

THE WIFE

58 × 11

No. 8 SPRING

OPTIONAL

TYPE III PVC BARRICADES

TYPICAL DESIGN DETAILS

May be used at the option of the Contractor

Chloride (PVC) pressure rated pipe SDR 21 or SDR 26 ASTM D2241

2 Joint fittings may be PVC-ASTM D2665 or Acrylomitrile Butadiene Styrene (ABS) ASTM D2661 (Dramage Waste)

#### 3 All pipe and fittings shall be

- 4 All joints shall be free to separ ate upon vehicle impact
- 5 Shaded conduit to be tied together with rope threaded into pipe interior. Use 3.16° No 6 solid braided nylon or equivalent
- 6 A fixed frangible pavement connection is preferred Sand Bags may be substituted.

STRIPING FOR BARRICADE

Where a barricade extends entirely across a roadway, it is: desirable that the stripes slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided for, the chevron striping may slope downward in both directions from the center of the barricade

Striping should cover the full width of the rail. Striping of rails, panels and gates for the right side of the roadway is: shown above for the left side of the roadway, striping, should slope downward to the right

For all types of barricades with rails less than 3'-0" long, stripes 4" wide shall be used

The 8" rail width is a nominal dimension for rails made of

Identification markings may be shown only on back side of barricade rails

#### BARRICADE DETAILS

All lumber sizes are nominal dimensions Fabrication Details - ± 1/2

#### BARRICADE NOTES

Channelizing devices other than barricades should normally be used for channelization purposes

Barricades should normally be placed perpendicular to the traffic flow. Other channelizing devices, such as drums, vertical panels or portable barriers, should be used where needed to separate traffic from the work area. In all cases, the barricades should be so located as to most advantageously warn and direct traffic

Barricades may be designed and constructed from wood, PVC pipe or any other suitable material in a manner approved by the Engineer. The construction details shown hereon are typical and are suggested details for wood and PVC pipe support systems for bar ricades. The details of rail width and striping, number and spacing of rails, minimum length and height (above pavement) of rails must be adhered to when alternate designs are used

When signs are placed on barricades, a maximum number of 2 signs should be visable to the motorist.

Barricades are to be constructed in a first-class workmanship manner of clean sound material. All surfaces above ground, which are not striped, shall be white except the unpainted galvanized metal or aluminum components may be used. Components made of lumber shall be painted with a minimum of two coats of an approved brand of white paint to secure thorough coverage and a uniform white col-

The Contractor shall maintain each barricade in a clean and good

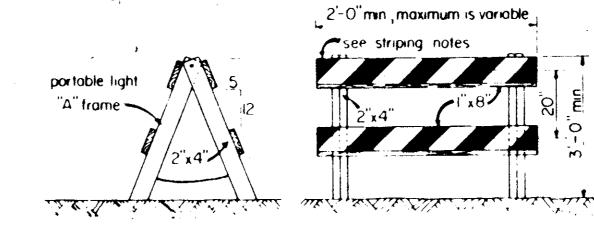
Barricades shall be removed upon completion of the work and/or the elimination of the hazard on any section.

2'-0"min , 12'-0"usual, maximum is variable Nominal l'x6"x6"

STAND TYPE I BARRICADE For Type I Barricades, both sides of the top rail shall have reflective orange and reflective white 2'-0" min maximum is variable

# TYPE II BARRICADE

For Type II Barricades, all four (4) rail faces shall have reflective orange and reflective white



1" x 8" rail and 2" x 4" stiffener. Otherwise the rail should be tabricated as detailed 4'-0"min ,12'-0"usual , maximum is variable

When Wood Barricades are used and when orange and white stripes

are required on the backside, a 2 x 8" rail may be used in lieu of the

= 2"x8" machine bolt with 2 washers 5"x8" machine bolts with

STAND FOR TYPE III BARRICADE

12'-0"minimum opening (or larger) 4"x4" ... GATE FOR POST FOR TYPE III BARRICADE TYPE III BARRICADE

3,½"x6"machine bolts, each with 2 washers

specifications. When used, delineators on the right side of the road. way facing traffic shall be white. The color of delineators used along the left edge of divided streets and highways and one way road ways shall be yellow SPACING OF DELINEATORS

Spacing of Delineators on curves should be according to the Table below Spacing of delineators on tangent sections should normally be between 10 and 200 feet with the closer spacing for lower speeds and greater spacing  $\mathfrak f$ righer speeds

**GENERAL NOTES** 

The reflectorized white and reflectorized orange stripes for barri-

cades, drums and vertical panels shall be constructed of retroreflec-

tive sheeting in conformance with project specifications and shall

be maintained to meet the appearance, color, and reflectivity re-

Warning lights are portable lens directed, enclosed lights. The color of the

light emitted shall be yellow. The lights should be mounted at a minimum

Type A-Low Intensity Flashing Warning Lights are commonly mounted on bar-

ricades, other channelization devices or advance warning signs and are intend-

ed to warn the driver that he is approaching a hazardous area. Their use shall

be as specified elsewhere in the plans, on Sheets BC(1) and BC(2), or as

Type B High Intensity Flashing Warning Lights are normally used at/or op-

proaching extremely hazardous site conditions within the construction area. They may be mounted on barricades, signs or other supports. As

these lights are effective in daylight as well as dark, they are designed to

operate 24 hours per day. Their use should be specified elsewhere in the

plans or as directed by the Engineer. Flashing warning lights shall not be

Type C Steady Burn Lights are intended to be used in a series for delineation t

supplement other traffic control devices used to delineate the edge of the

traveled way on detour curves, lane changes, lane closures, shoulder drop-off

and other similar conditions or hazards. The series of Steady Burn Lights

should have a Type B High Intensity Flashing Warning Light at the beginnin

and end of the series to mark the hazard. Where Steady Burn Lights are to be

Contractors shall furnish a copy of a certification from the manufacturer of the

lights that the warning lights meet the requirements of the ITE Standard Fo

Flashing and Steady Burn Warning Lights as contained in the latest edition of

the "Texas Manual on Uniform Traffic Control Devices for Streets and

Delineators are normally used to indicate roadway alignment where mproved nighttime visibility is needed but other roadway features are sufficient for daytime alignment. They should generally be used on high fills and horizontal and vertical curves where only nighttime

delineation is needed. Delineators, when required for temporary use

to control traffic through construction areas, will be considered subsidiary to the item BARRICADES, SIGNS AND TRAFFIC HANDLING

Delineators shall meet the material requirements of the project

used for delineation, the contractor may at his option, utilize delineators

REFLECTORIZATION

WARNING LIGHTS

directed by the Engineer.

used in a series

Highways.

**DELINEATORS** 

quirements of those specifications.

height of 36 inches to the bottom of the lens.

# 2"max 3" min 6"max

#### CONES

Traffic cones and tubular markers shall be a minimum of 18 inches in height with a broadened. base and may be made of various materials to withstand impact without damage to themselves. or to vehicles. Larger sizes should be used onfreeways and other roadways where speeds are relatively high or wherever more conspicuous. quidance is needed. Orange shall be the predomimant color on Cones and tubular markers. They should be kept clean and bright for maximum. target value. For nighttime use they shall be reflectorized or equipped with lighting devices for max immor visibility. Reflectorized material shall have a smooth sealed outer surface which will display. the same approximate color day and night.

Reflectorization of tobular markers shall be a minimum of two three meh bands placed a max amorn of 2% from the top with a maximum of 6%between the bands. Reflectorization of cones shall he provided by a minimum b" band placed a max amum of 3" from the top.

Cones or tubular markers are generally only suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels or barricades preferred for longer term. usage. Care should be taken to insure that they remain in their proper location and in an upright posi-

# TYPE III BARRICADE

For Type III Barricades, the three (3) rails shall be reflective orange. Use and reflective white stopes on one side if it is facing traffic in one direction only, and on both sides if it serves traffic in two directions. PANEL FOR See Barricade Layouts on Sheet BC (2)

TYPE III BARRICADE

DRUMS chalf povement unless other wise directed by the Engineer

Drums, set on end, and used for traffic warning or channelization shall be approximately 36% in height and minimum of 18% in diameter. The contractor, at his option, may use drims made from steel barrels or black polyethylene plastic drum liners weighing approximately eight pounds each. The markings on drums shall be horazontal, circumferential, reflectorized orange and reflectorized white stripes, 4 to 8 inches wide. The first reflectorized stripe should start within two (2) inches of the top of the druno. There shall be at least two orange and two white stripes on each drum. If there are non-re-Her torized spaces, between the horizontal orange and white stopes. they shall be no more than 2 inches wide. Metal drums shall be painted black or orange before reflectorized stopes are added. All. droms on a project will be the same color. When droms are placed in the roadway, appropriate warning agins should be used. Doning hours of darkness, a flashing warning light should be placed on droms used singly as a warning device. Steady burn electric lights or delineators should be placed on drunes used in sense, for traffic channelization. Drums should not be weighted with sand, water or other material to the extent that it would make the drums dangerous. to motorists

CW1.8 CHEVRON signs, CW1.6A ARROW signs or VP.1 Vertical Panels mounted above droms may be used as supplements to drom delineation

# Stripes to be reflective ? orange and reflective while

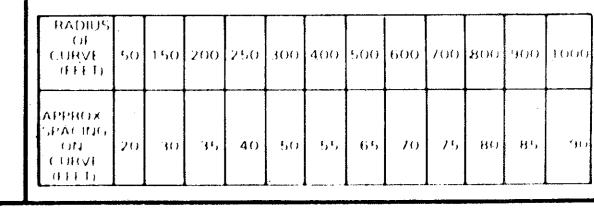
striping

### VERTICAL PANELS (VP)

Vertical Panels are normally used as channelizing devices to indicate tangent or nearly tangent roadway alignment where good target; value of a device is needed in daytime as well as the nighttime. Inaddition, vertical panets should be used at the edge of shoulder. drop offs and other areas such as lane transitions where positive day and night delineation may be required. Vertical panels should be mounted back to back it used at the edge of cuts adjacent to two way two lane roadways. Stripes should always slope downward. toward the traveled way.

#### CHANNELIZING DEVICES

The Type or Types of Channelizing Devices used are to be as specified by the Engineer



# Reflector Unit ( White or Yellow) to Match Required Edgeline Plywood Face Plywood Face to be Painted Construction Orange Upright to be Painted White

TYPICAL PORTABLE VERTICAL PANEL OR DELINEATOR

Other similar supports may be used when approved or directed by the Engineer.



BARRICADE DETAILS DELINEATORS & VERTICAL PANELS DRUMS & CONES REFLECTORIZATION

BC(3)-82 WARNING LIGHTS FEDERAL AID PROJECT IGINAL DRAWING DATE 5 81) CONTROL SECTION JOB HIGHW