

TRAVEL LANE REQUIREMENTS

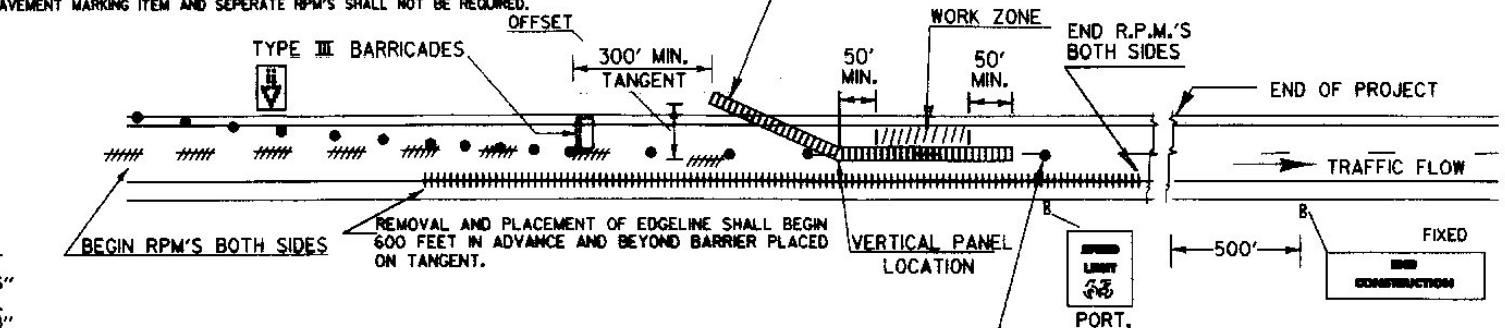
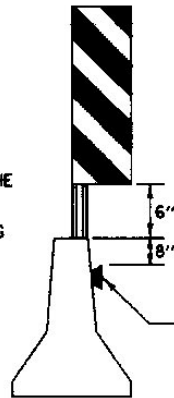
BARRIER SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE CENTERLINE TO ALLOW THE TRAFFIC TO USE THE NORMAL LANE WIDTH. EDGELINES SHALL BE REMOVED AND NEW TEMPORARY TAPE EDGELINES APPLIED. THE DRIVER'S LEFT EDGELINE SHALL BE A MINIMUM OF TWO FEET, IF POSSIBLE, FROM BARRIER. TRAVEL LANES SHALL BE 12 FEET WIDE.

THE TEMPORARY TAPE PAVEMENT MARKINGS SHALL BE OF A TYPE WHICH CAN BE COMPLETELY REMOVED AFTER THE PROJECT IS COMPLETED WITHOUT SCARRING OR MARKING THE PAVEMENT SURFACE. PAYMENT FOR THE TAPE MARKINGS SHALL BE UNDER THE APPROPRIATE ITEM NUMBERS.

PAVEMENT MARKING REMOVALS SHALL BE PAID UNDER THE APPROPRIATE ITEM NUMBER. TEMPORARY TAPE REMOVAL IS NOT PAID UNDER THE REMOVAL ITEM IT IS SUBSIDIARY TO THE TAPE ITEM.

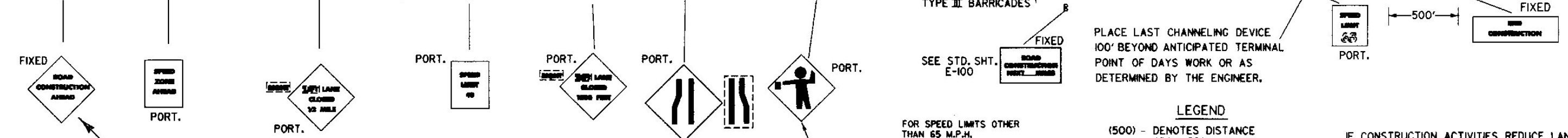
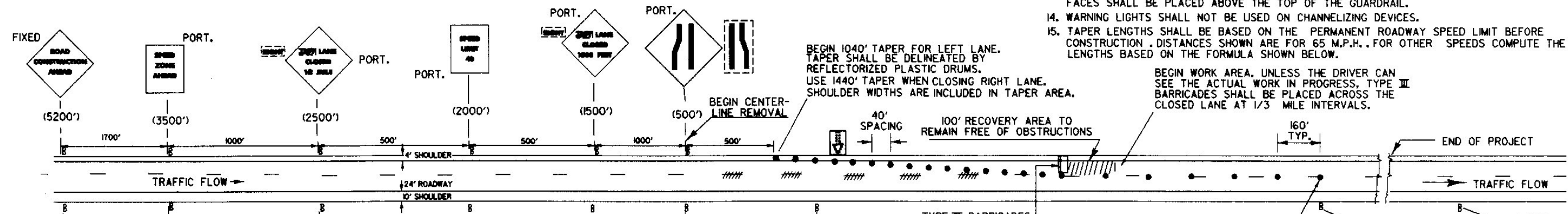
THE RAISED PAVEMENT MARKINGS (RPM'S) SHALL BE OF A TYPE WHICH CAN BE EASILY REMOVED AND THEY SHALL BE PLACED TO THE OUTSIDE OF THE TEMPORARY TAPE PAVEMENT MARKINGS. THE RPM'S SHALL BE SPACED AT 20 FT. THE RPM'S ARE TO BE PAID UNDER THE ITEM TEMPORARY RAISED PAVEMENT MARKINGS. IF RPM'S ARE INCLUDED AS AN INTEGRAL PART OF THE TEMPORARY TAPE PAVEMENT MARKINGS, THEN THE COST OF THE RAISED MARKERS SHALL BE CONSIDERED A PART OF THE TEMPORARY PAVEMENT MARKING ITEM AND SEPERATE RPM'S SHALL NOT BE REQUIRED.

12" X 36" VERTICAL PANEL TO BE INSTALLED AT END OF BARRIER TAPER. STRIPES SLOPE DOWNWARD TOWARD THE SIDE OF THE BARRIER ON WHICH TRAFFIC IS TO PASS. MOUNTING IS DETERMINED BY CONTRACTOR



ONE LANE CLOSED WITH POSITIVE BARRIER PROTECTION

1. WHEN CONSTRUCTION EQUIPMENT IS WORKING AT OR NEAR THE EXIT OR ENTRANCE RAMP, FLAGPERSONS OR UNIFORMED TRAFFIC CONTROL OFFICERS (U.T.O.'S) SHALL BE USED TO ASSIST IN CONTROLLING TRAFFIC. LANE CLOSURE ADVANCE WARNING SIGNS SHALL BE INSTALLED ON ENTRANCE RAMP.
2. ALL SIGNS SHALL BE PLACED BEFORE ANY WORK BEGINS OR EQUIPMENT IS PUT ON THE ROADWAY. SIGNS SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE, SEE STANDARD SHEET E-100 FOR REQUIREMENTS.
3. CONTRACTOR SHALL HAVE CHANNELIZING DEVICES AND SIGNS FOR LEFT SIDE CLOSURE AND RIGHT SIDE CLOSURE ON PROJECT BEFORE STARTING PROJECT.
4. PRIVATE VEHICLES SHALL NOT BE PARKED IN OR AROUND WORKING AREA, OR ON THE RIGHT OF WAY. CONTRACTOR WILL PROVIDE PARKING FOR WORK CREW VEHICLES OFF PROJECT.
5. EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN REDUCED SPEED SIGNS ARE POSTED.
6. CHANNELIZING DEVICES OTHER THAN REFLECTORIZED PLASTIC DRUMS WILL BE ALLOWED ALONG TANGENT SECTIONS AS LONG AS THEY CONFORM TO THE M.U.T.C.D. AND ARE APPROVED BY THE RESIDENT ENGINEER. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION.
7. REFER TO PROJECT "SPECIAL PROVISIONS" FOR SPEED ZONE ENACTMENT.
8. THE "SPEED LIMIT 40" AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
9. THE FLASHING ARROW SHALL BE MOUNTED ON A BREAKAWAY OR YIELDING SYSTEM. PLACEMENT AT THE START OF THE TAPER IS PREFERRED TO PLACEMENT IN THE MIDDLE OF THE TAPER. THE FLASHING ARROW BOARD SHALL BE EQUIPPED WITH AN AUTOMATIC DIMMER FOR NIGHTTIME USE, AND SHALL BE DIMMED AT NIGHT. CONTROL BOX SHALL BE KEPT LOCKED.
10. "REDUCED SPEED AHEAD" SIGNS MAY BE USED IN LIEU OF "SPEED ZONE AHEAD".
11. THE SIGNS "LOW SHOULDER", "BUMP", "MOTORCYCLE", "PAVEMENT CHANGE" AND OTHER RELATED SIGNS ARE TO BE USED AND PLACED AS DIRECTED BY THE RESIDENT ENGINEER.
12. ALL FIXED SIGNS SHALL BE MOUNTED ON YIELDING STEEL OR ALUMINUM SUPPORT AS SHOWN ON STANDARD SHEETS E-160 AND E-162.
13. PORTABLE SIGNS SHALL BE KEPT LEVEL WHEN PLACED ON THE EDGE OF ROADWAY AND ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED, PAYMENT SUBSIDIARY TO OTHER ITEMS. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACES SHALL BE PLACED ABOVE THE TOP OF THE GUARDRAIL.
14. WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
15. TAPER LENGTHS SHALL BE BASED ON THE PERMANENT ROADWAY SPEED LIMIT BEFORE CONSTRUCTION. DISTANCES SHOWN ARE FOR 65 M.P.H. FOR OTHER SPEEDS COMPUTE THE LENGTHS BASED ON THE FORMULA SHOWN BELOW.



USE PORTABLE "RIGHT OR LEFT LANE CLOSED 1/2 MILE" WHEN SIGN PACKAGE IS MOVED FORWARD. SIGNS NOTED AS FIXED SHALL REMAIN IN PLACE THROUGH THE ENTIRE PROJECT. SIGNS NOTED AS PORTABLE SHALL MOVE AS THE WORK AREA CHANGES. ALL SIGNS SHALL BE REMOVED OR COVERED WHEN NOT NEEDED.

FOR SPEED LIMITS OTHER THAN 65 M.P.H.
 TAPER FORMULAS:
 $L = S \times X \times W$ FOR SPEEDS OF 45 OR MORE.
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF 40 OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

- LEGEND**
- (500) - DENOTES DISTANCE FROM BEGIN TAPER
 - [Flashing Arrow Panel] - FLASHING ARROW PANEL
 - [ReflectORIZED Plastic Drum] - REFLECTORIZED PLASTIC DRUM
 - [Hatched Area] - PAVEMENT MARKING REMOVAL
 - [Concrete Median Barrier] - CONCRETE MEDIAN BARRIER
 - [Type III Barricade] - TYPE III BARRICADE

IF CONSTRUCTION ACTIVITIES REDUCE LANE WIDTHS TO THE POINT WHERE 40 MPH CANNOT BE MAINTAINED, ADDITIONAL ADVISORY SPEED PLATE SIGNS SHALL BE INSTALLED UNDER THE LANE REDUCTION TRANSITION SIGN. FLAGPERSON AND U.T.O.'S SHALL NOT BE ALLOWED TO INTERFERE WITH TRAFFIC BY STEPPING INTO THE LANE TO REDUCE DRIVER'S SPEED.

REVISIONS AND CORRECTIONS
 JAN. 23, 1989 - FHWA COMMENTS - CHANGE TO 65 M.P.H. TAPER RATES

APPROVED
 OCT. 30, 1987
 DATE
 David B. Kelley
 CHIEF ENGINEER
 Arthur J. [Signature]
 DIRECTOR OF PLANNING AND PRE-CONSTRUCTION
 Gordon B. MacArthur
 TRAFFIC AND SAFETY ENGINEER

**MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY
 ONE LANE CLOSED**



**STANDARD
 E-103**