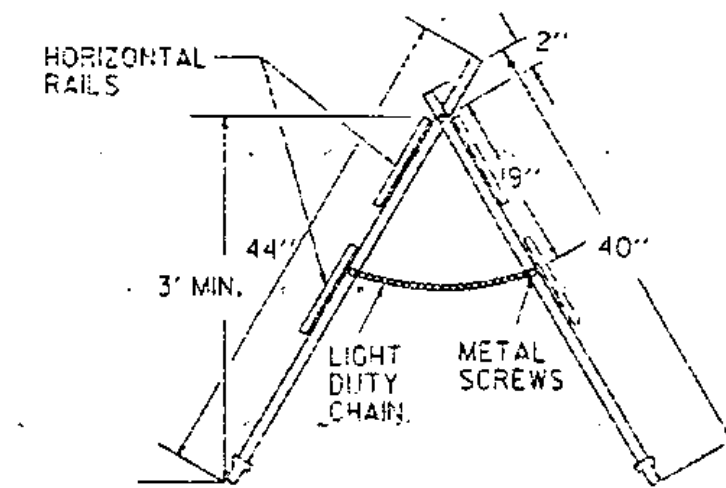


- MATERIALS FOR TYPE I AND II BARRICADES**
- 20' - 1" PVC
  - 4 - 1" PVC 90° ELBOWS
  - 50' - 1/2" ID THINWALL PVC CONDUIT
  - 36' - 1/4" STEEL ROD
  - 4 - 1" WASHERS
  - 24' - LIGHT DUTY CHAIN
  - 1/2" - #14 PAN HEAD METAL SCREWS (AS REQUIRED)
  - 2 - 3/4" COTTER PINS
  - 2 OR 4 - 8" OR 12" X 36" X 0.025" BARRICADE RAILS (AS REQUIRED)

- MATERIALS FOR TYPE III BARRICADES**
- 30 LF - 3" I.D. PVC PIPE
  - 6 - 3" 90° ELBOWS
  - 2 - 3" TEES
  - 4 - 3" WYES
  - 3 - 8" OR 12" X 48" X 0.025" BARRICADE RAILS
  - 2 - 5/8" X 11" #8 SPRING (IF ASSEMBLY IS NOT CEMENTED)
  - 12 - 1" #14 PAN HEAD METAL SCREWS
  - 15 LF - #14 BLACK ANNEALED TIE WIRE (IF ASSEMBLY IS NOT CEMENTED)

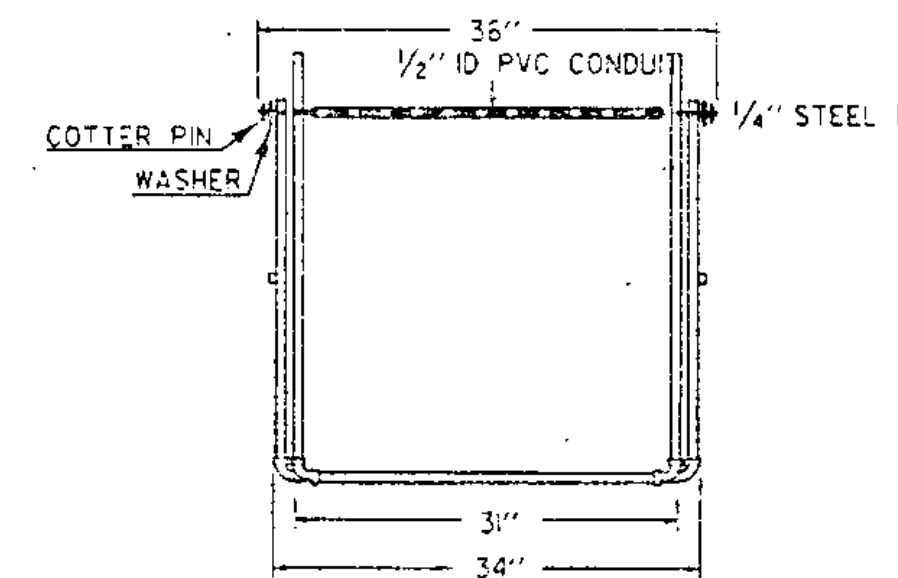


**MATERIALS**

THE PIPE, WYES, TEES AND ELBOWS USED TO CONSTRUCT BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241 FOR P.V.C. 1120 OR 1220 SDR-21. PRESSURE RATING 200 PSI. THE WYES, TEES AND ELBOWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2456, TYPE II, GRADE I. ALL JOINTS SHALL BE SLIP-FIT AND MAY BE LIGHTLY CEMENTED. THE BARRICADE RAILS SHALL BE FABRICATED FROM 0.025" ANODIZED ALUMINUM AND SHALL HAVE REFLECTORIZED ALTERNATING ORANGE AND WHITE STRIPES (SLOPING DOWNWARD AT AN

**MAINTENANCE**

BARRICADES SHALL BE MAINTAINED IN CLEAN AND LEGIBLE CONDITIONS SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED, OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER. THE P.V.C. PIPE AND FITTINGS SHALL BE WHITE IN COLOR. AT LEAST TWO (2) HOLES SHALL BE DRILLED (1/2" DIAM.) IN EACH SECTION OF PIPE AND FITTINGS IF THE ASSEMBLY IS NOT CEMENTED.



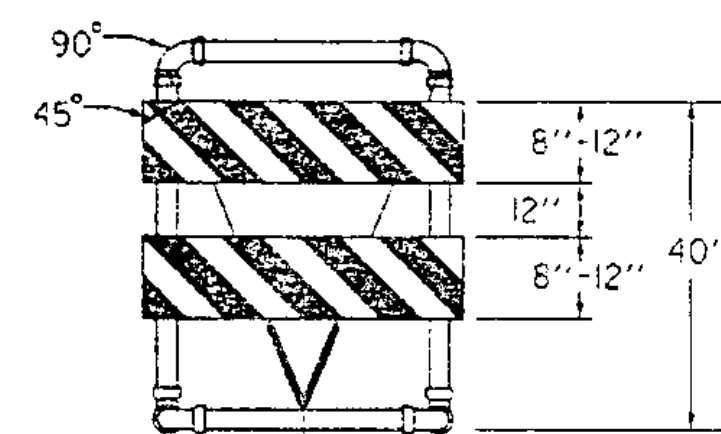
WHICH WILL NOT CONSTITUTE A HAZARD IF THE BARRICADE IS HIT, THESE SHALL BE PLACED ONLY ON THE FRONT AND REAR PIPES OF THE BASE FRAME BE A HAZARD TO VEHICLES PASSING ON EITHER SIDE. GLUED JOINTS MAY PROVIDE ADDITIONAL STABILITY TO THE INSTALLATION.

TYPE I BARRICADES SHALL UTILIZE ONE HORIZONTAL RAIL IN EACH DIRECTION.

TYPE II BARRICADES SHALL BE A TYPE I BARRICADE WITH AN ADDITIONAL HORIZONTAL RAIL MOUNTED BELOW THE OTHER IN EACH DIRECTION.

TYPE II BARRICADES (MODIFIED) SHALL CONSIST OF THE BREAKAWAY 3" PVC DESIGN SHOWN ON THIS SHEET WITH THE TWO RAIL LAYOUT DETAILED ABOVE LEFT.

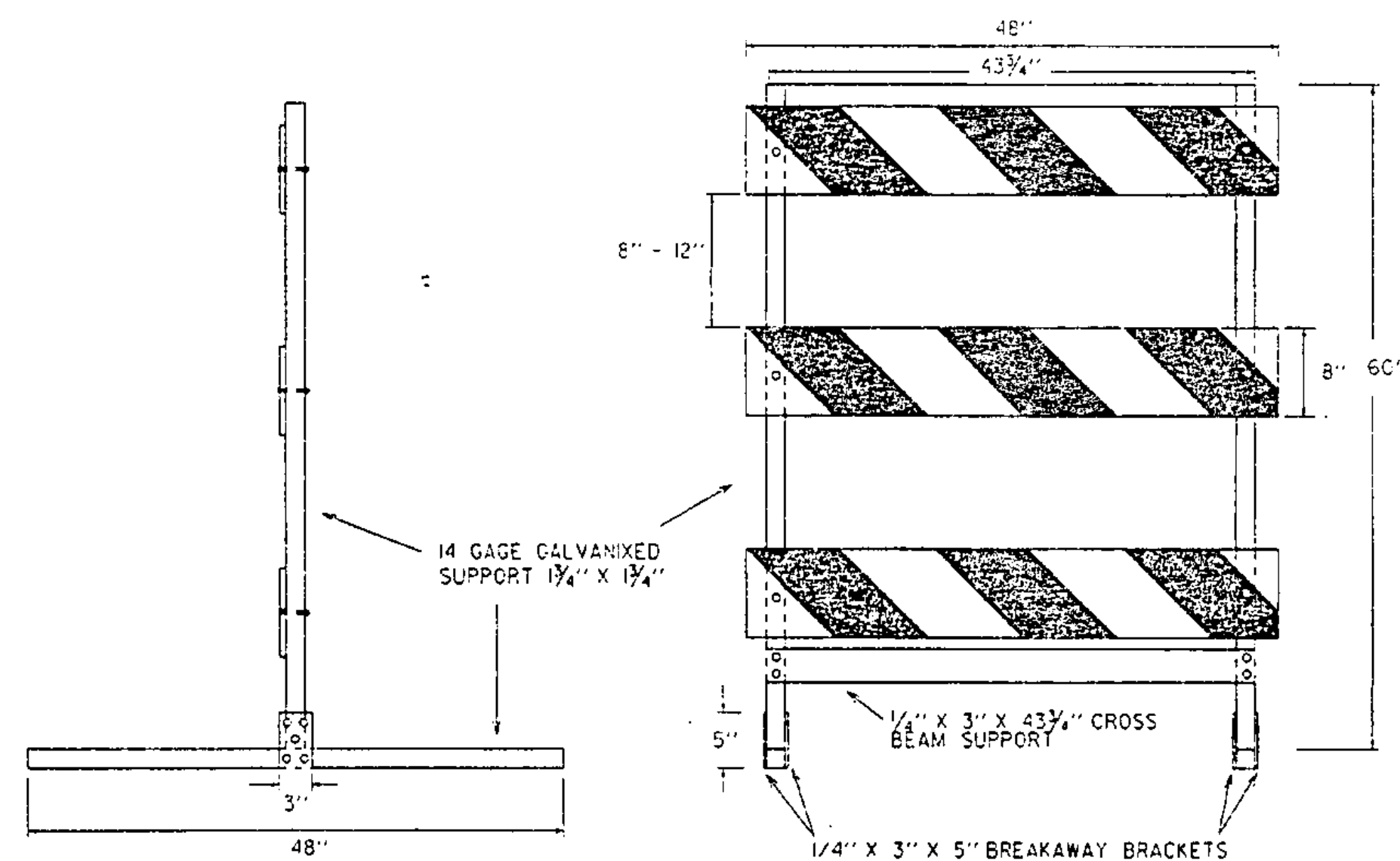
SEE STD E-107 FOR ADDITIONAL INFORMATION.



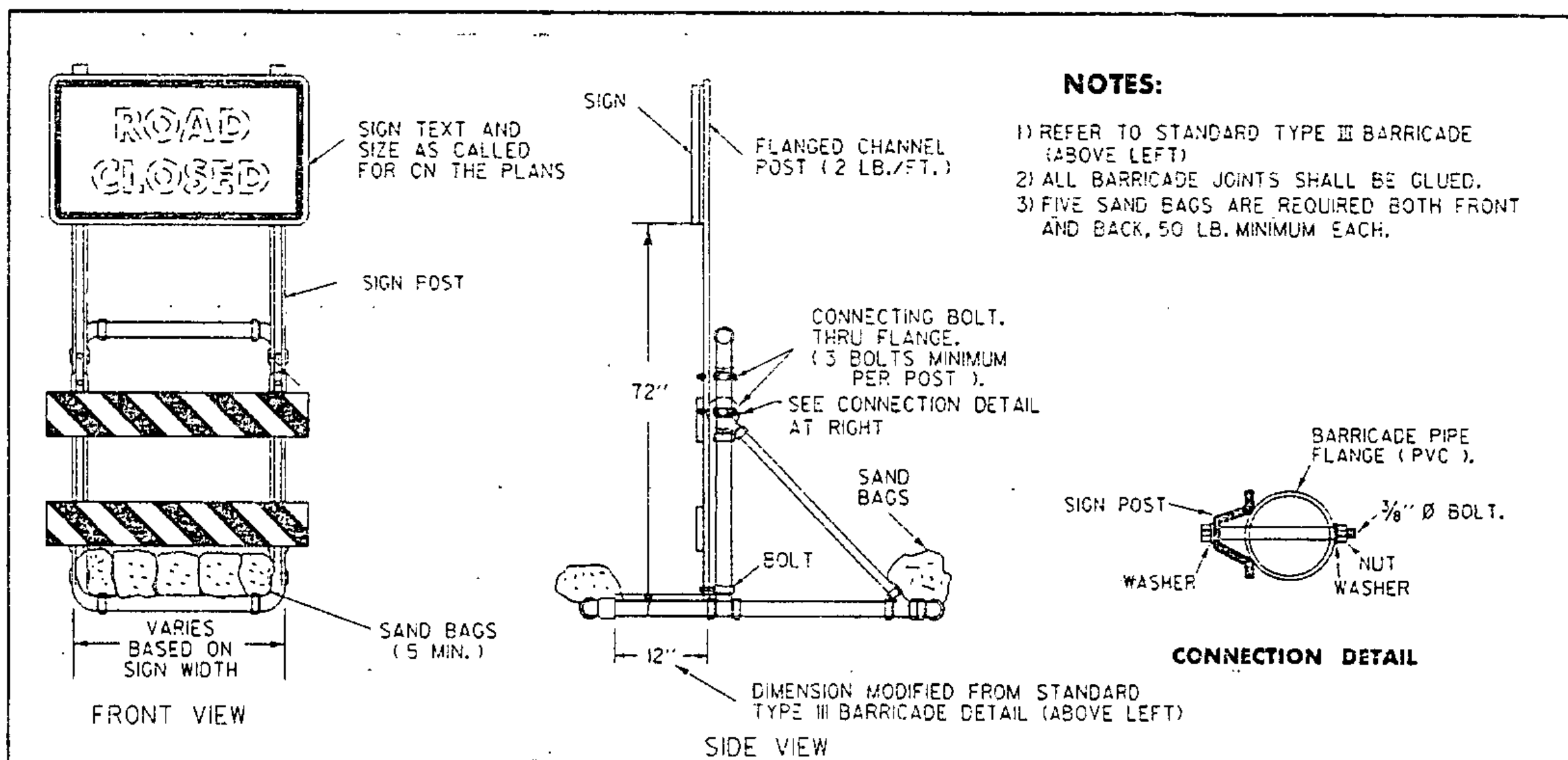
**TYPE III (MODIFIED) BARRICADE**  
(STRIPING IS SHOWN WITH TRAFFIC PASSING TO THE RIGHT).

**MATERIALS FOR METAL TYPE III BARRICADES**

- PANELS (3):**  
8' X 48" GALVANIZED STEEL... COVERED  
1 OR 2 SIDES WITH WHITE/ORANGE, DIAGONALLY STRIPED REFLECTIVE SHEETING
- VERTICAL SUPPORTS (2):** 14 GAGE GALVANIZED TUBING 1 3/4" X 1 3/4" X 60'
- HORIZONTAL SUPPORTS (2):** 14 GAGE GALVANIZED TUBING 1 3/4" X 1 3/4" X 48'
- CROSS BEAM SUPPORT (1):** COLD GALVANIZED STEEL 1/4" X 3" X 43 3/4"
- BREAKAWAY BRACKETS (4):** COLD GALVANIZED STEEL 1/4" X 3" X 5"
- FASTENERS:**  
6 - SHEAR BOLTS WITH LOCK NUTS 1/4" D X 2 3/4"  
4 - FULCRUM BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"  
4 - FASTENER BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"  
6 - PANEL BOLTS WITH LOCK NUTS AND WASHERS 1/4" D X 2"  
ALL FASTENERS GALVANIZED STEEL.  
ALL BOLTS HEX HEAD.



**SIDE AND FRONT VIEW OF TYPE III METAL BARRICADE**



**NOTES:**

- REFER TO STANDARD TYPE III BARRICADE (ABOVE LEFT)
- ALL BARRICADE JOINTS SHALL BE GLUED.
- FIVE SAND BAGS ARE REQUIRED BOTH FRONT AND BACK, 50 LB. MINIMUM EACH.

**SIGN MOUNTING ON TYPE III BARRICADE (MODIFIED)**

**OTHER STDS. E-107 REQUIRED:**

**REVISIONS AND CORRECTIONS**

- SEPT. 10, 1987 - ADDED METAL TYPE III BARRICADE
- SEPT. 20, 1993 - REVISED NOTES AND TYPE III (MOD.) BARRICADE DETAIL
- AUG. 08, 1995 - ADDED METAL TYPE III BARRICADE

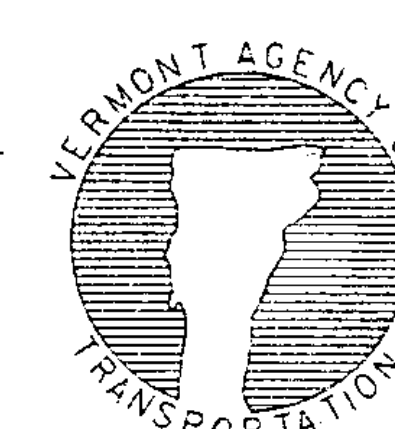
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

**APPROVED**

*Stanford B. MacArthur*  
DIRECTOR OF ENGINEERING

*David A. Ross*  
TRAFFIC AND SAFETY ENGINEER

**BREAKAWAY BARRICADE DETAILS**



**STANDARD E-107 A**