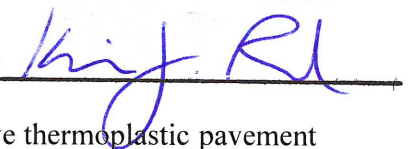


**LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SPECIFICATIONS**

**PREFORMED, HEAT-APPLIED, BEADED, RETROREFLECTIVE,
THERMOPLASTIC PAVEMENT MARKING
NON-PRE HEATED**

Approved for
Maintenance Division

DESCRIPTION:

By: 

This specification covers preformed heat-applied, beaded, retroreflective thermoplastic pavement markings that will be installed on asphalt or portland cement concrete pavement roadways throughout the state. The preformed material shall be available in white, yellow, red, and blue, as well as symbol and shield designs as specified. Typical installations include but are not limited to stop lines, crosswalk lines, shields, edge lines, hash marks, and gore areas.

REQUIREMENTS:

Composition

Preformed thermoplastic shall be a minimum of 125 mils thick prior to installation. The material shall be a product that is especially compounded for pavement markings and shall consist of an alkyd based formula with a uniform cross section. Glass beads shall be uniformly distributed to ensure that the full width of the line, symbol or shield is visible at night.

Physical Characteristics

Marking material shall have visible heat indicators/markings on the surface of the material such as indentions, perforations or slits. The heat indicators/markings shall fade away signifying the material is properly melted and bonded to the roadway.

Color

White preformed thermoplastic must comply with AASHTO M 249 as modified herein and shall be listed as an approved product on the Approved Materials List (AML) for Preformed Heat-Applied Thermo Striping Material.

Yellow preformed thermoplastic must comply with the requirements of ASTM D6628. The type and amount of yellow pigment shall be at the option of the manufacturer, providing all other requirements of this specification are met. However, the pigment for yellow thermoplastic shall be lead free and shall meet the regulatory level of non-hazardous waste as defined by 40 CFR § 261.24 when tested in accordance with EPA Method 1311, Toxicity Characteristics Leaching Procedures.

Pigments used to create each color shall be evenly dispersed throughout the material thickness.

Retroreflectivity

All retroreflectivity readings shall be measured with a geometry of 1.05 degrees observation angle and 88.76 degrees entrance angle as detailed in ASTM E1710. In lieu of measurements, the Department shall determine by visual nighttime inspection that the preformed pavement markings have sufficient reflectance.

Softening Point:

After heating the preformed thermoplastic material and testing in accordance with AASHTO T 250, the material shall have a minimum softening point of 200°F.

Skid Resistance

Preformed thermoplastic markings shall have a minimum initial friction resistance number of 45 BPN when testing in accordance with ASTM E303.

Field Performance & Durability

At the Departments discretion, an initial daytime color and luminance factor (Y%) reading made be run after seven (7) days and within thirty (30) days after installation to verify compliance with ASTM D 6628.

The exposed surface of the material shall be free from tack and shall not be slippery when wet. Material shall not lift from the pavement in freezing weather. Cold ductility of material shall be such as to permit normal movement with the pavement surfaced without chipping or cracking.

The markings shall show no significant deformation, lifting, cracking or other signs of detrimental effects to the performance of the product for one (1) year after installation.

Installation

The preformed thermoplastic markings must be able to be applied to the roadway with a heat source such as a propane torch to bind the material to the road surface; application surface shall not require pre-heating prior to installation. Upon cooling to normal pavement temperature, the material shall be bonded to the surface and capable of resisting deformation by traffic.

Shelf Life

The marking material shall remain as specified for a period of one (1) year after receipt of material. Material that does not meet the requirements of this specification must be replaced, at no charge to the Department, with new material.

CERTIFICATION:

A Certificate of Compliance indicating that the material has been tested in accordance with AASHTO T250, as modified by this specification, and meets the requirements shall be provided to the Department upon request.

A Certificate of Compliance stating that the material provided meets the specified requirements for yellow pigments may be required from the manufacturer.

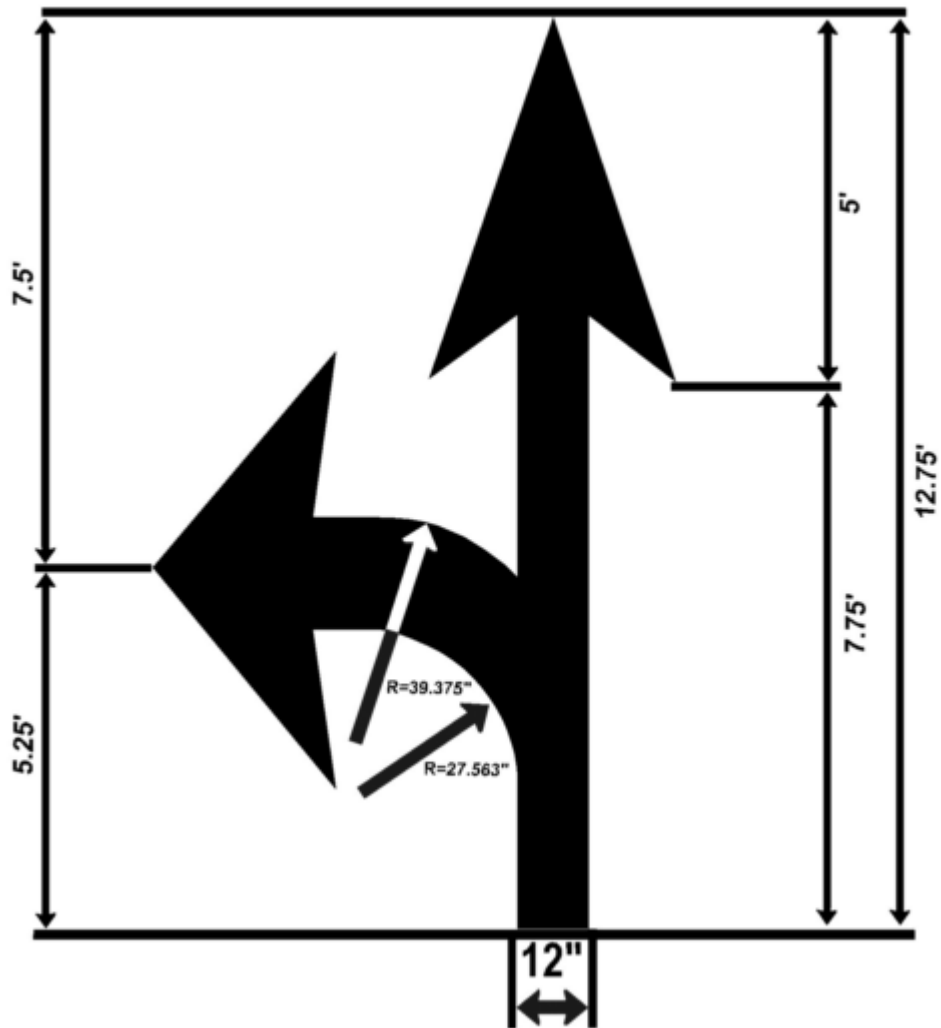
PACKAGING AND LABELING:

Preformed thermoplastic pavement marking material shall be packaged in a container/box that it will not adhere to during shipment and storage. Each container/box shall be clearly labeled with the following information:

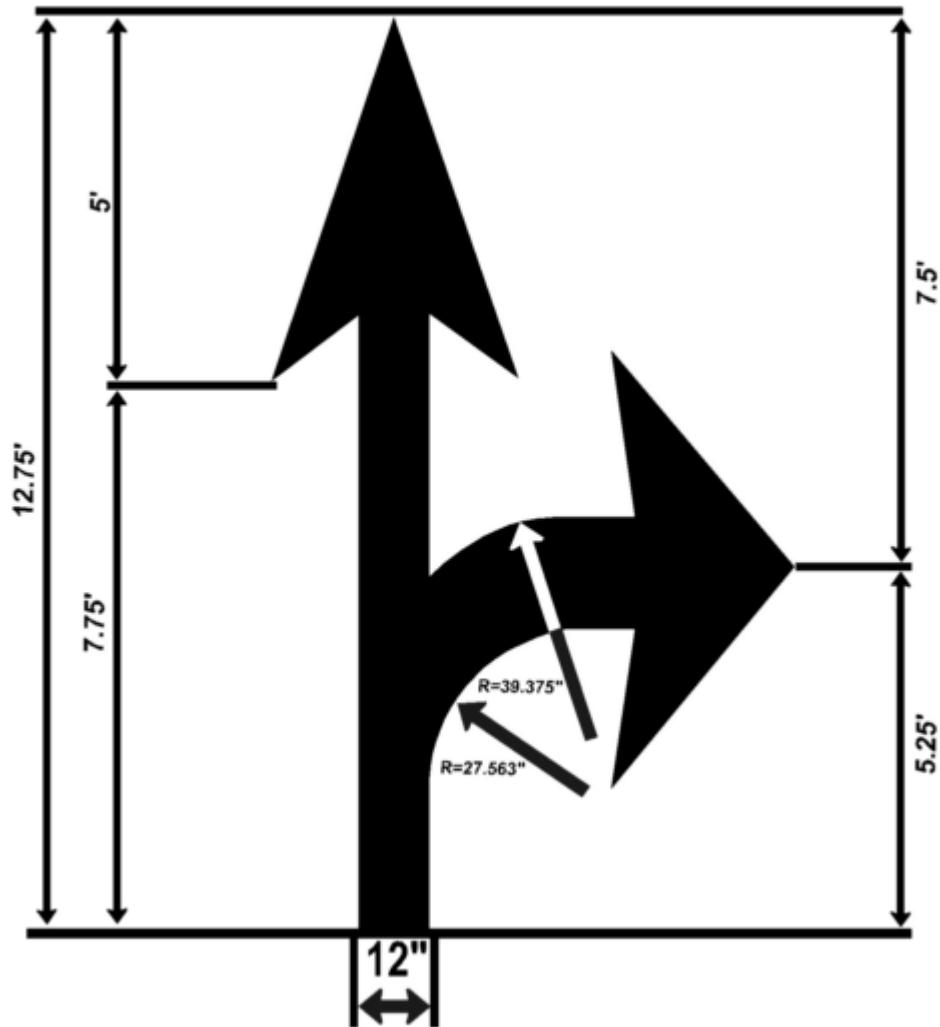
- Color of the material
- Product description (ex. – Up, Left Arrow)
- Manufacturer's name
- Batch number
- Date of Manufacture
- Application requirements
- Type of primer (if applicable)
- Any other pertinent information regarding the material

Each batch manufactured must have its own individual number. Application instructions shall be provided with each batch or material supplied.

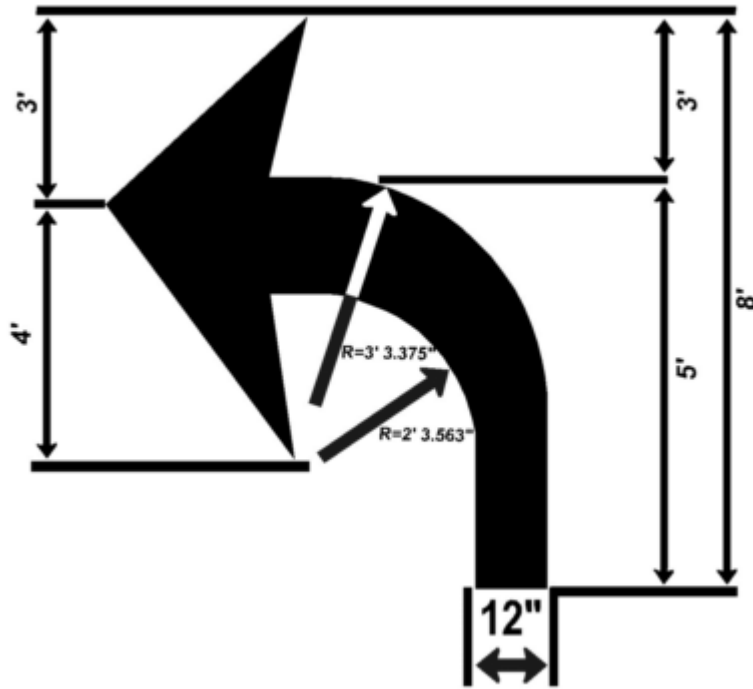
PRODUCT ID – 12172
UP, LEFT ARROW, 12.75'



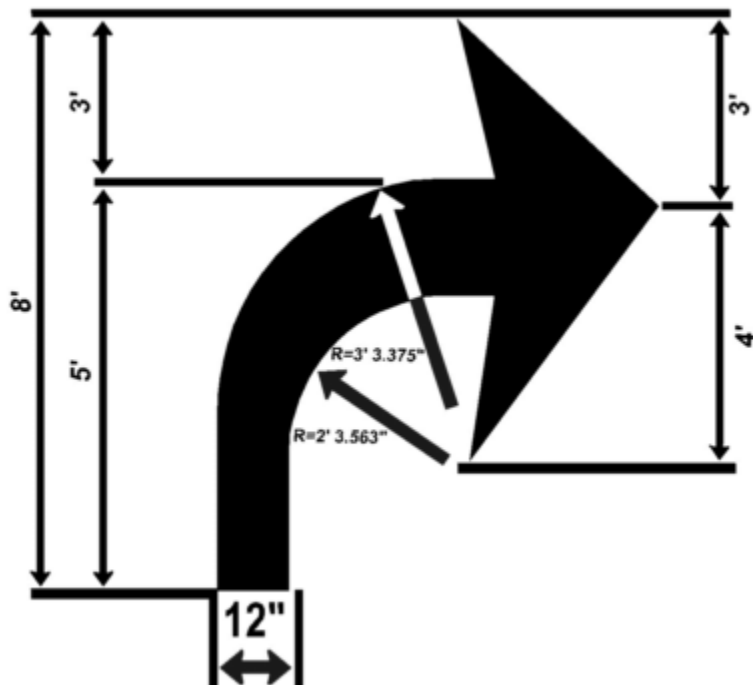
PRODUCT ID – 12173
UP, RIGHT ARROW, 12.75'



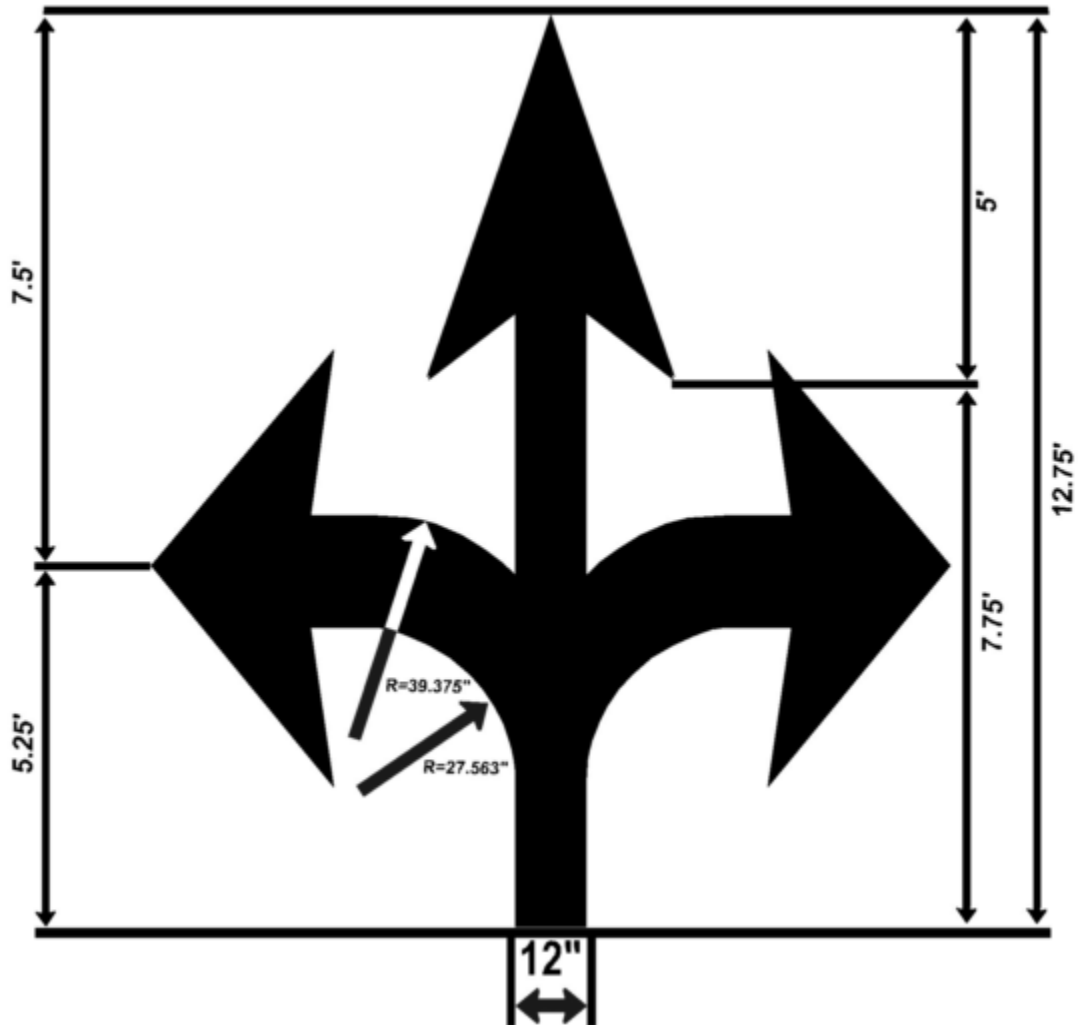
PRODUCT ID – 12174
CURVE, LEFT ARROW, 8'



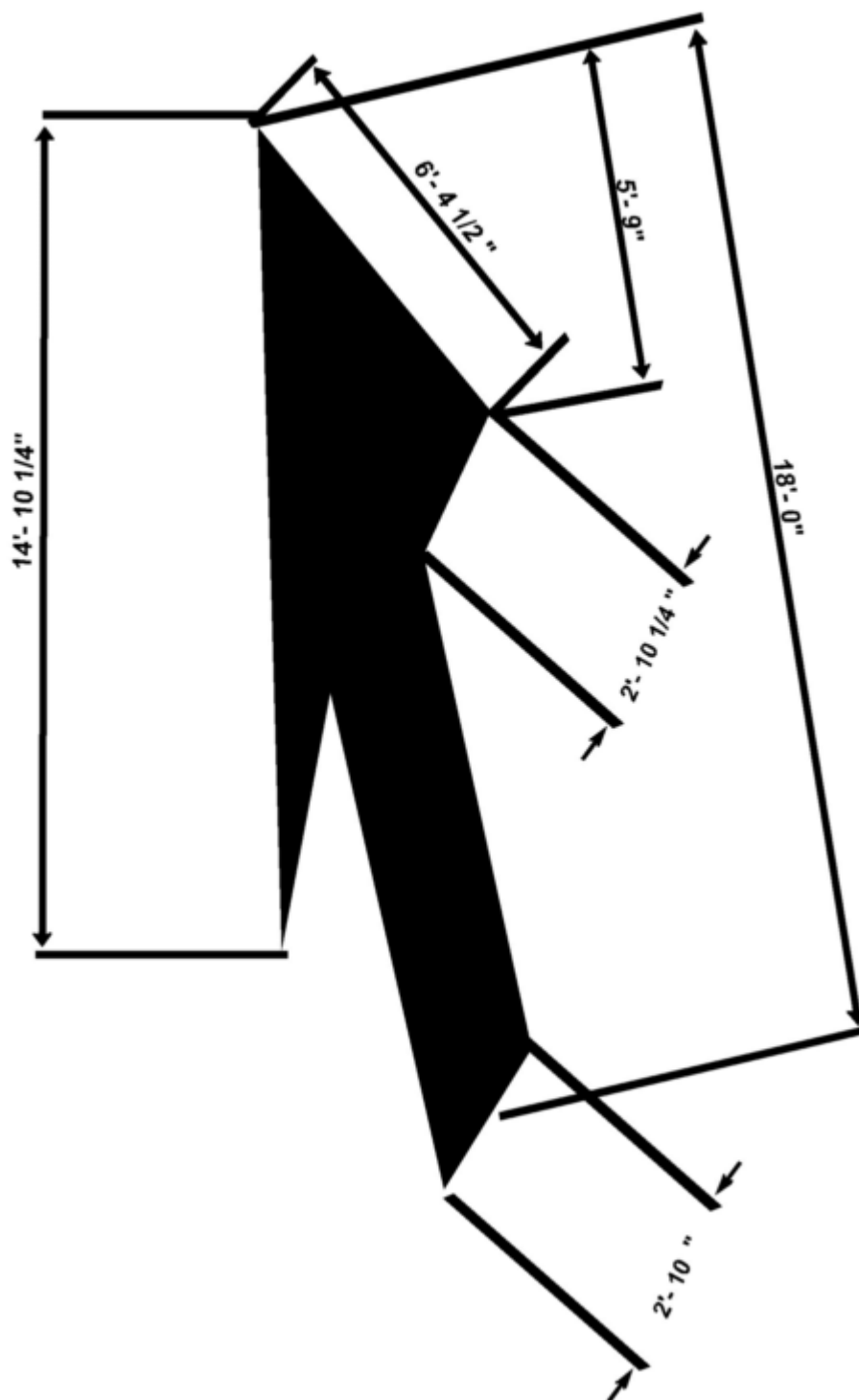
PRODUCT ID – 12175
CURVE, RIGHT ARROW, 8'



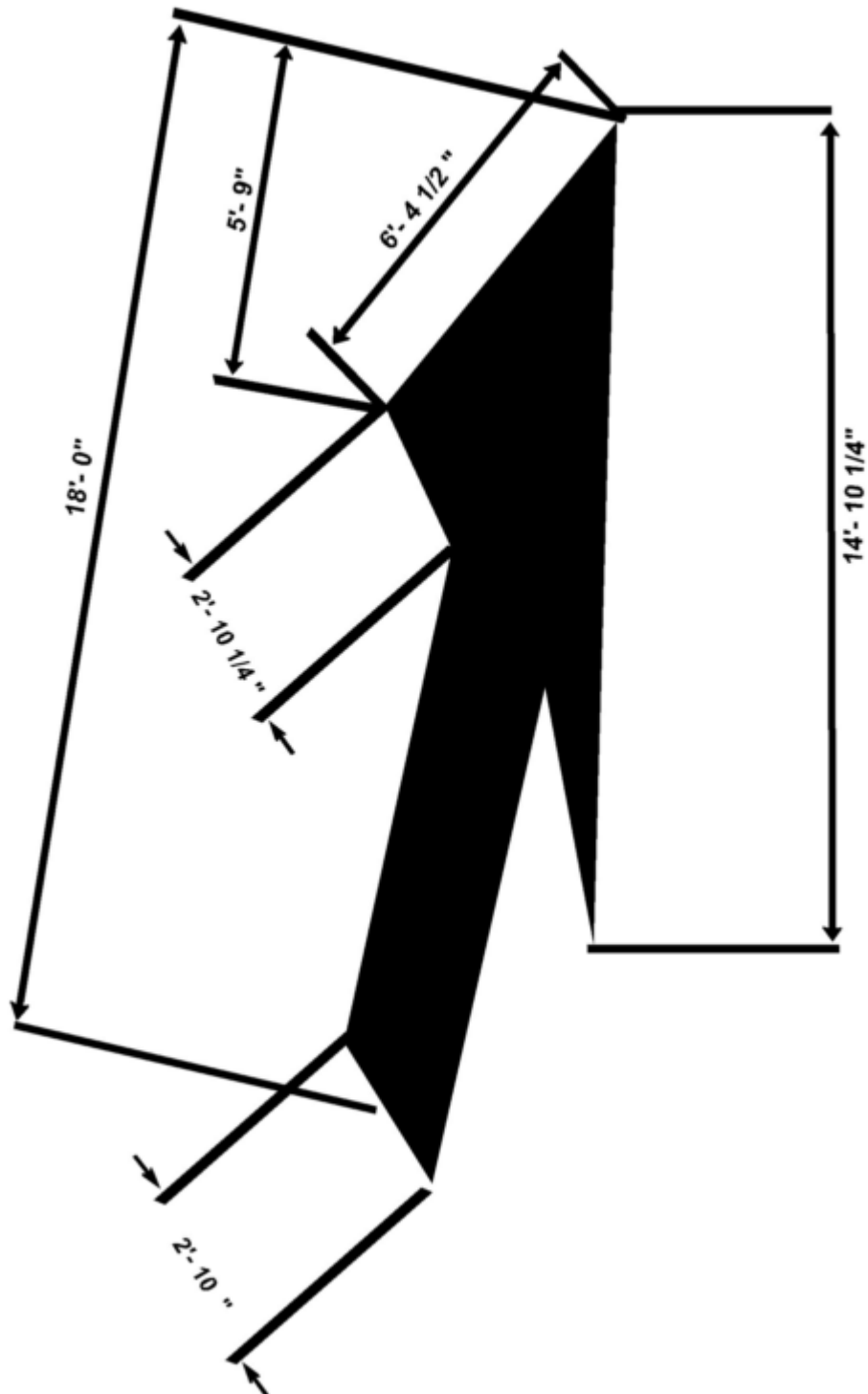
PRODUCT ID – 12176
UP, LEFT, RIGHT ARROW, 12.75'



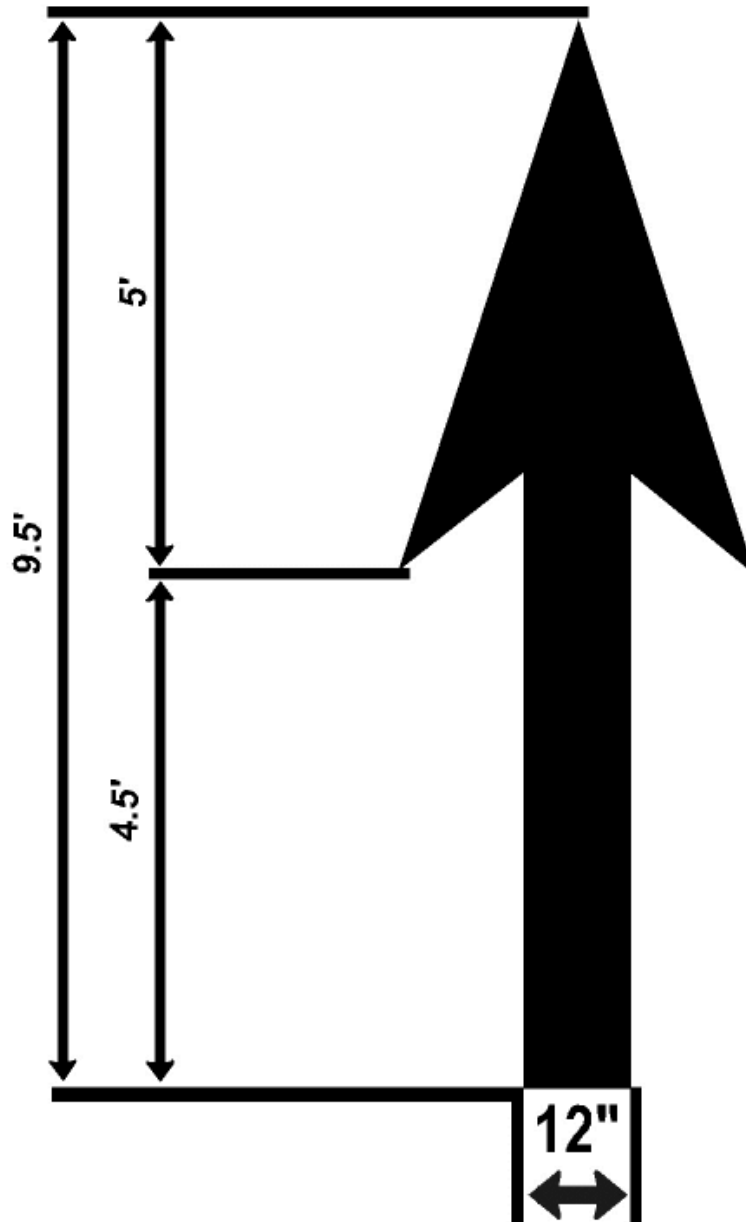
PRODUCT ID – 12177
LANE REDUCTION ARROW LEFT



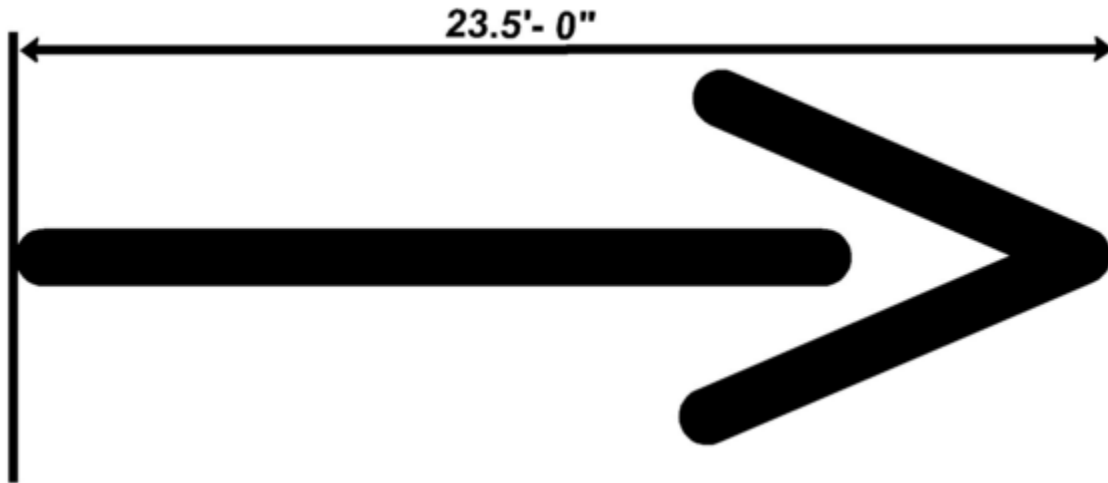
PRODUCT ID – 12178
LANE REDUCTION ARROW RIGHT



PRODUCT ID – 12179
STRAIGHT ARROW, 9.5'



PRODUCT ID – 12180
STRAIGHT ARROW, WRONG WAY/RAMP, 23.5'



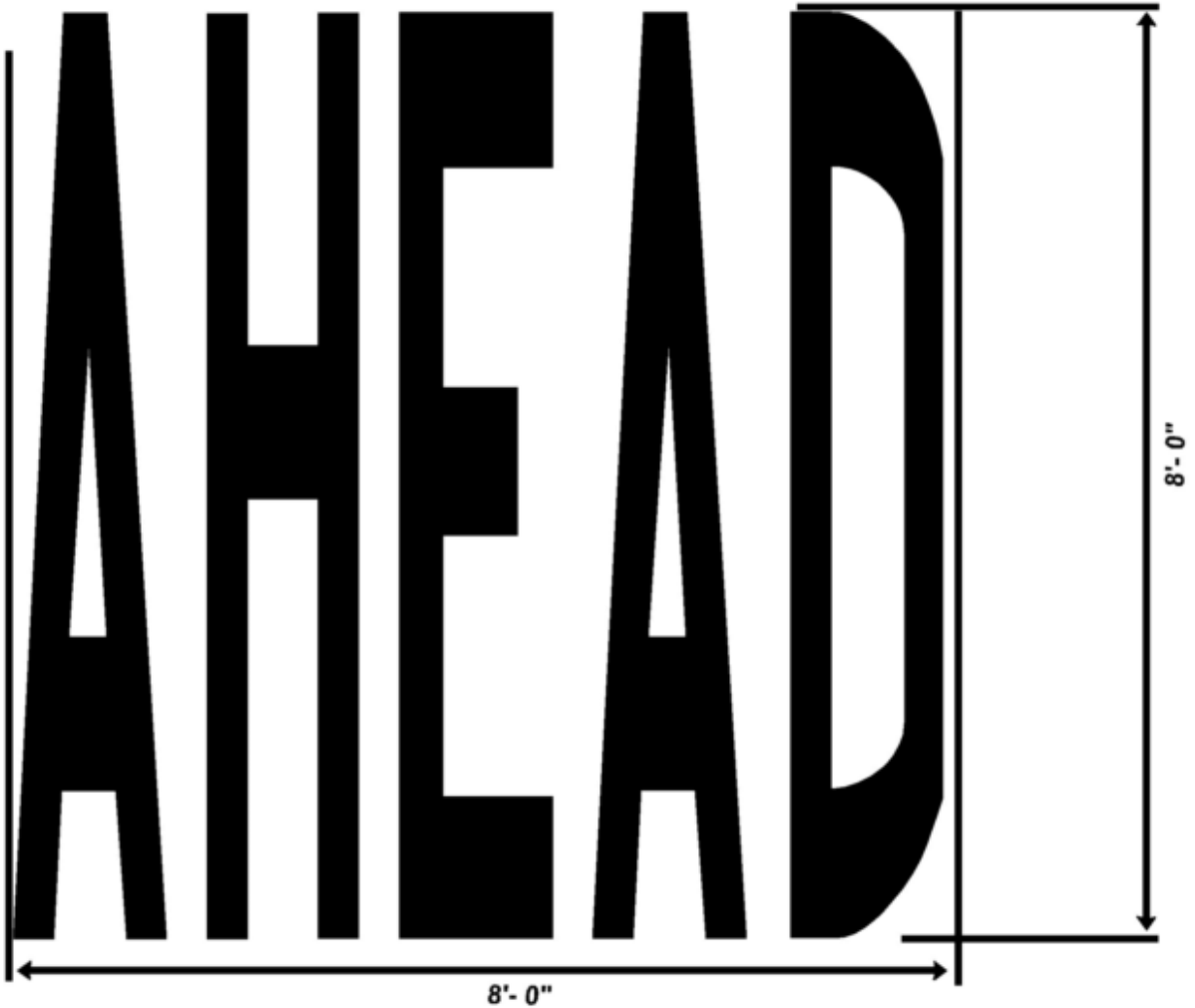
PRODUCT ID – 12181
TRIANGLE MARKING, YIELD LINE, 1'-0" X 1'-6"



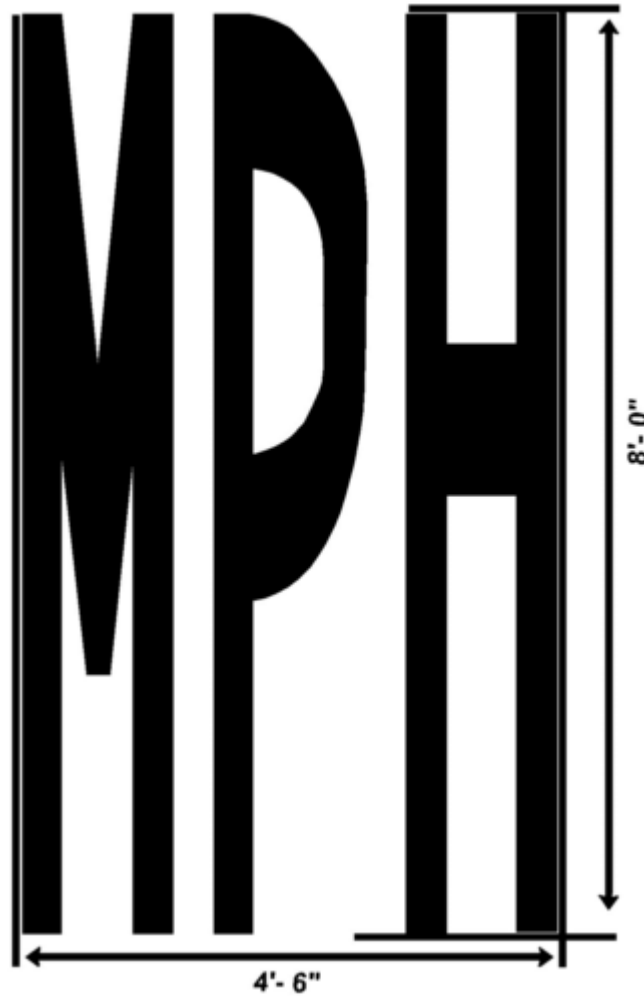
PRODUCT ID – 12182
TRIANGLE MARKING, YIELD LINE, 2' X 3'



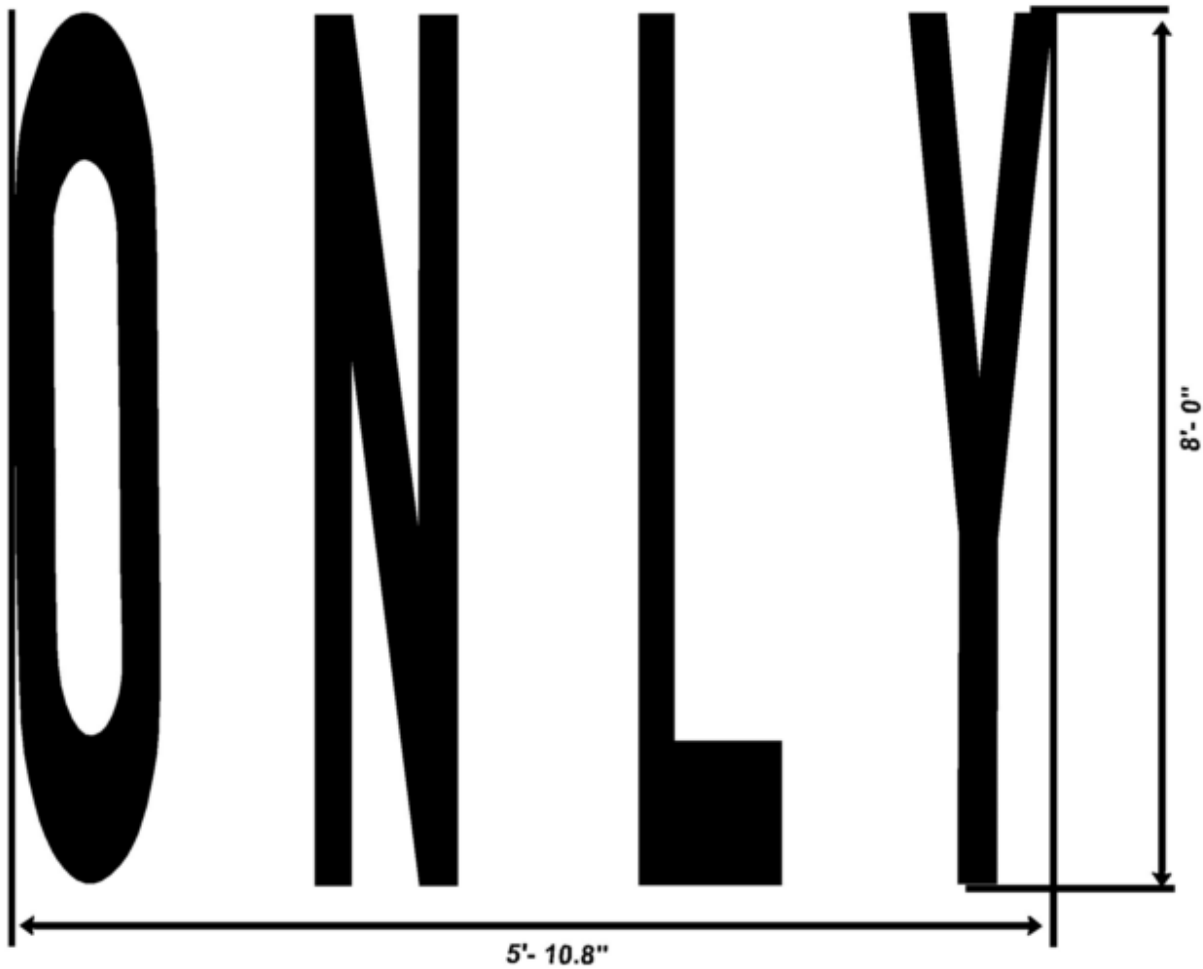
PRODUCT ID – 12183
AHEAD MARKING, 8' X 8'



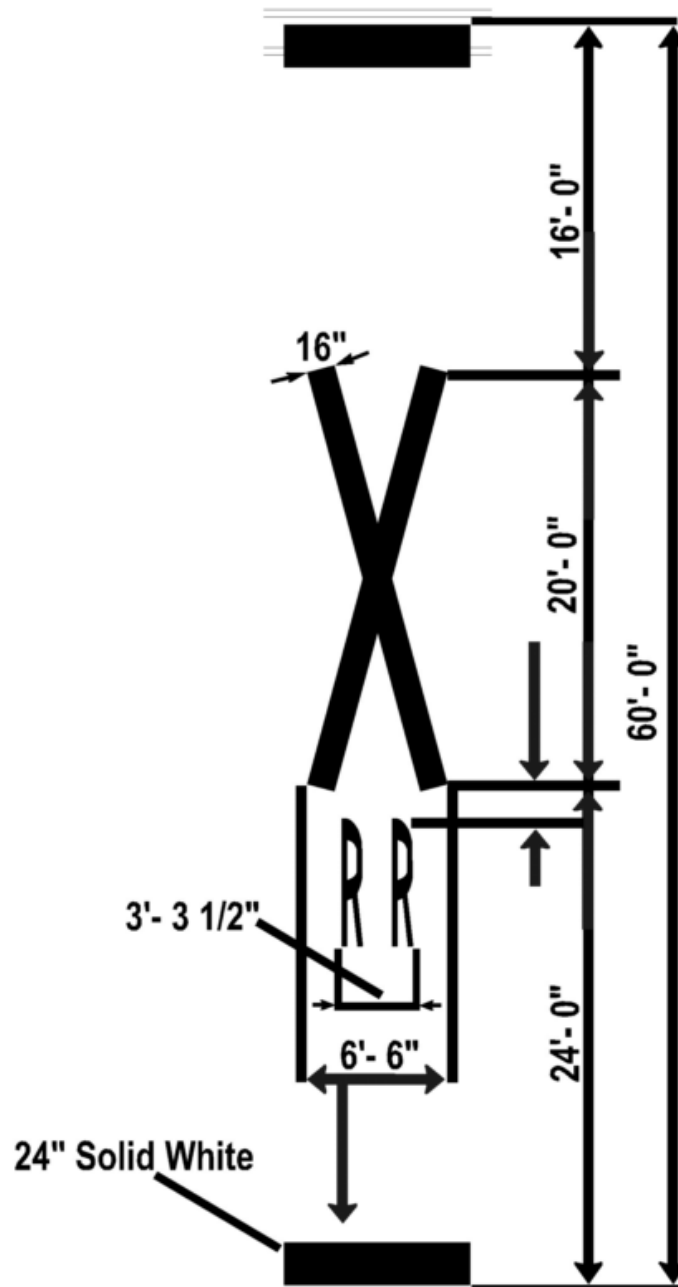
PRODUCT ID – 12184
MPH MARKING, 4'-6" X 8'



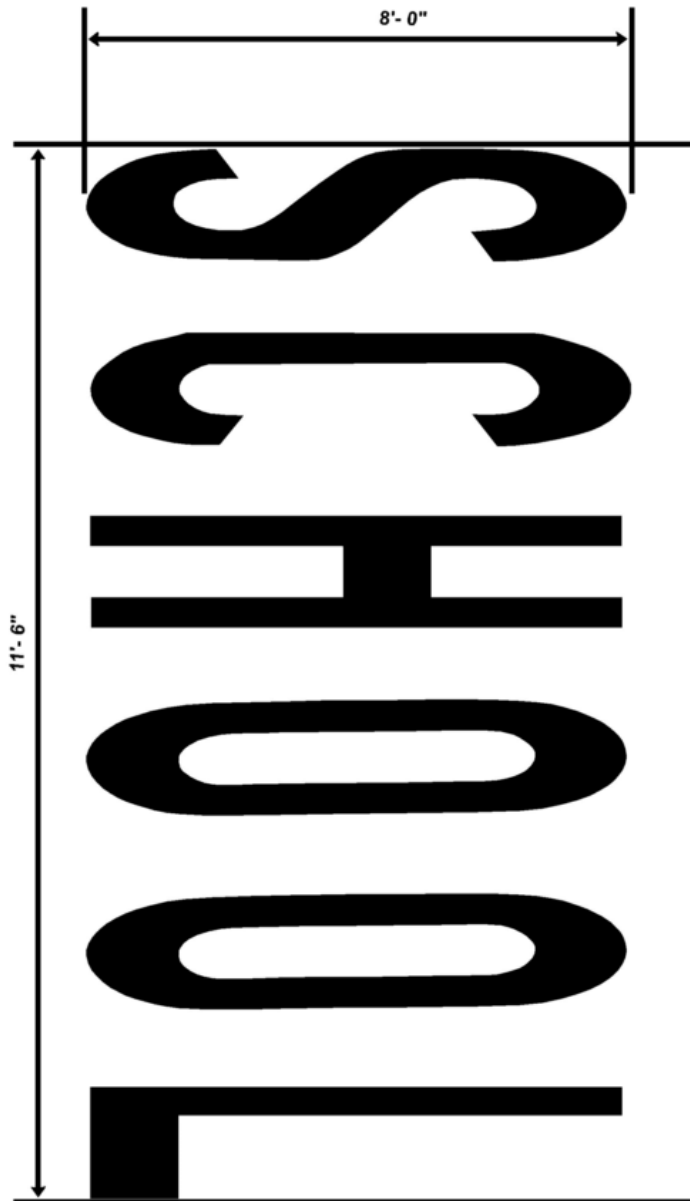
PRODUCT ID – 12185
ONLY MARKING, 5'-10.8" X 8'



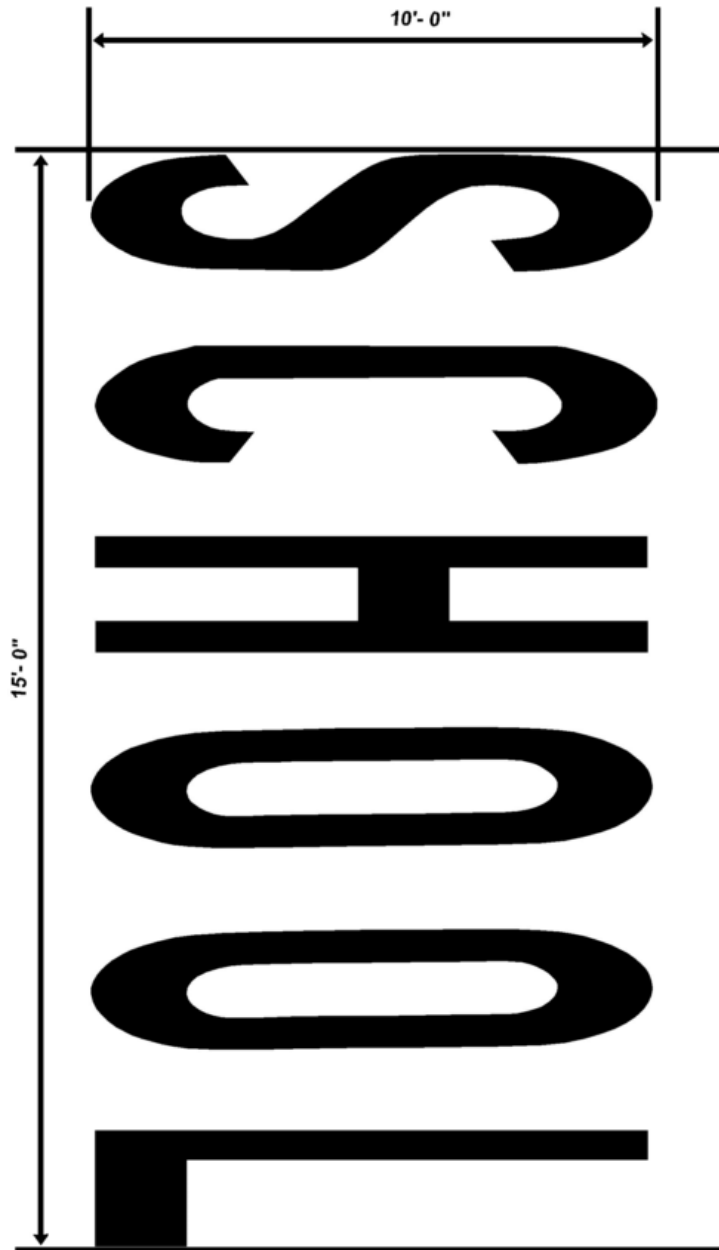
PRODUCT ID – 12186
RAILROAD MARKING KIT, 60'



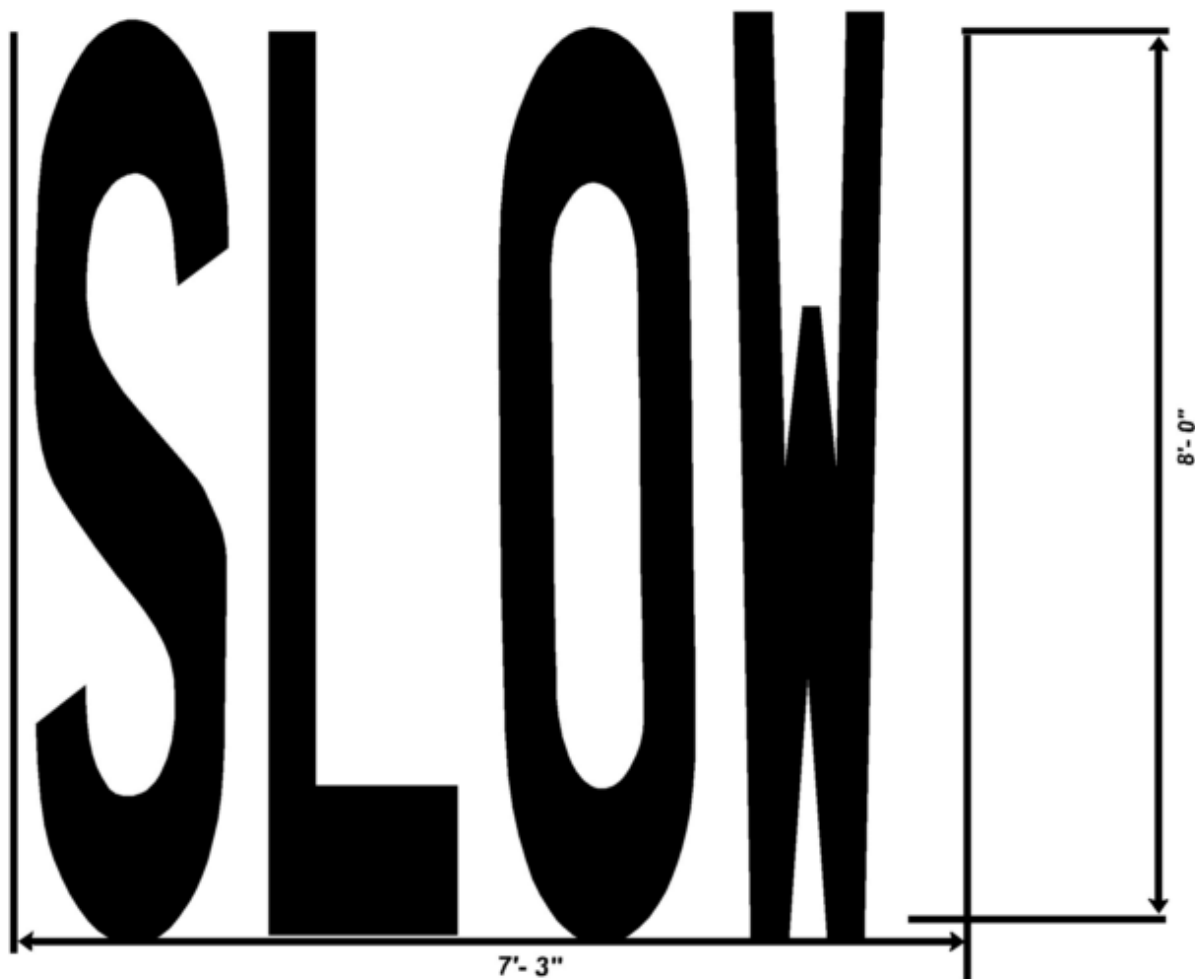
PRODUCT ID – 12187
SCHOOL MARKING, 8' X 11'-6"



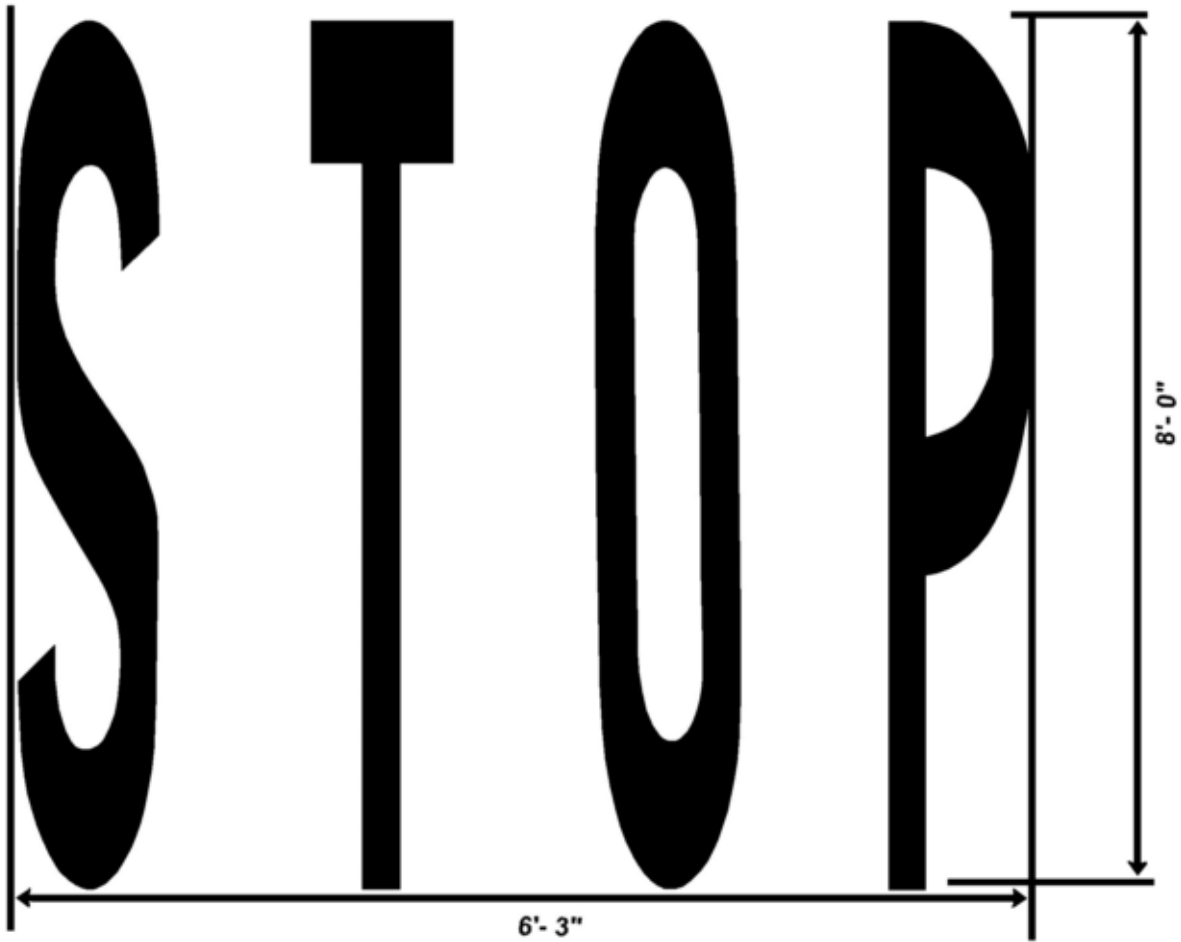
PRODUCT ID – 12188
SCHOOL MARKING, 10' X 15'



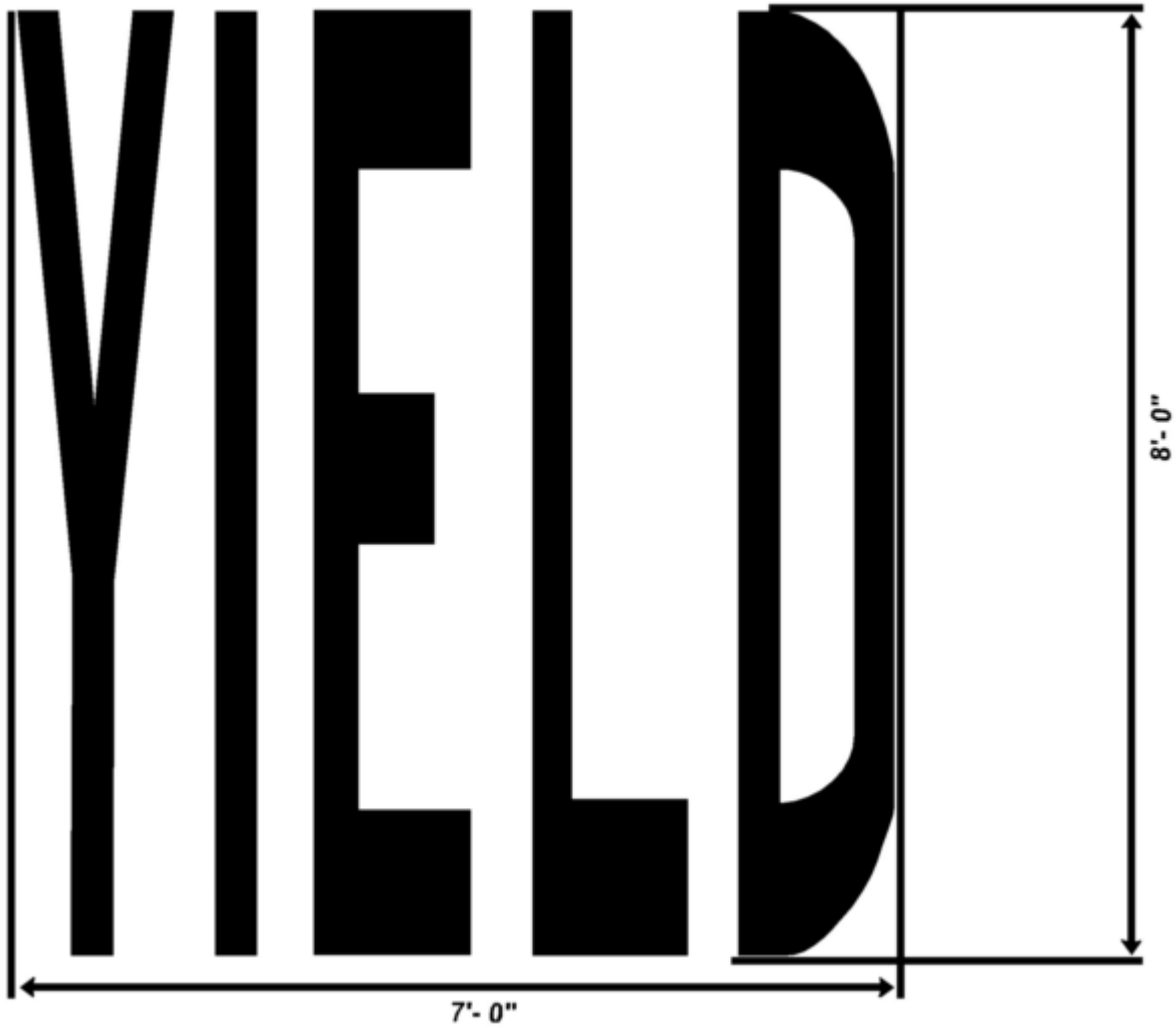
PRODUCT ID – 12189
SLOW MARKING, 7'-3" X 8'



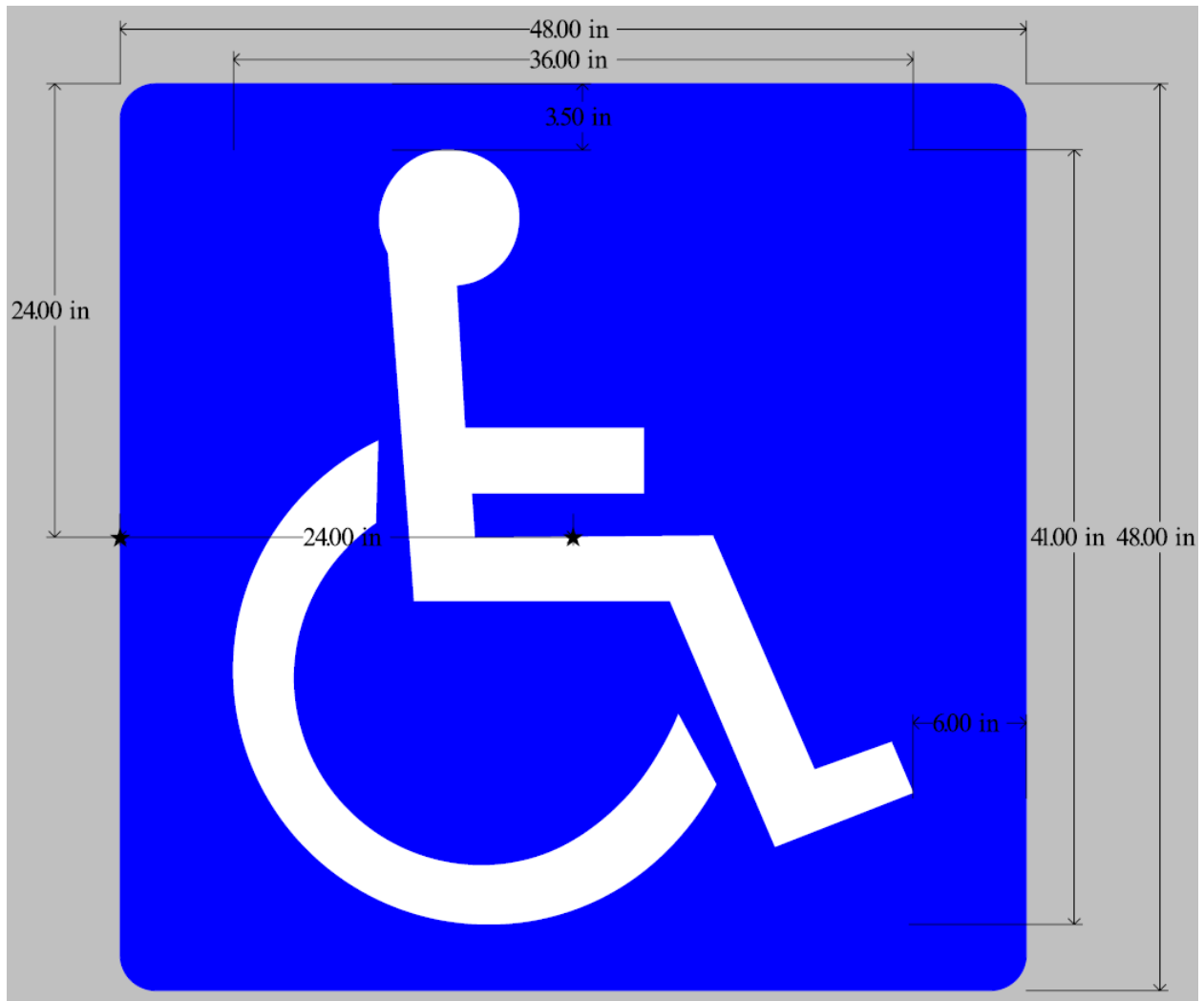
PRODUCT ID – 12190
STOP MARKING, 6'-3" X 8'



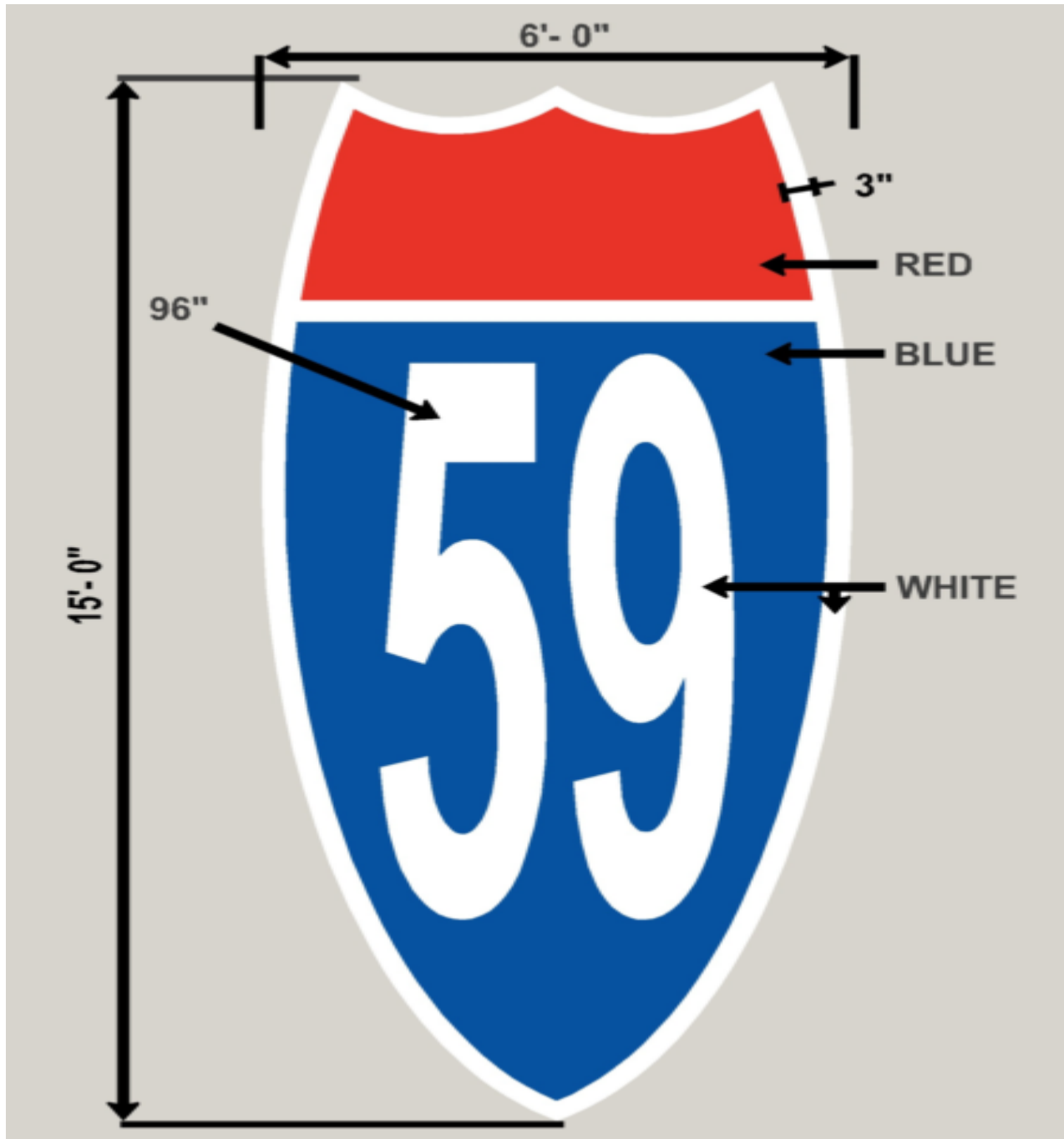
PRODUCT ID – 12191
YIELD MARKING, 7' X 8'



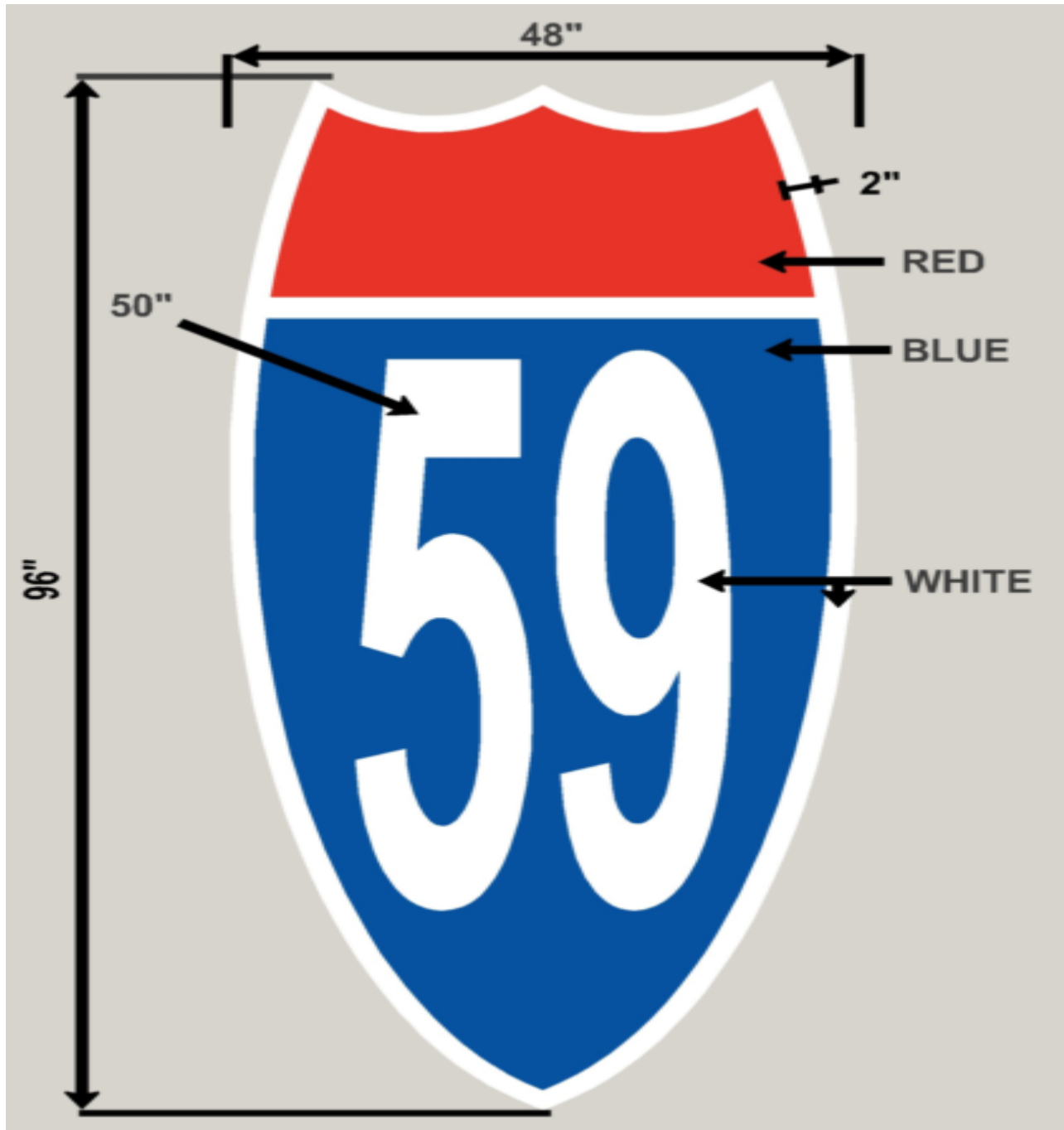
PRODUCT ID – 54940
HANDICAP MARKING, 48" X 48"



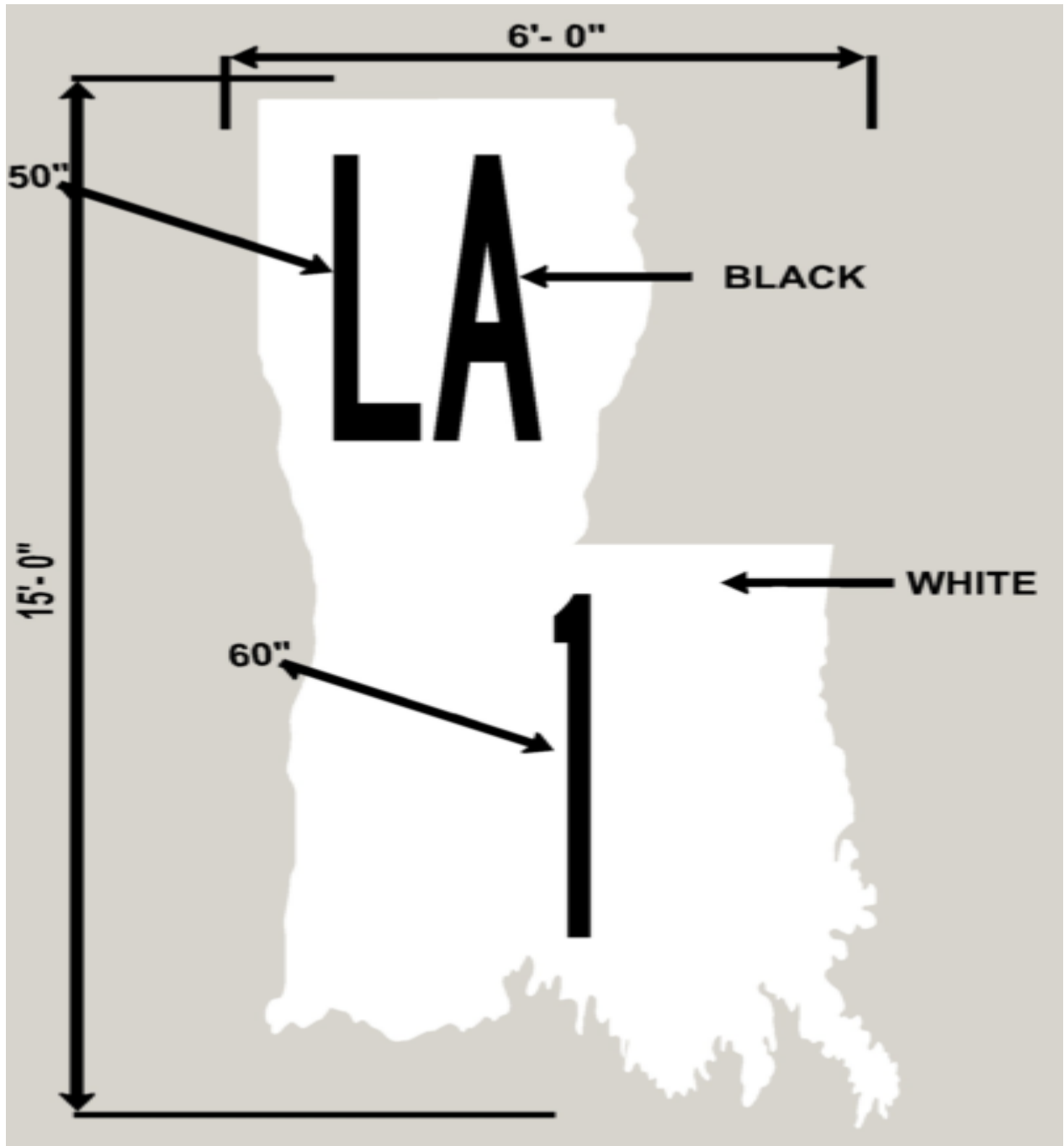
PRODUCT ID – 12208
INTERSTATE SHIELD, 6' X 15'
INTERSTATE PAVEMENT



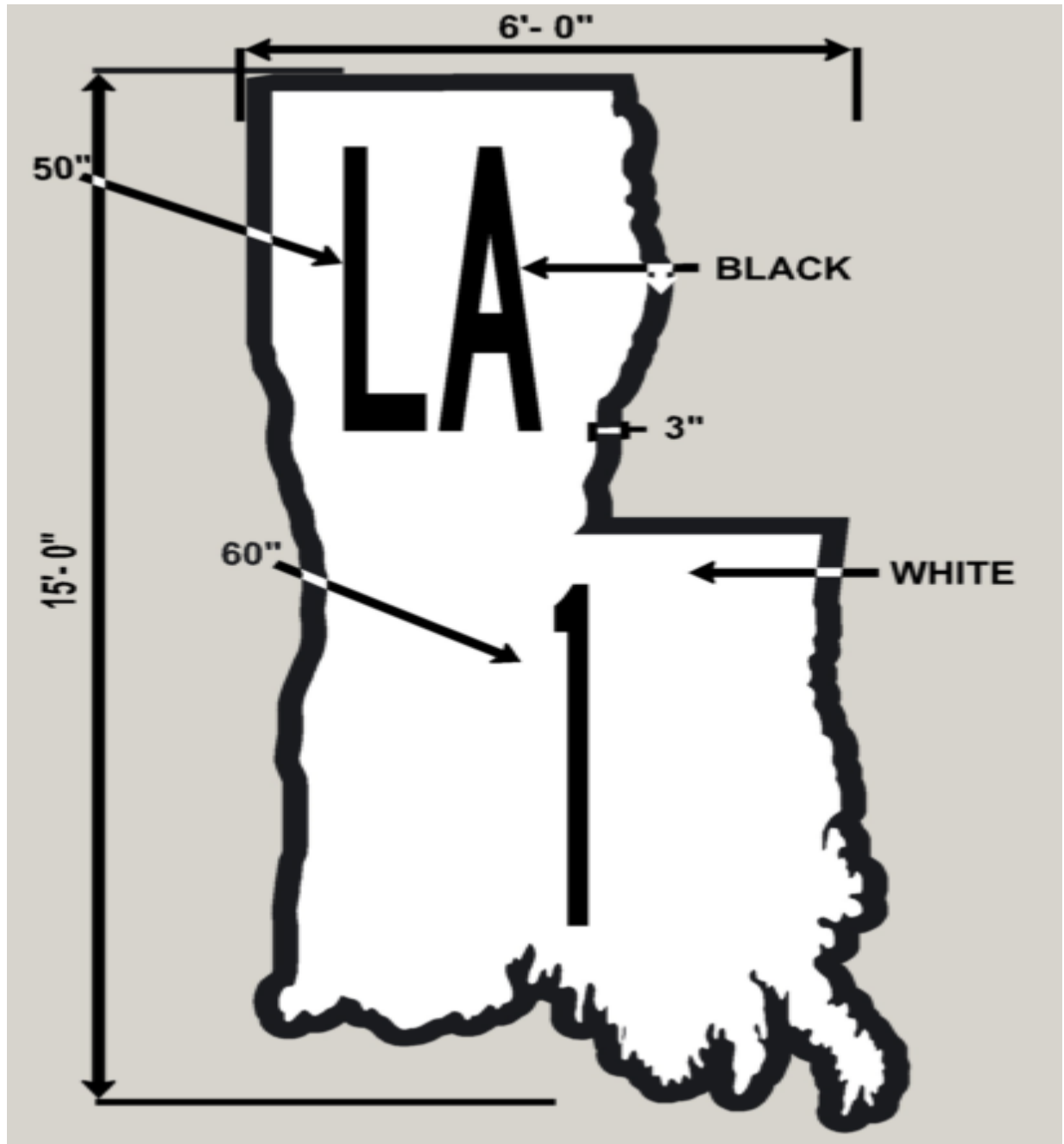
PRODUCT ID – 12210
INTERSTATE SHIELD, 48" X 96"
NON-INTERSTATE PAVEMENT



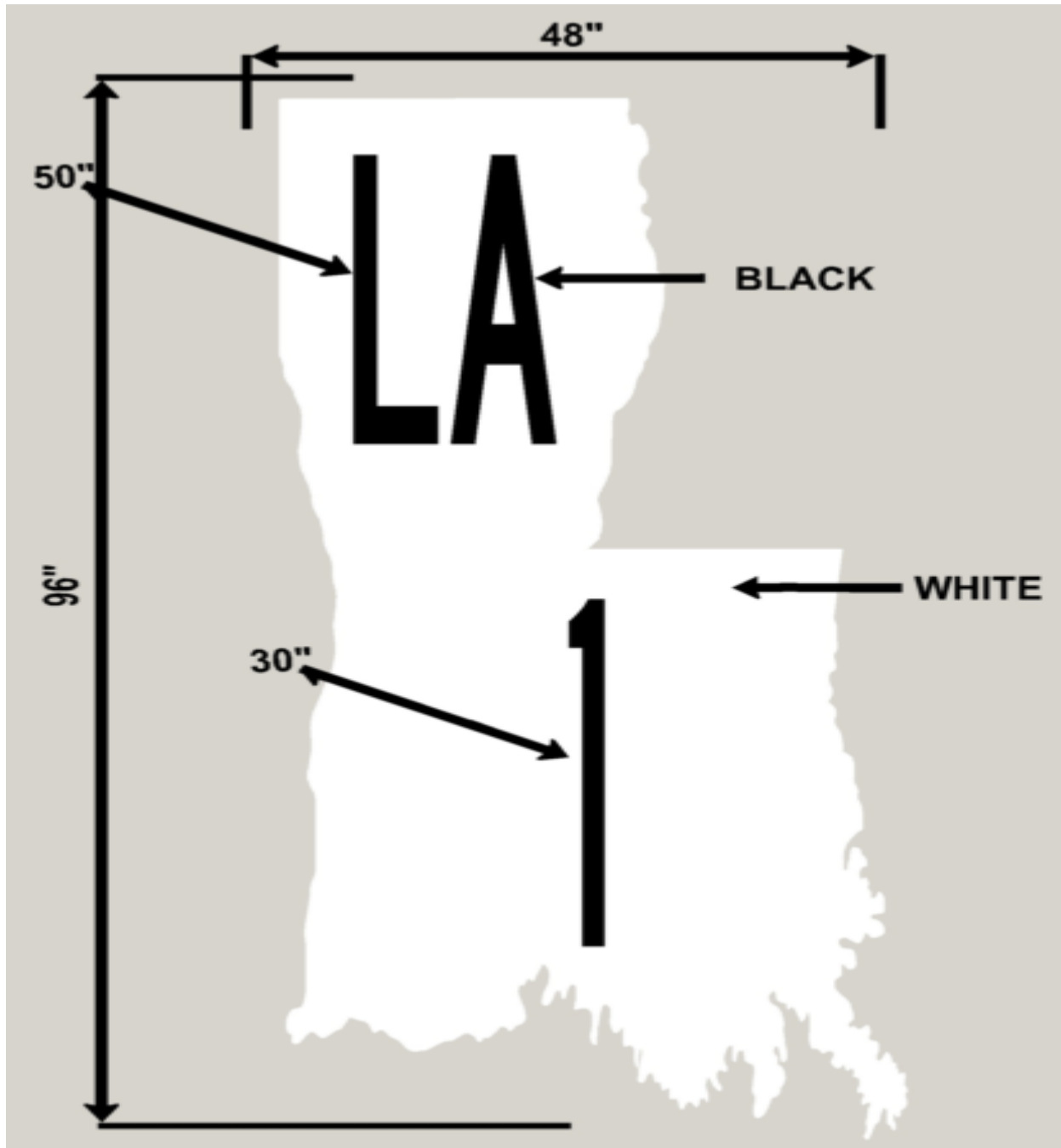
PRODUCT ID – 12212
LA SHIELD, 6' X 12'
INTERSTATE DARK PAVEMENT



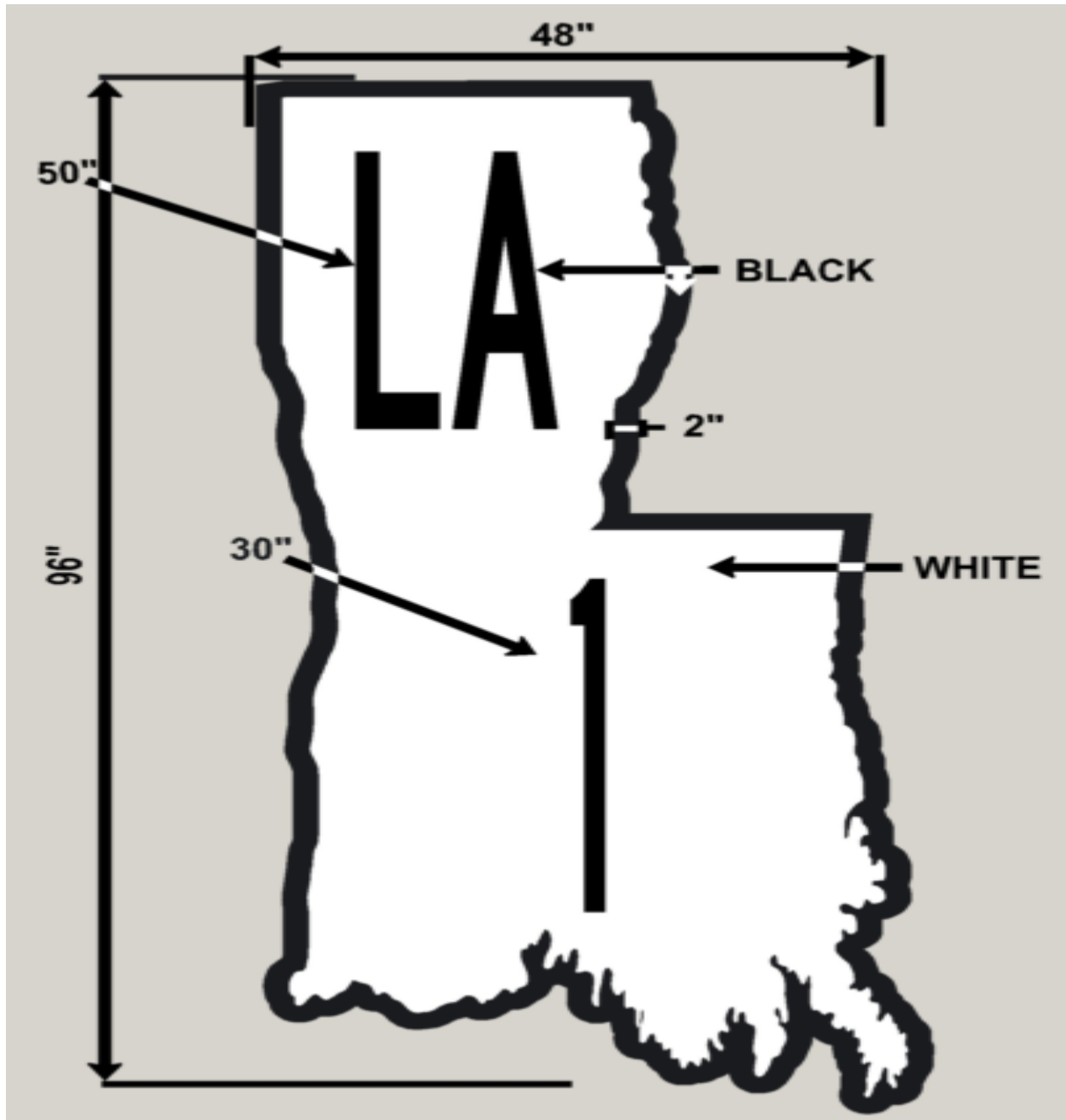
PRODUCT ID – 12213
LA SHIELD, 6' X 15'
INTERSTATE LIGHT PAVEMENT



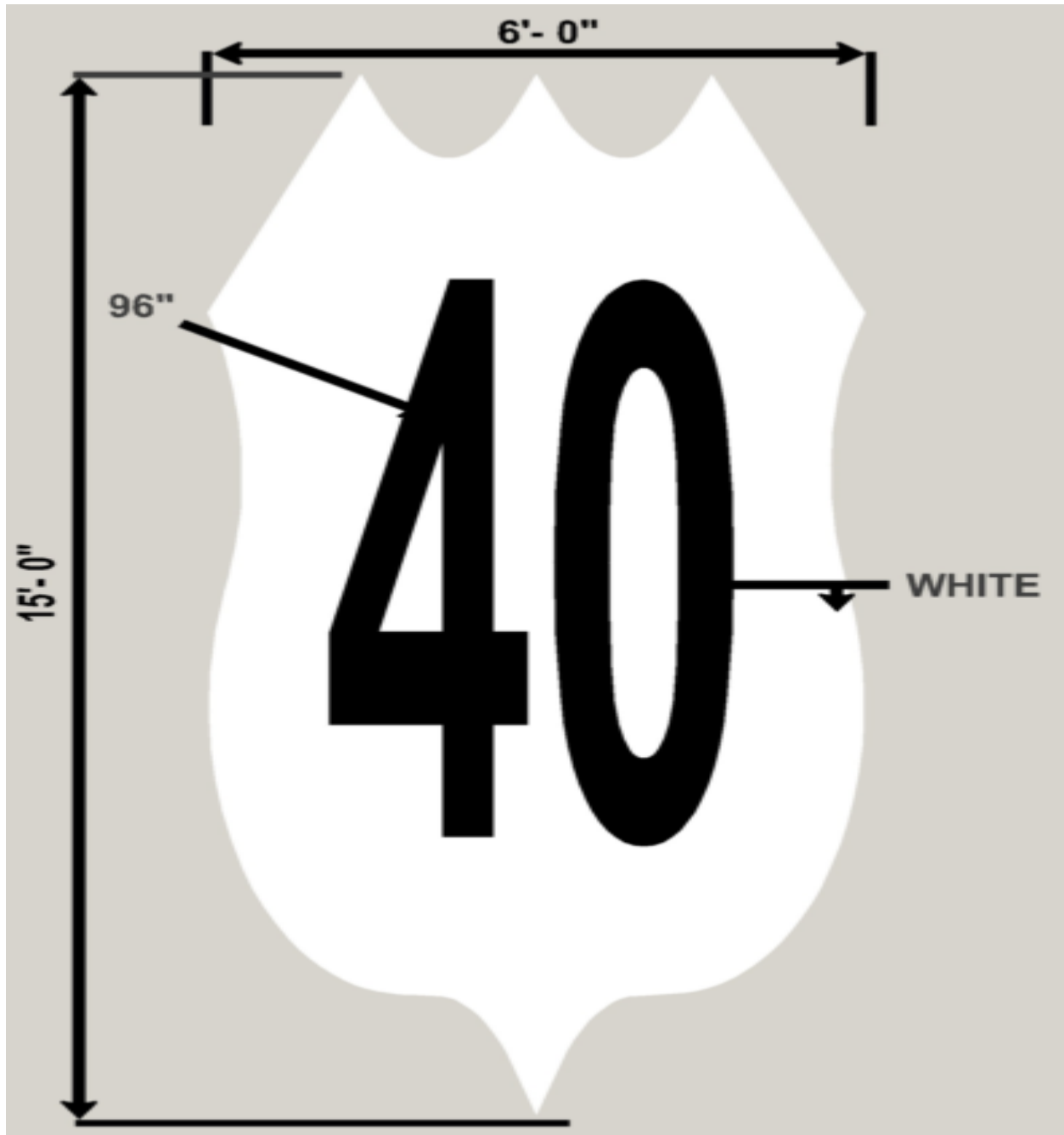
PRODUCT ID – 12214
LA SHIELD, 48" X 96"
NON-INTERSTATE DARK PAVEMENT



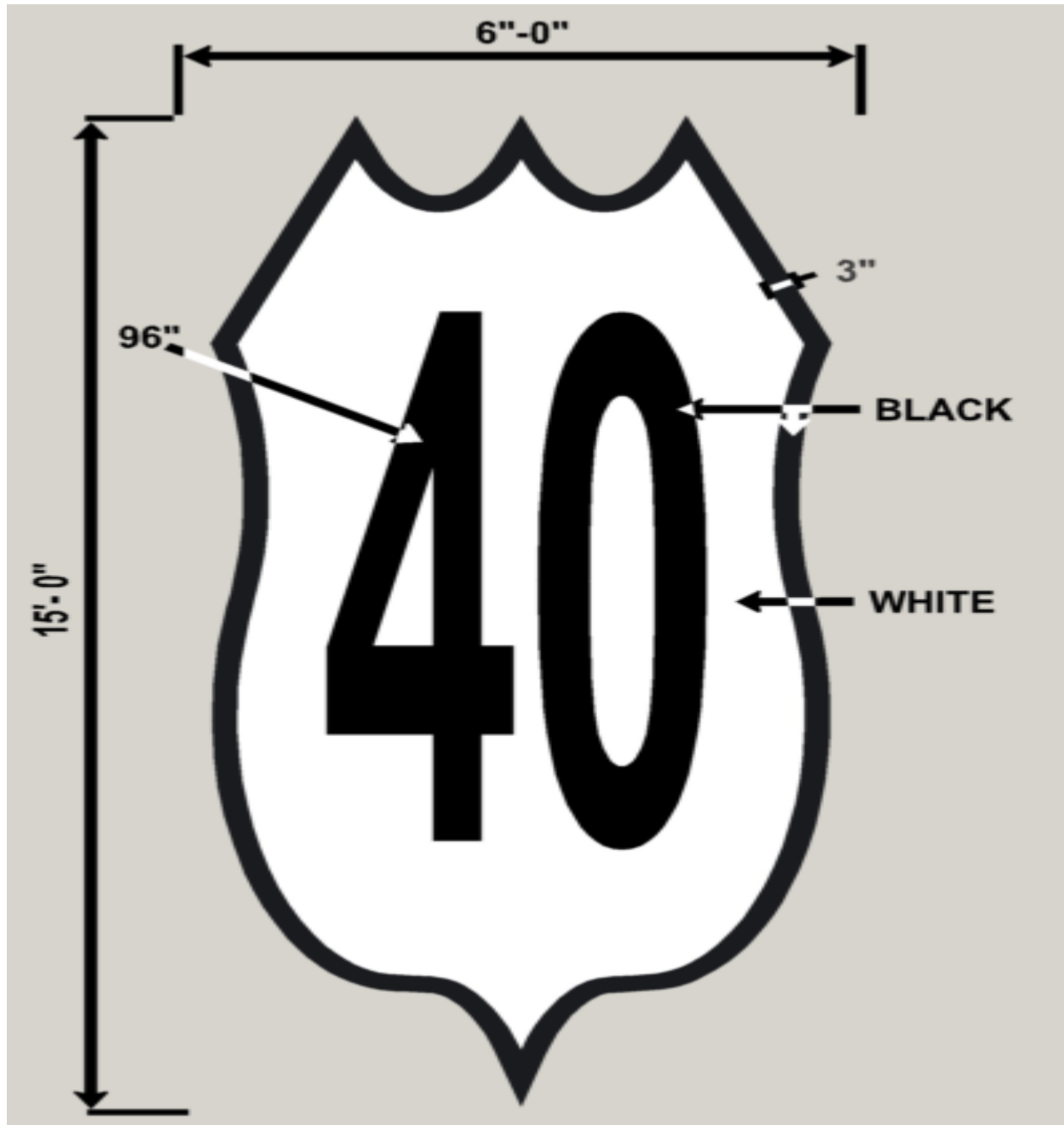
PRODUCT ID – 12215
LA SHIELD, 48" X 96"
NON-INTERSTATE LIGHT PAVEMENT



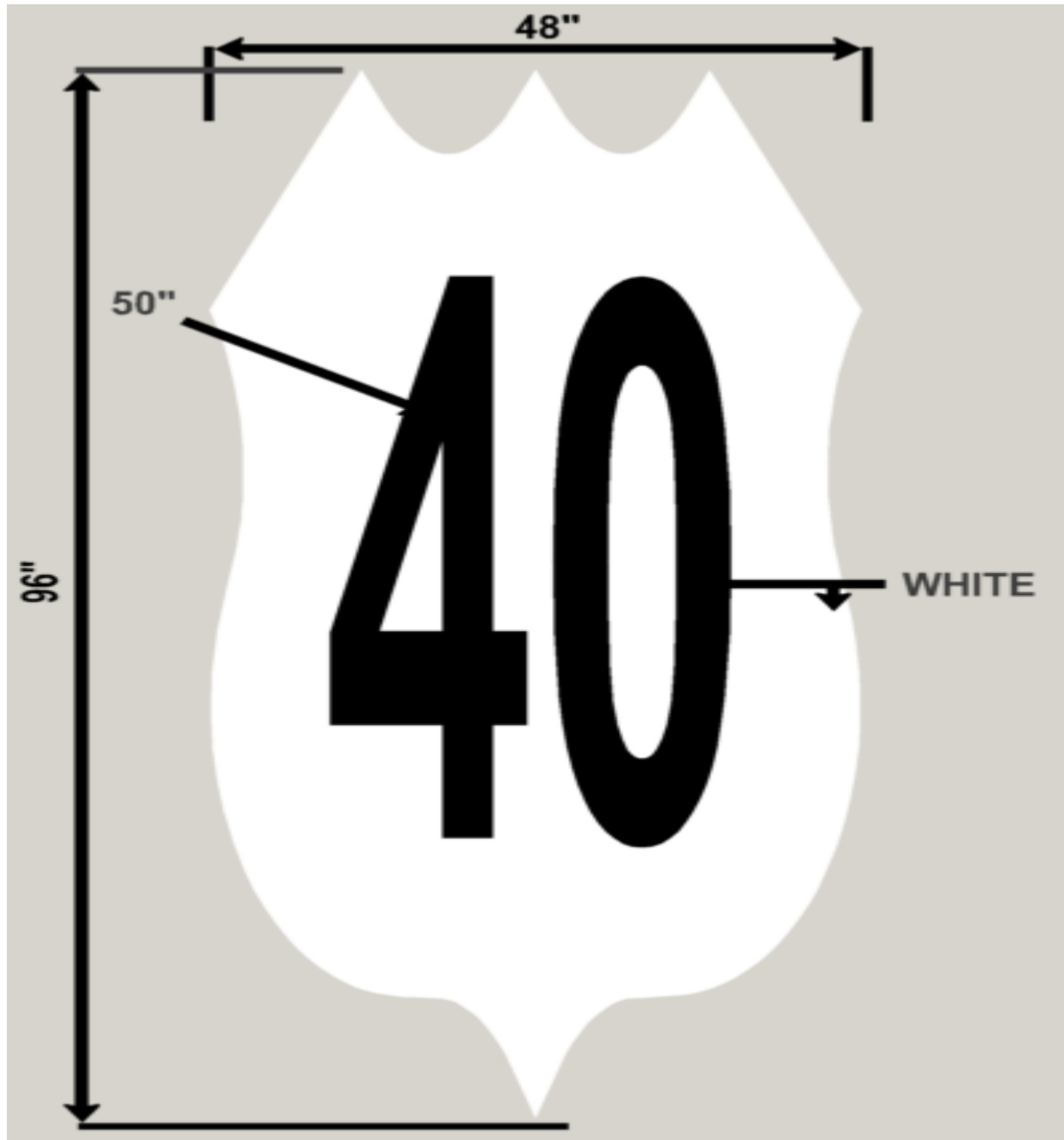
PRODUCT ID – 12216
US SHIELD, 6' X 15'
INTERSTATE DARK PAVEMENT



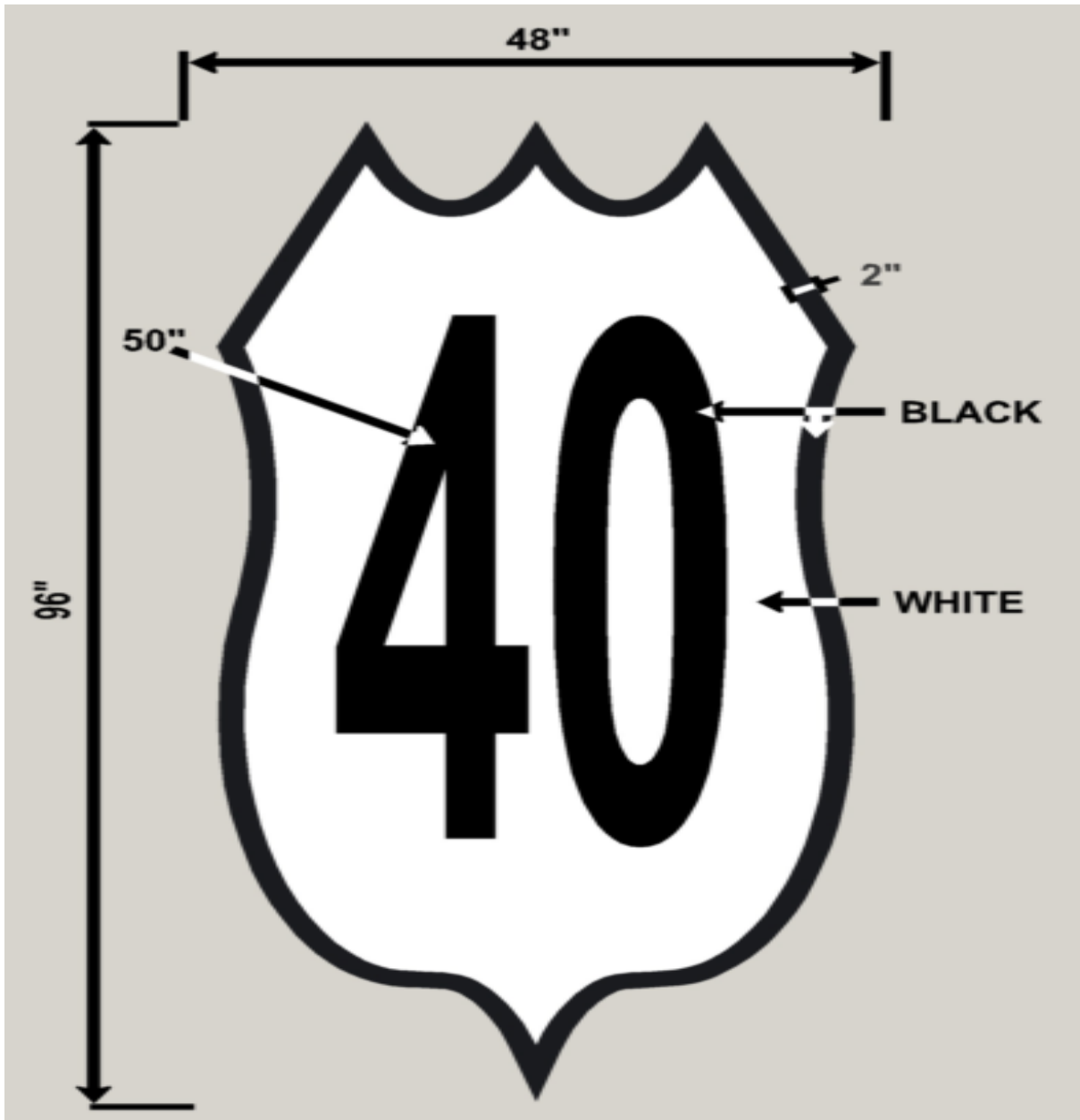
PRODUCT ID – 12217
US SHIELD, 6' X 15'
INTERSTATE LIGHT PAVEMENT



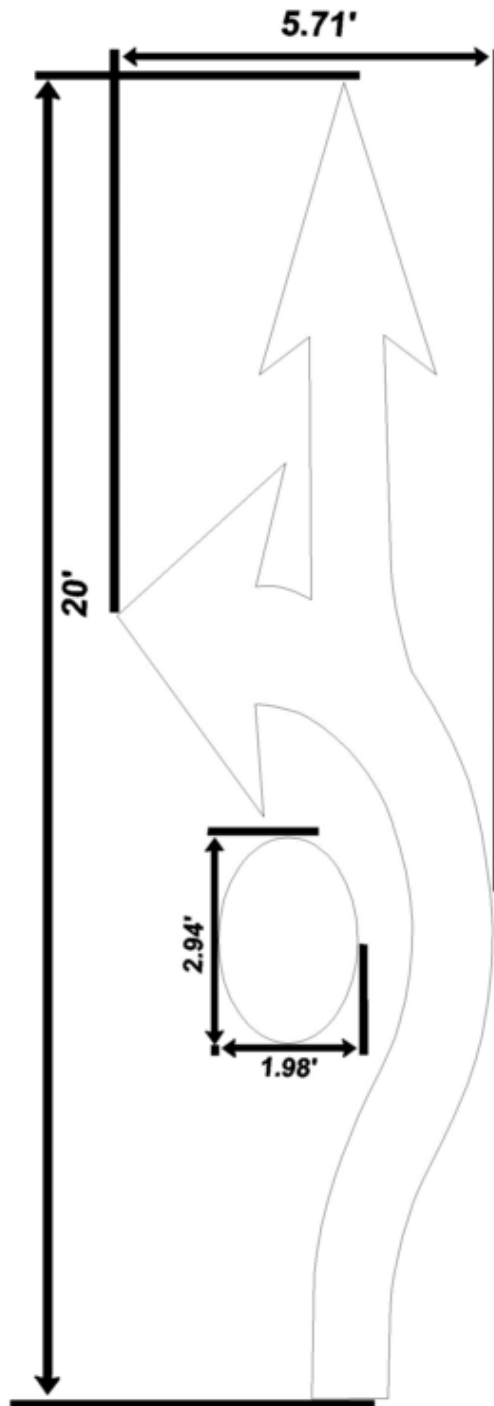
PRODUCT ID – 12218
US SHIELD, 48" X 96"
NON-INTERSTATE DARK PAVEMENT



PRODUCT ID – 12219
US SHIELD, 48" X 96"
NON-INTERSTATE LIGHT PAVEMENT



PRODUCT ID – 51270
ROUNDAABOUT FISH-HOOK STRAIGHT/LEFT, 20'



PRODUCT ID – 51271
ROUNABOUT FISH-HOOK STRAIGHT, 20'

