply the result by 25' per vehicle and then multiply by 1.5 to 2.0. Existing geometry may restrict turn lane length.
4. Turn arrows shall be placed at the begin and end of the left or right turn lane and in the middle if the lane length exceeds 200'.
5. Turn arrows placed at the end of the lane with the stop bar shall be placed with a 4' gap between the stop bar and arrow.
6. There shall be a 4' gap between turn arrows and word markings.
7. When word markings are used at the beginning of a turn lane the markings shall begin at the start of the solid white lane line.
8. The word marking STOP shall be placed with a 4' gap between the marking and the stop bar.
9. Gore markings shown are only approximate. Marking shall be as detailed on Standard Sheet E-50.
10. Stopbars shall be located no closer than 40' from the nearest signal face and no further than 120' from the furthest face. At intersections where there are existing vehicle detector loops, care should be taken in locating the stop bar. In most cases the stopbar should be at or just behind the front edge of the loop.
11. Dotted line extensions (lane lines and/or centerline) may be used at some intersections to emphasize turning paths.
12. When two line text is used for pavement markings (Signal Ahead, etc.) the two words shall read up and have a space of 32' between them. The corresponding sign shall be half way between the words.



If loop locations are not known, contact either the Maintenance Division or Traffic Design for information.

Revision - 11/84
Note 3 revised
Notes 10 & 11 added
Note 12 added 8/85

Typical Markings For Signalized Intersection



See Standard E-50 for Crosswalk, Arrow and "ONLY" dimensions. Dotted Line - 2' Solid 1/4" Open

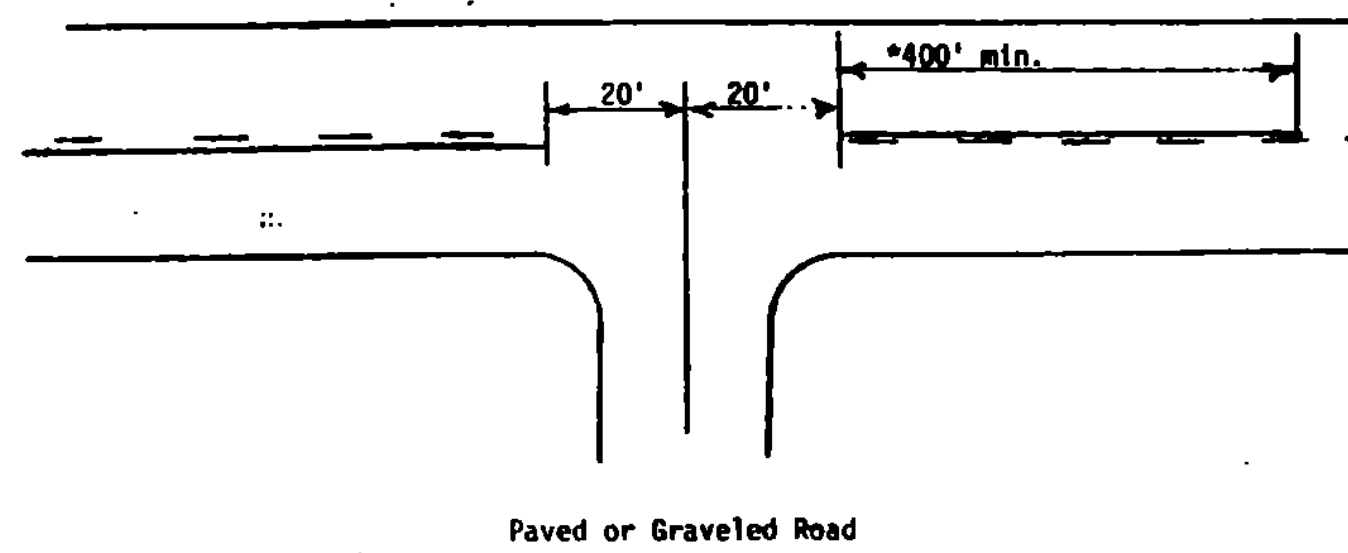
GUIDELINES FOR MINIMUM INTERIM PAVEMENT MARKINGS IN CONSTRUCTION ZONES

- A. CENTERLINE AND GORE AREA MARKINGS SHALL BE APPLIED AT THE END OF EACH WORKING DAY. THE FOLLOWING LAYOUT REQUIREMENTS SHALL BE MET:
NO PASSING BARRIER
SOLID STRIPES.
DASHED LINE
10-FOOT SOLID LINE WITH 30-FOOT GAP.
GORE AREA
(GORE AREAS TO INCLUDE 8' CHANNELIZING LINE AND DASHED LINE) PER STANDARD SHEET E-50.
- B. **EDGE LINES**
WHEN SPECIFIED, EDGE LINES ARE NOT REQUIRED UNTIL COMPLETION OF THE PROJECT. ON INTERSTATE PROJECTS, TEMPORARY EDGE LINES SHOULD BE APPLIED WHERE TRAFFIC VOLUMES AND SPEEDS ARE HIGH AND DELAY OF SEVERAL DAYS IS ANTICIPATED.
- C. TEMPORARY MARKINGS MAY CONSIST OF PAINT, TAPE OR RAISED PAVEMENT MARKERS (RPM'S). THE TAPE SHALL BE A RETRO-REFLECTIVE FILM ON A CONFORMABLE METALLIC BACKING THAT CAN BE PAVED OVER. TAPE MAY BE USED ON THE FINAL SURFACE COURSE IF IT WILL NOT INTERFERE WITH THE FINAL MARKING APPLICATION. TEMPORARY TAPE MARKINGS WILL BE OFFSET AND REMOVED WHEN PROJECT IS FINISHED AND FINAL CENTERLINE PAINTED. THE TAPE SHALL BE THE TYPE THAT IS REMOVABLE INTACT AND NOT SEPARATE AT ANY TIME. THE RPM'S SHALL HAVE A SELF-ADHESIVE BACKING EASILY REMOVED BEFORE PAVING AND SHALL CONFORM TO THE FOLLOWING LAYOUT PATTERN:
NO PASSING BARRIER
NO RPM'S ALLOWED.
DASHED LINE
FOUR RETRO-REFLECTIVE RPM'S ON 3 1/2 FOOT CENTERS WITH A 30' GAP.
SOLID LINE - EDGE LINES
INTERSTATE MEDIAN SIDE-RETRO-REFLECTIVE RPM'S ON A 4 TO 5 FOOT CENTER. DRIVERS PIGHT SIDE-RPM'S NOT ALLOWED.
- D. WHEN PAINT IS USED FOR TEMPORARY MARKING, AN ALTERNATE MATERIAL SUCH AS TAPE OR RPM'S SHALL BE ON HAND IN THE EVENT RAIN PREVENTS THE PAINT APPLICATION FROM BEING COMPLETED. ALL PAINT SHALL BE REFLECTORIZED.
- E. PAYMENT FOR PAINT AND TAPE SHALL BE COMPUTED ON A LINEAR FOOT BASIS AS IF PAINT WAS USED. PAYMENT FOR THE RPM'S SHALL BE COMPUTED AS IF AN EQUIVALENT PAINT LINE WAS USED. (FOR EXAMPLE, DASHED LINE PAID AS 10 FEET OF PAINT, SOLID LINE PAID AS THE TOTAL DISTANCE COVERED WITH THE MARKERS).
- F. PRIOR TO ACCEPTANCE, THE PAVEMENT MARKINGS SHALL BE COMPLETED FOR THE ENTIRE PROJECT BY THE CONTRACTOR AS DETAILED ON THE PLANS OR DIRECTED BY THE RESIDENT ENGINEER.

REVISED
02/11/85

APPROACH TO A SIDE ROAD INTERSECTION

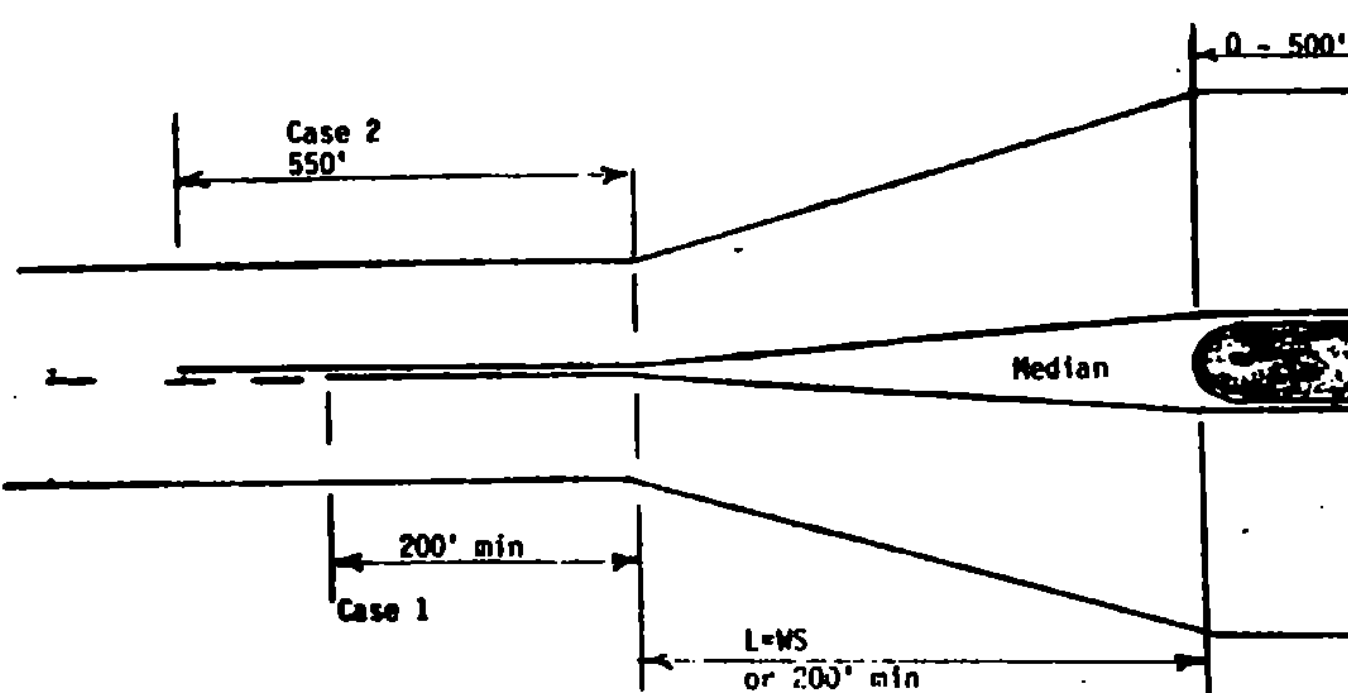
A solid line in the direction of travel is begun at a location 400 feet in advance of the intersection. This distance is measured from a point 20 feet in advance of the centerline of the intersecting roadway.



* Centerline treatment shall consist of a minimum of 400 feet of solid line in advance of the intersection and shall be paired with either a solid or dashed line depending on sight distance availability in the opposite lane.

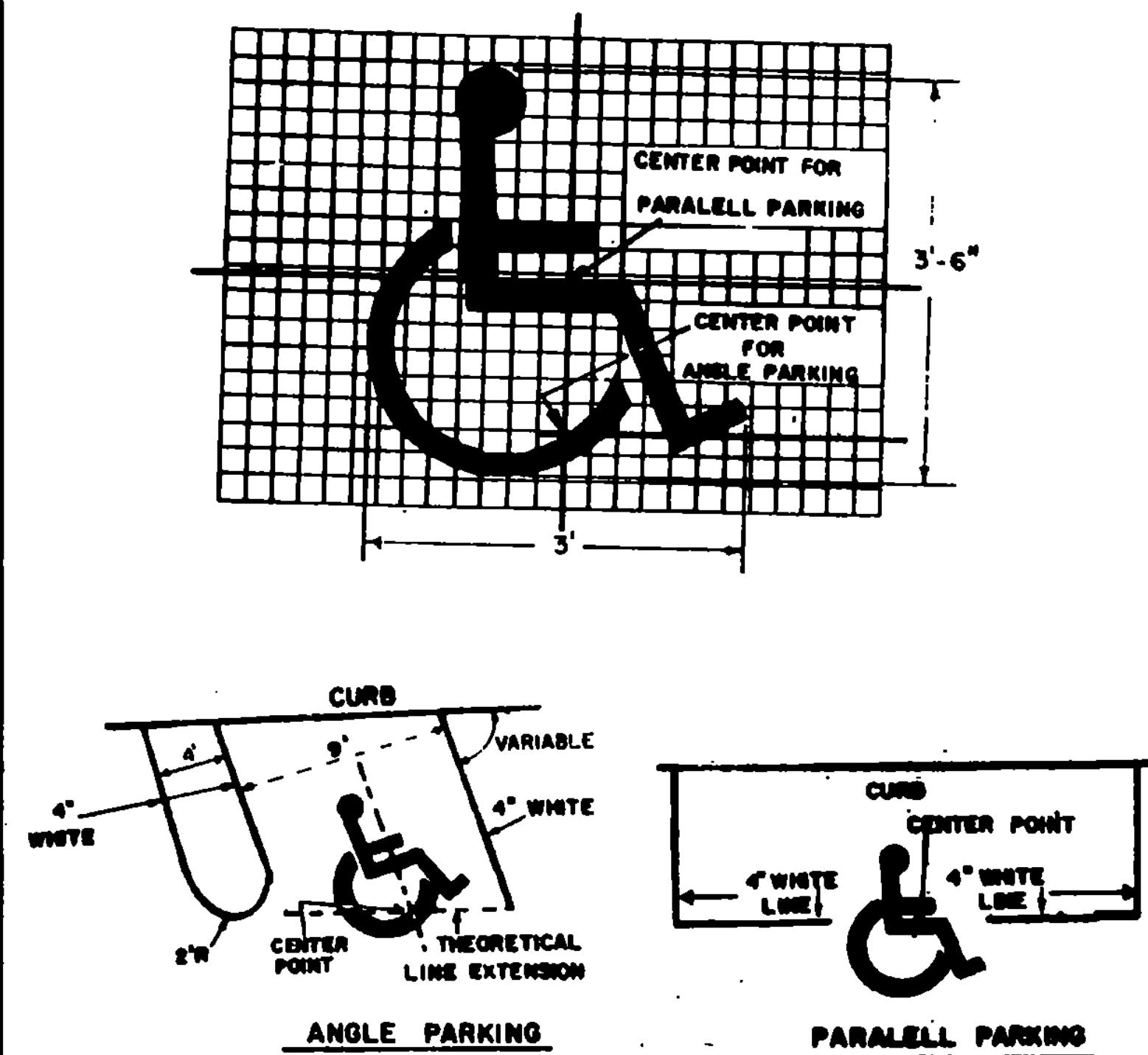
PAVEMENT WIDTH TRANSITIONS - CLIMBING LANE

- Case 1 Two lane highway to divided highway
A solid line in the direction of travel is begun at a location 200 feet in advance of the begin taper for the pavement width transition.
- Case 2 Divided highway to two lane highway
A solid line in the direction of travel is begun at the end of taper and continues in the direction of travel for a distance of 550 feet.



L = Taper Length (ft.)
W = Offset Distance (ft.)
S = Speed Limit (mph)

HANDICAPPED PAVEMENT MARKING DETAILS



LEGEND

TO BE USED WITH THIS PROJECT

PAVEMENT MARKING DETAILS

SURVEYED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY _____ DATE _____
DIST. 2 1986 PAVING
PROJ. NO. _____
TRAFFIC SHEET NO. 502 SHEET 21 OF 26