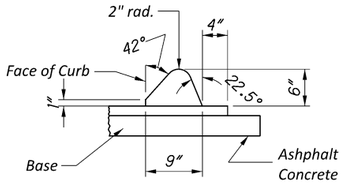
SECTION 9
ODOT STANDARD DETAILS



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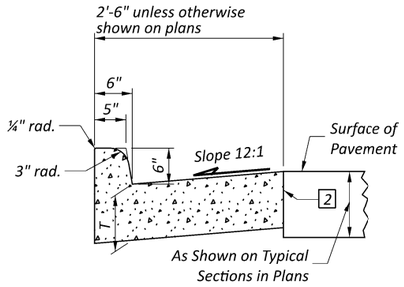

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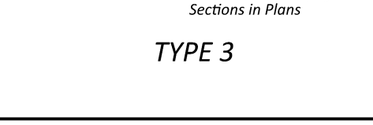

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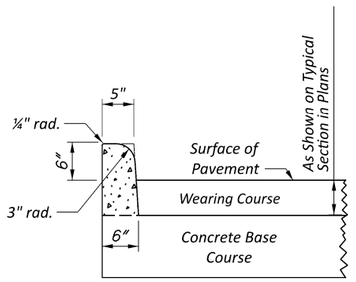

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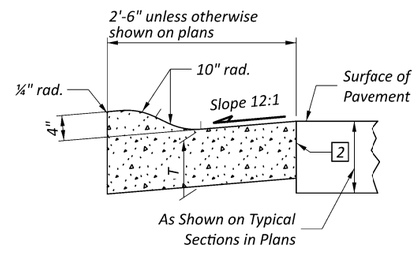

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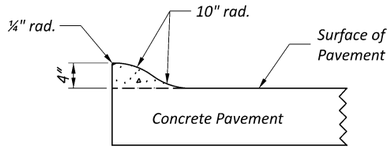

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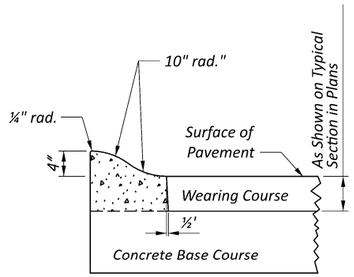

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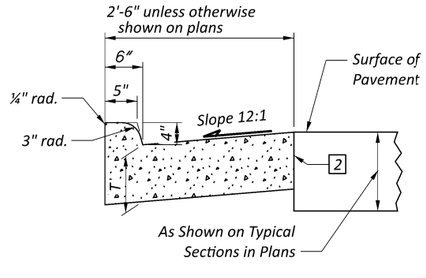

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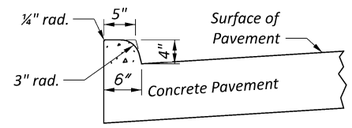

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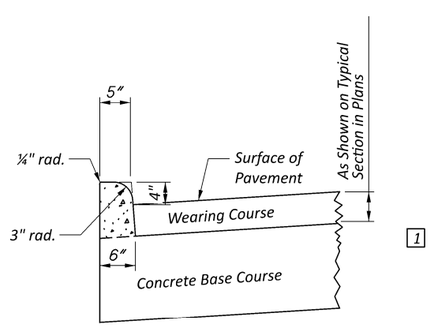

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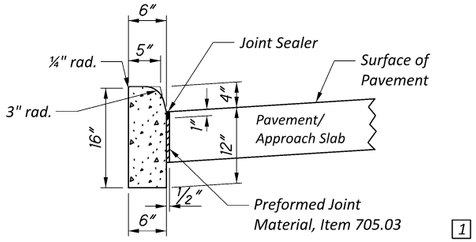

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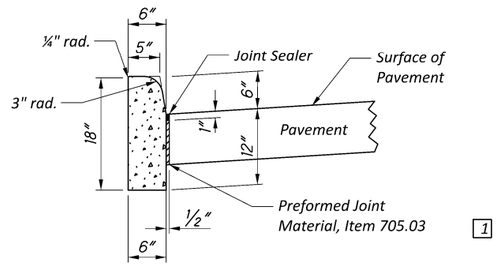

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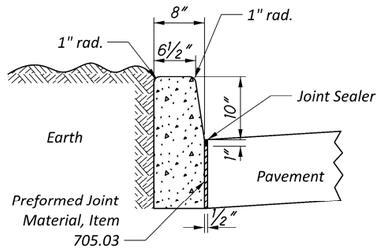

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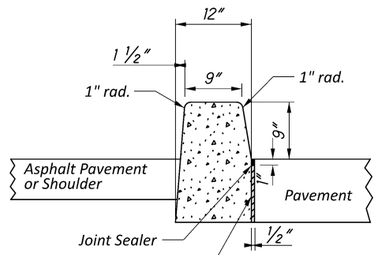

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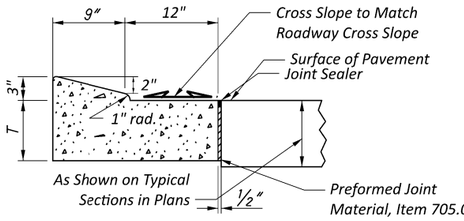

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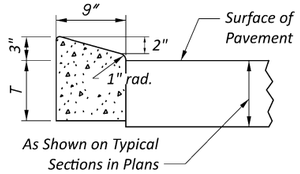

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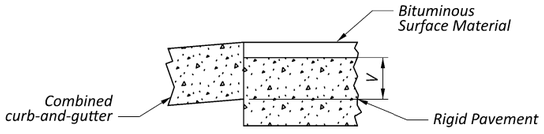

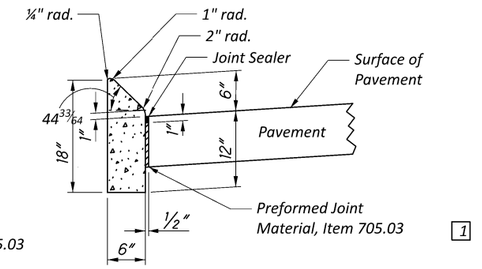

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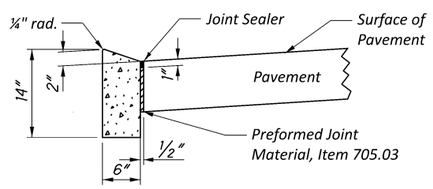
TYPE 10-A



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TYPE 10-B

NOTES

GENERAL: This drawing shows alternate types of curb that may be used on various types of pavement. The typical section of the project shows the type to be used, also the thickness of the edge of the pavement or the edge of the curb and gutter section.

JOINTS: 1" expansion joints shall extend up to the top of the curb and shall be constructed in the curb and gutter section in such a manner that the joint seal will extend the full width of the gutter and into the curb face a sufficient distance to seal the joint to an elevation of at least 2" above the flow line of the gutter. Dowel bars shall be used in the curb and gutter section at expansion joints and to the surface of the pavement.

Transverse expansion joint material shall meet the requirements of Item 705.03.

GUTTER PLATE THICKNESS: Thickness of gutter plate "T" shall be 9" unless otherwise shown on the plans.

TOLERANCES: Dimensional tolerances are as follows:

Curbs: $^{-1}/_{32}$" to +¼".

Gutters: 0 to +½".

LEGEND

1 *Expansion joint material and joint sealer are not required for the portion of the curb that is adjacent to a flexible pavement type. Both materials are required, as detailed, for the full height of rigid pavement and concrete bases.*

2 *Butt joints shall be provided between combined curb-and-gutter and new or existing rigid pavements, with tie bars or hook bolts provided at intervals of 5'. See SCD BP-2.1 for details of tie bars and hook bolts.*

If the combined curb-and-gutter adjoins a new rigid base or an existing rigid base or pavement that is to be surfaced with asphalt concrete, a butt joint shall also be provided. However, tie bars or hook bolts shall be omitted when the vertical overlap ("V" in detail below) between the curb-and-gutter and rigid pavement is less than 7".

OFFICE OF ROADWAY ENGINEERING

REVISIONS

1-21-2022
7-15-2022

STDS ENGINEER
D.Fisher

STATE OF OHIO OFFICE OF ROADWAY ENGINEERING ADMINISTRATOR
Adam Koenig

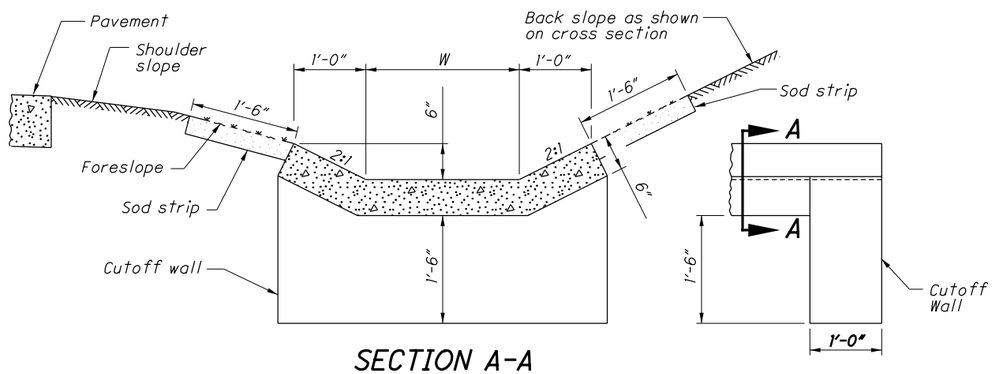
STANDARD ROADWAY CONSTRUCTION DRAWING
CONCRETE CURBS AND COMBINED CURB AND GUTTER

DESIGN AGENCY

SCD NUMBER
BP-5.1

SHEET P.1 | TOTAL 1

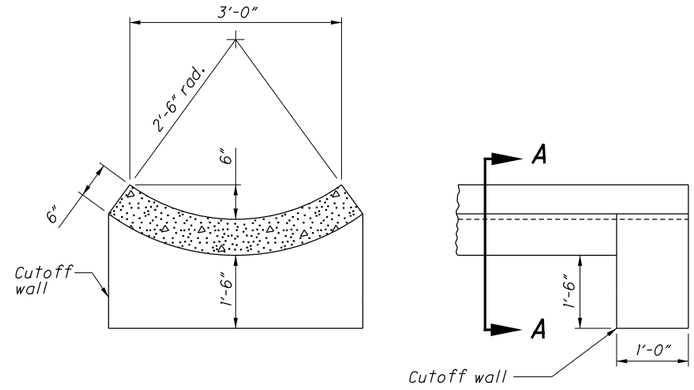
BP-5.1



SECTION A-A

SIDE VIEW

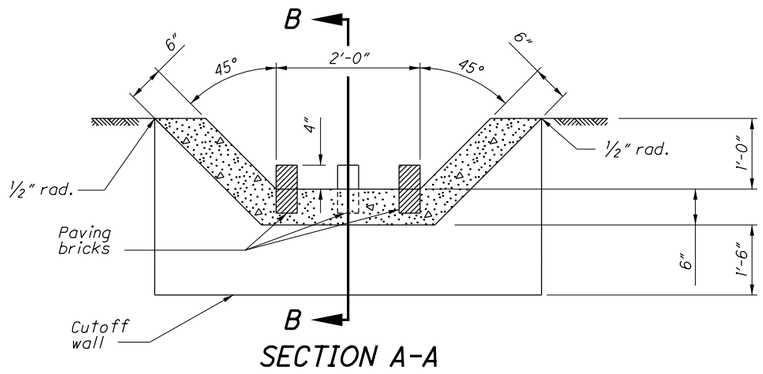
TYPE 1-2 W=2'-0"
TYPE 1-4 W=4'-0"
TYPE 1-6 W=6'-0"



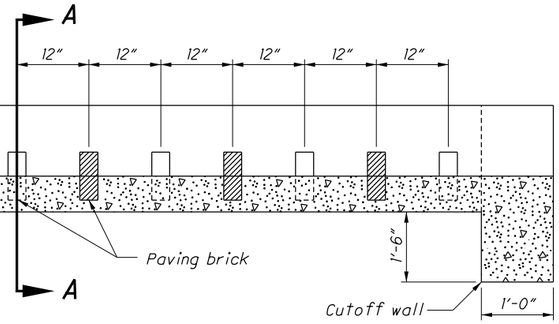
SECTION A-A

SIDE VIEW

TYPE 2

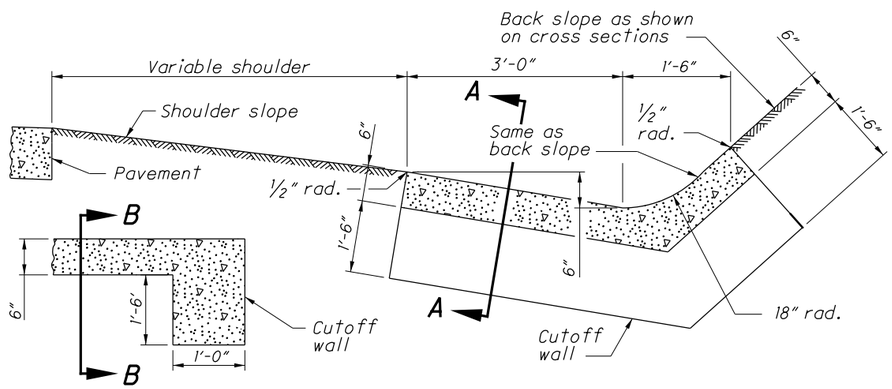


SECTION A-A



SECTION B-B

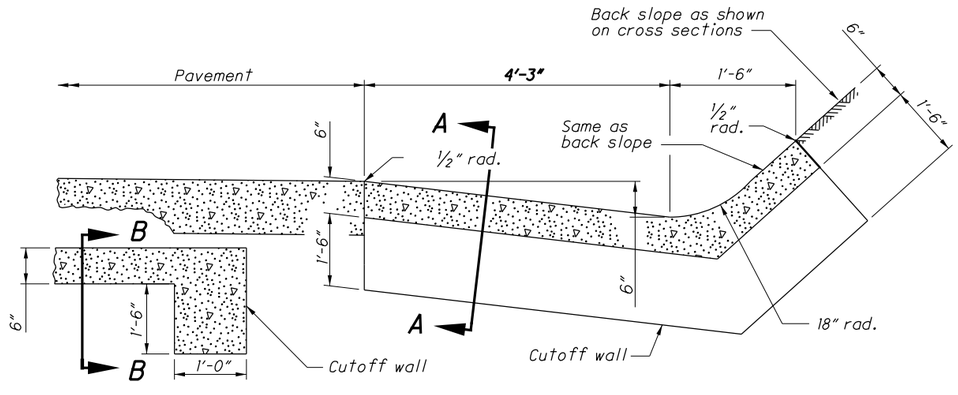
TYPE 3



SECTION A-A

SECTION B-B

TYPE 4



SECTION A-A

SECTION B-B

TYPE 5

NOTES

GENERAL: *Construct gutters with 4000 psi compressive strength concrete, stone or brick.*

The thickness of the gutter shown is for concrete construction. If stone or brick is used it must be grout-filled, and increase the gutter thickness to 8" minimum.

Type 3 Gutter with baffles may be used for steep slopes. Furnish new or used paving bricks or precast concrete blocks of similar dimension and place gutter blocks with the outside blocks in one row staggered with the center blocks at 12" on center longitudinally or as shown on plan.

CONSTRUCTION: *Impress concrete gutter contraction joints and space at 10 foot intervals unless otherwise specified.*

Construct concrete cutoff walls at the beginning and end of a gutter run except where the gutter connects with a catch basin or inlet.

The cost of cutoff walls is included in the unit price bid for the gutter.

SOD: *Install and pay for sod according to CMS 660.*

STANDARD PAVED GUTTERS

STATE OF OHIO DEPARTMENT OF TRANSPORTATION HYDRAULIC ENGINEER
Jeffery E. Syar

REVISIONS
7-20-01
7-20-12
1-18-13

ROADWAY HYDRAULIC ENGINEER
M. Cozzoli

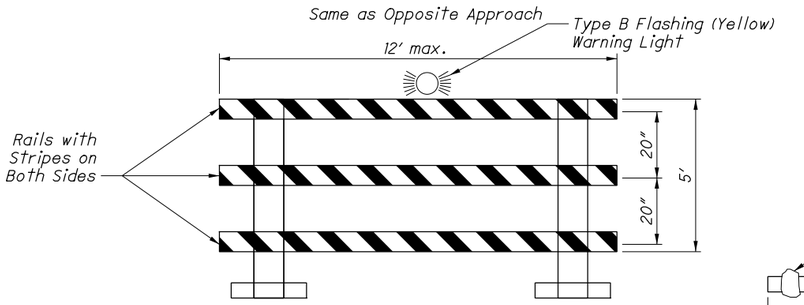
OFFICE OF HYDRAULICS ENGINEERING

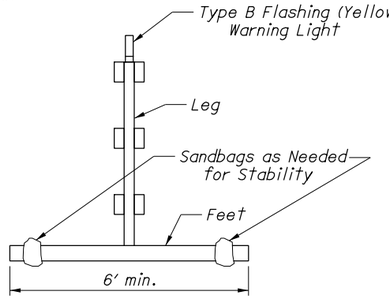
STANDARD HYDRAULIC CONSTRUCTION DRAWING
PAVED GUTTERS

SCD NUMBER
DM-2.1

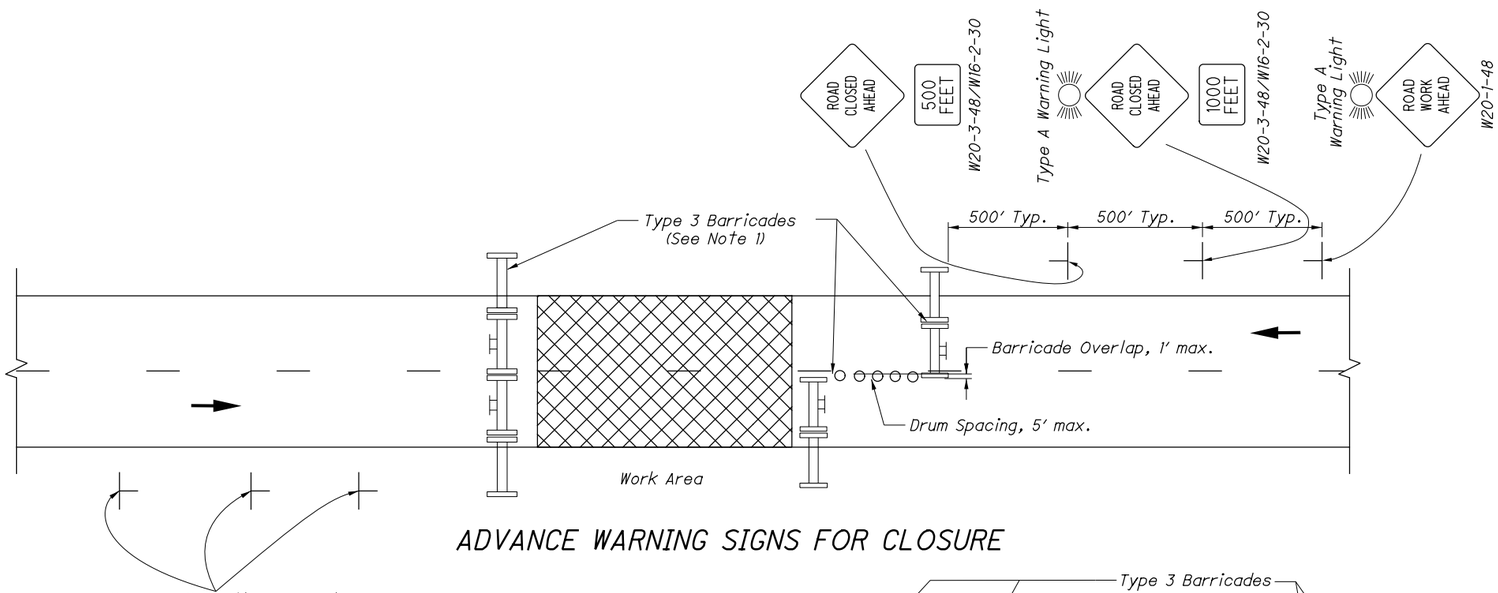
1 / 1

I:\ODOT.cadd\Standards\ODOT\Sheets\SCD\Hydraulics\DM-2.1_2013-01-18.dgn Sheet 1/27/2017 10:19:57 AM jyoung6

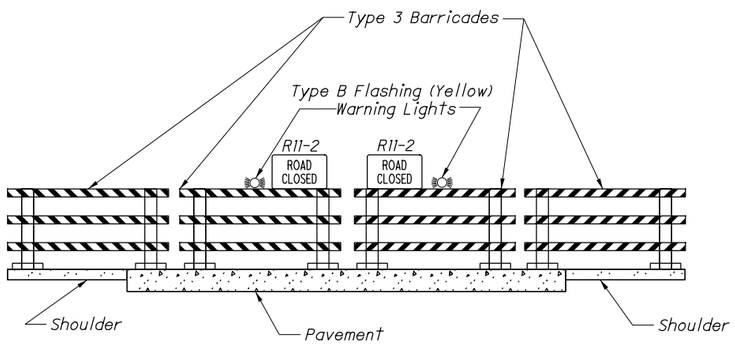




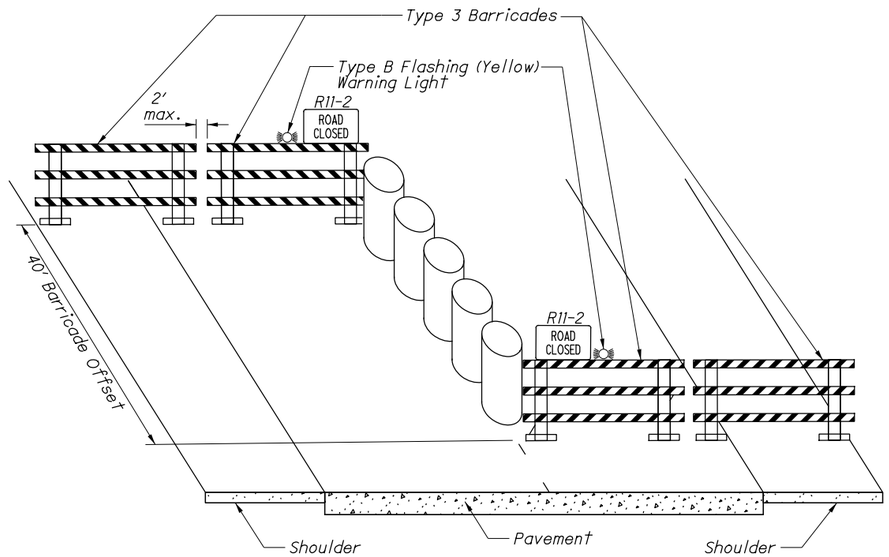
TYPE 3 BARRICADE DETAIL



ADVANCE WARNING SIGNS FOR CLOSURE



BARRICADE CLOSURE PROFILE



BARRICADE CLOSURE OFFSET OPTION

NOTES:

BARRICADE USE

1A. Barricades shall be MASH compliant (or NCHRP 350 compliant if used on or before 12/31/2024) and shall be erected according to details shown. When the road is closed to traffic, barricades shall be used to effectively close the entire roadway, including the paved or aggregate shoulder.

1B. Barricades along adjacent lanes may be offset from each other as shown, with drums used to close the resulting gap. Maximum drum spacing shall be 5′.

BARRICADE REFLECTORIZATION AND COLOR

2A. In construction or maintenance areas, all rails of the barricades shall be reflectorized with orange and white reflectorized Type G sheeting in 6″ wide alternate stripes which slope downward toward the center line of the road at an angle of 45 degrees. All three rails of the barricade shall be striped on both sides. Legs and feet shall be either all white or may display the natural color of the material used.

2B. Barricades used in permanent or semi-permanent application shall differ only in that they shall use red and white stripes.

SIGNS

3A. Where the road is closed to traffic by the erection of barricades, ROAD CLOSED (R11-2) signs shall be mounted laterally as shown.

3B. The advance warning signs shown on this drawing are intended for use when the traveled way is brought to an end with no direction given to traffic. Where traffic has been directed from the permanent roadway at or just in advance of the barricades, advance signing should be provided as shown in Standard Construction Drawing MT-95.70 or Ohio Manual of Uniform Traffic Control Devices Figure 6H-7 as appropriate.

3C. Advance warning signs approaching a lane closure, as shown on these plans, shall consist of two ROAD CLOSED AHEAD (W20-3) signs with distance plaques placed about 500′ and 1000′ from the closure, and a ROAD WORK AHEAD (W20-1) sign placed about 1500′ from the closure. The signs shall be placed on both sides of the roadway for multi-lane divided highways or when required by the plans.

FLASHING WARNING LIGHTS

4A. Type A flashing warning lights are required on the ROAD WORK AHEAD (W20-1) sign and on the first ROAD CLOSED AHEAD (W20-3) sign.

4B. Type B flashing warning lights shall be provided on Type 3 Barricades, one light per each closed lane. Each light shall be conspicuously visible at all distances up to 1000′ under normal atmospheric conditions. The light shall be in operation at all times during the period the highway is closed.

OPERATION ON 2-LANE, 2-WAY ROADWAYS

5A. Where the barricade runs across the entire roadway without longitudinally offsetting sections, the Contractor will normally open only the left side of the barricade as necessary to allow the construction vehicle to enter, and then shall immediately close it. The entire barricade will not normally be opened at the same time. The Contractor shall assign an employee to assure that the barricade is closed at the end of each workday.

5B. Where the sections of the barricade are offset from each other with drums provided to close the gap (see note 1B), the Contractor may move the drums as necessary to allow the construction vehicle to enter, and then shall immediately replace the drums. The Contractor shall assign an employee to assure that the drums are in place at the end of each workday.

THIS DRAWING REPLACES MT-101.60 DATED 01-20-2017.

REVISION DATE 01-17-2020

STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR David L. Holstein

STDS. ENGINEER Soisson

OFFICE OF ROADWAY ENGINEERING

STANDARD ROADWAY CONSTRUCTION DRAWING

ROAD CLOSURE USING TYPE 3 BARRICADES

SCD NUMBER MT-101.60