



NOTES:

EACH SQUARE EQUALS 100 mm.

ALL PAVEMENT MARKINGS ARE TO CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD HIGHWAY SIGNS" PUBLICATIONS, FROM THE FEDERAL HIGHWAY ADMINISTRATION.

ALL LETTERS ARE TO BE WHITE.

USE THE SIZES OF LETTERS SHOWN UNLESS SMALLER OR LARGER SIZES ARE NEEDED. THE SIZE OF LETTERS MAY BE SCALED PROPORTIONATELY DOWN BY APPROXIMATELY ONE-THIRD FOR LOW-SPEED, URBAN CONDITIONS. THE MINIMUM HEIGHT OF ANY LETTER IS 1.8 m. LARGER SIZES MAY BE USED FOR ABOVE AVERAGE SPEEDS AND OTHER CRITICAL LOCATIONS.

DO NOT EXCEED MORE THAN ONE LANE IN WIDTH FOR ANY PAVEMENT MARKINGS EXCEPT IN THE CASE OF THE WORD "SCHOOL". SEE DTL. DWG. NO. 620-10 FOR MORE INFORMATION.

FOR MULTIPLE LINES OF INFORMATION, PLACE THE INFORMATION SO IT READS IN THE DIRECTION OF TRAVEL. DO NOT EXCEED THREE LINES OF INFORMATION AT ANY LOCATION.

WHEN WORDS AND SYMBOLS ARE USED IN COMBINATION, SPACE THEM AT LEAST FOUR TIMES THE HEIGHT OF CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITION.

ON NARROW, LOW-SPEED BICYCLE PATHS, SIZES OF LETTERS MAY BE SMALLER THAN SUGGESTED, BUT TO THE RELATIVE SCALE.

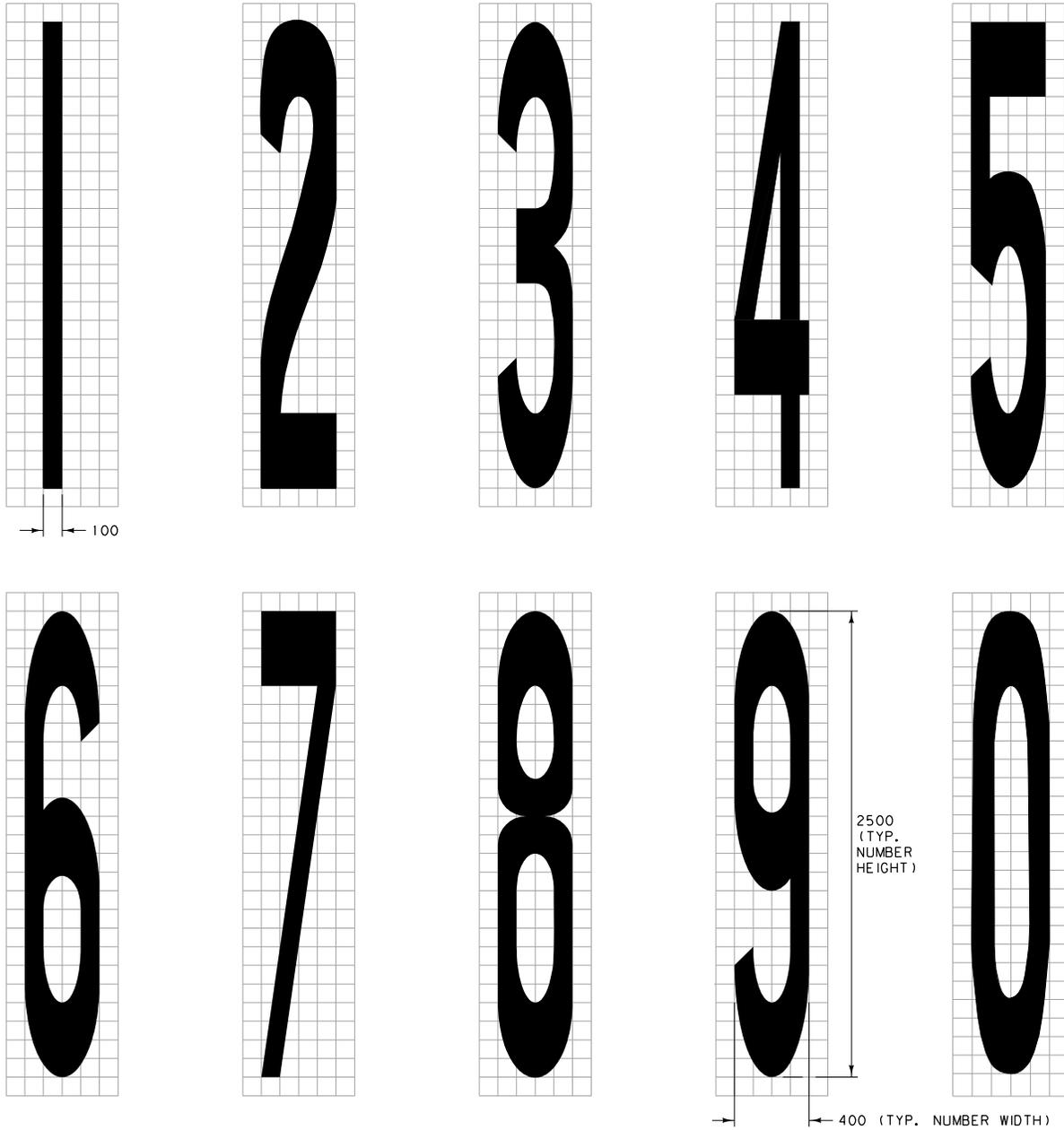
QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.

PAINT VOLUMES ASSUME A 0.381 mm THICKNESS.
EPOXY VOLUMES ASSUME A 0.508 mm THICKNESS.

QUANTITIES			
LETTER	AREA m ²	PAINT (liters)	EPOXY (liters)
A	0.52	0.20	0.26
B	0.68	0.26	0.35
C	0.47	0.18	0.24
D	0.60	0.23	0.30
E	0.61	0.23	0.31
F	0.45	0.17	0.23
G	0.54	0.21	0.27
H	0.58	0.22	0.29
I	0.25	0.10	0.13
J	0.35	0.13	0.18
K	0.59	0.22	0.30
L	0.37	0.14	0.19
M	0.71	0.27	0.36
N	0.66	0.25	0.34
O	0.57	0.22	0.29
P	0.51	0.19	0.26
Q	0.58	0.22	0.29
R	0.60	0.23	0.30
S	0.60	0.23	0.30
T	0.37	0.14	0.19
U	0.53	0.20	0.27
V	0.46	0.18	0.23
W	0.66	0.25	0.34
X	0.45	0.17	0.23
Y	0.38	0.14	0.19
Z	0.49	0.19	0.25

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-00
PAVEMENT MARKINGS (LETTERS)	
EFFECTIVE: FEBRUARY 2005	
 	



NOTES:

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ALL NUMBERS ARE TO BE WHITE.

USE THE SIZES OF NUMBERS SHOWN UNLESS SMALLER OR LARGER SIZES ARE NEEDED. THE SIZE OF NUMBERS MAY BE SCALED PROPORTIONATELY DOWN BY APPROXIMATELY ONE-THIRD FOR LOW-SPEED, URBAN CONDITIONS. THE MINIMUM HEIGHT OF ANY NUMBER IS 1.8 m. LARGER SIZES MAY BE USED FOR ABOVE AVERAGE SPEEDS AND OTHER CRITICAL LOCATIONS.

DO NOT EXCEED MORE THAN ONE LANE IN WIDTH FOR ANY PAVEMENT MARKINGS EXCEPT IN THE CASE OF THE WORD "SCHOOL". SEE DTL. DWG. NO. 620-10 FOR MORE INFORMATION.

FOR MULTIPLE LINES OF INFORMATION, PLACE THE INFORMATION SO IT READS IN THE DIRECTION OF TRAVEL. DO NOT EXCEED THREE LINES OF INFORMATION AT ANY LOCATION.

WHEN WORDS AND SYMBOLS ARE USED IN COMBINATION, SPACE THEM AT LEAST FOUR TIMES THE HEIGHT OF CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITION.

ON NARROW, LOW-SPEED BICYCLE PATHS, SIZES OF NUMBERS MAY BE SMALLER THAN SUGGESTED, BUT TO THE RELATIVE SCALE.

QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.

PAINT VOLUMES ASSUME A 0.381 mm THICKNESS.
EPOXY VOLUMES ASSUME A 0.508 mm THICKNESS.

QUANTITIES

#	AREA m ²	PAINT (liters)	EPOXY (liters)
1	0.25	0.10	0.13
2	0.61	0.23	0.31
3	0.54	0.21	0.27
4	0.50	0.19	0.25
5	0.62	0.24	0.31
6	0.62	0.24	0.31
7	0.37	0.14	0.19
8	0.70	0.27	0.36
9	0.62	0.24	0.31
0	0.62	0.24	0.31

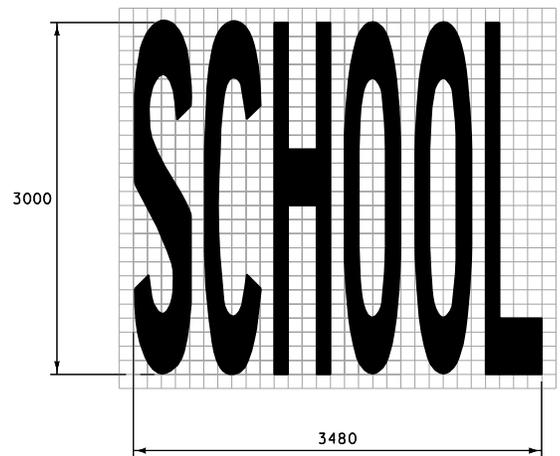
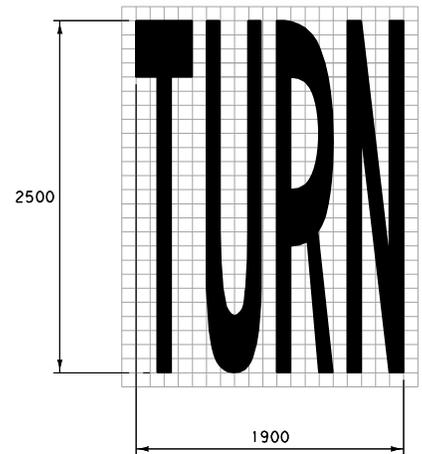
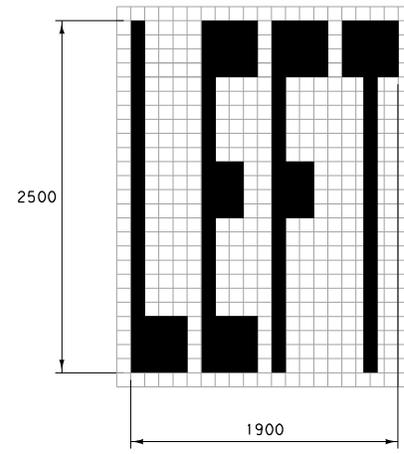
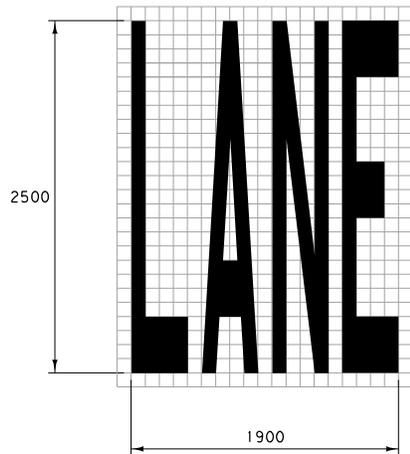
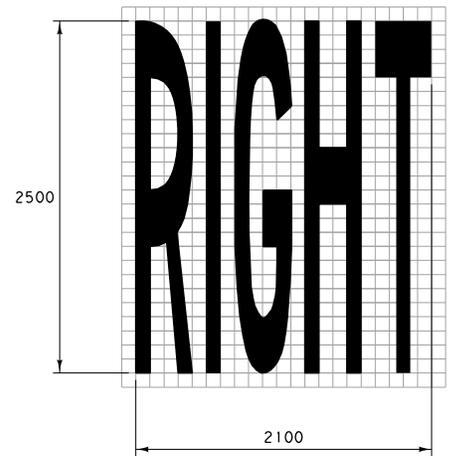
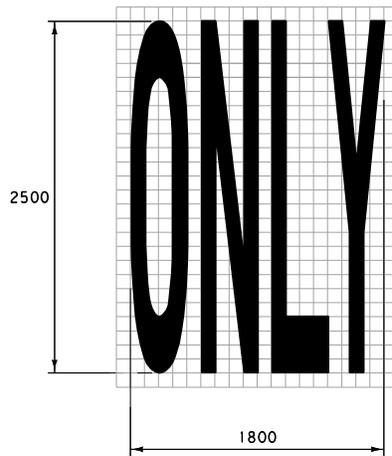
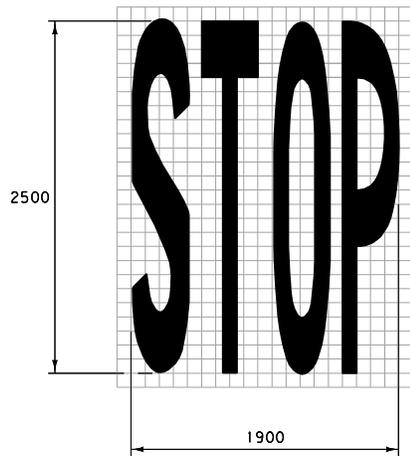
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-05
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**PAVEMENT MARKINGS
(NUMBERS)**

EFFECTIVE: FEBRUARY 2005



EACH SQUARE EQUALS 120 mm

NOTES:

UNLESS OTHERWISE NOTED EACH SQUARE EQUALS 100 mm.

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ALL WORDS ARE TO BE WHITE.

USE THE SIZES OF WORDS SHOWN UNLESS SMALLER OR LARGER SIZES ARE NEEDED. THE SIZE OF WORDS MAY BE SCALED PROPORTIONATELY DOWN BY APPROXIMATELY ONE-THIRD FOR LOW-SPEED, URBAN CONDITIONS. THE MINIMUM HEIGHT OF ANY WORD IS 1.8 m. LARGER SIZES MAY BE USED FOR ABOVE AVERAGE SPEEDS AND OTHER CRITICAL LOCATIONS.

DO NOT EXCEED MORE THAN ONE LANE IN WIDTH FOR ANY PAVEMENT MARKINGS, EXCEPT IN THE CASE OF THE WORD "SCHOOL". WHEN "SCHOOL" IS EXTENDED TO THE WIDTH OF TWO LANES, SCALE THE WORD UP PROPORTIONATELY TO FIT THE APPLICATION WIDTH.

FOR MULTIPLE LINES OF INFORMATION, PLACE THE INFORMATION SO IT READS IN THE DIRECTION OF TRAVEL. DO NOT EXCEED THREE LINES OF INFORMATION AT ANY LOCATION.

WHEN WORDS AND SYMBOLS ARE USED IN COMBINATION, SPACE THEM AT LEAST FOUR TIMES THE HEIGHT OF CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITION.

ON NARROW, LOW-SPEED BICYCLE PATHS, SIZES OF LETTERS MAY BE SMALLER THAN SUGGESTED, BUT TO THE RELATIVE SCALE.

QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.

PAINT VOLUMES ASSUME A 0.381 mm THICKNESS. EPOXY VOLUMES ASSUME A 0.508 mm THICKNESS.

QUANTITIES

WORD	AREA m ²	PAINT (liters)	EPOXY (liters)
STOP	2.05	0.78	1.04
ONLY	1.98	0.75	1.01
RIGHT	2.34	0.89	1.19
LANE	2.16	0.82	1.10
LEFT	1.80	0.69	0.91
TURN	2.16	0.82	1.10
SCHOOL	4.54	1.73	2.31

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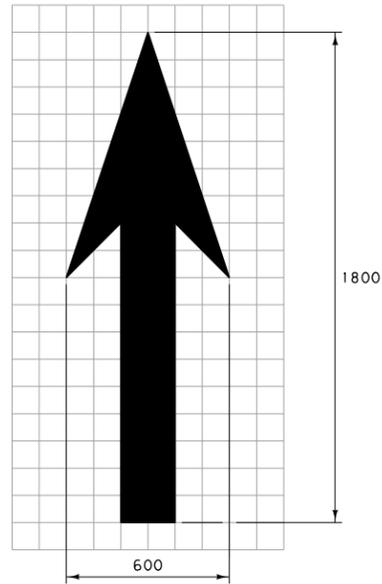
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-10

PAVEMENT MARKINGS (WORDS)

EFFECTIVE: FEBRUARY 2005

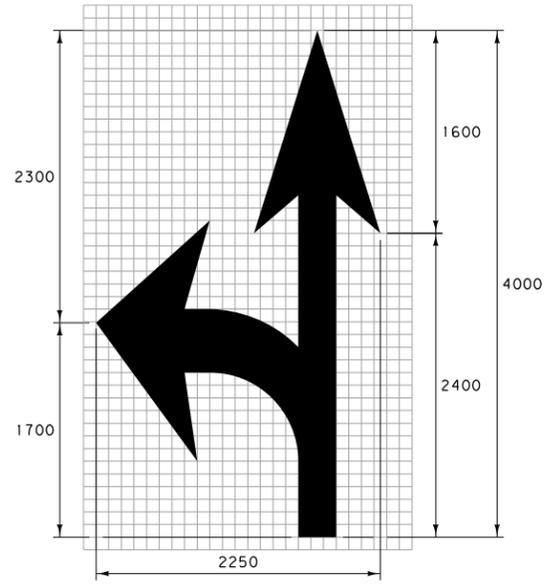
DIRECTIONAL ARROW FOR BIKE LANE

AREA = 0.41 m²
 P = 0.16 L
 E = 0.21 L
 (1 SQUARE = 100 mm)



COMBINED ARROW

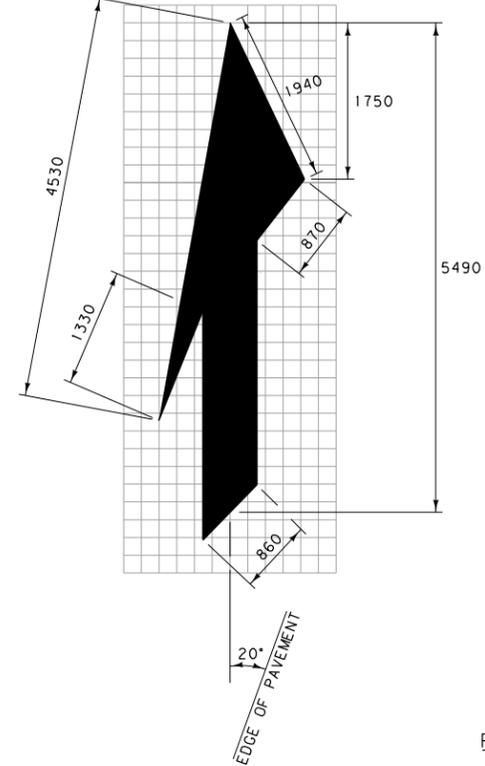
AREA = 2.54 m²
 P = 0.97 L
 E = 1.29 L
 (1 SQUARE = 100 mm)



NOTE: REFER TO STRAIGHT & TURN ARROWS FOR MORE DETAIL.

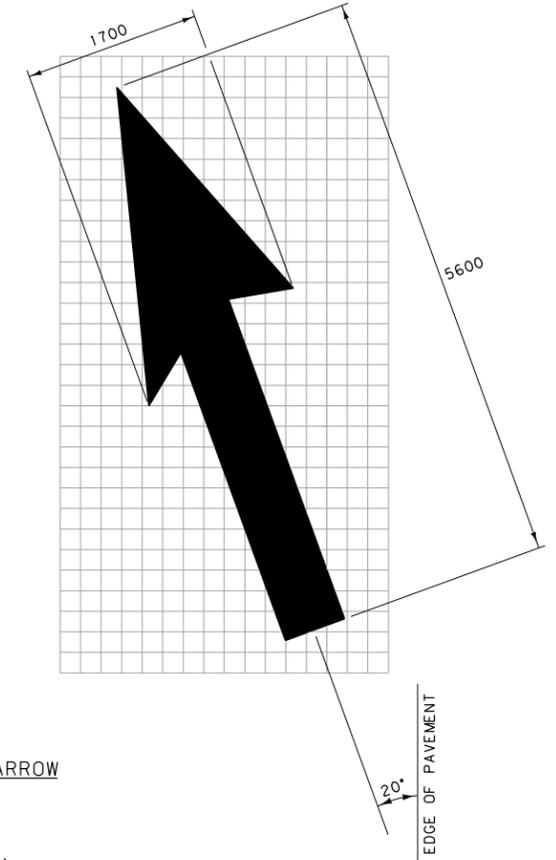
5.5 m LANE DROP ARROW (RIGHT)
 (FOR LEFT LANE, USE MIRROR IMAGE)

AREA = 3.83 m²
 P = 1.46 L
 E = 1.95 L
 (1 SQUARE = 200 mm)



LANE-REDUCTION ARROW

AREA = 3.97 m²
 P = 1.51 L
 E = 2.02 L
 (1 SQUARE = 200 mm)

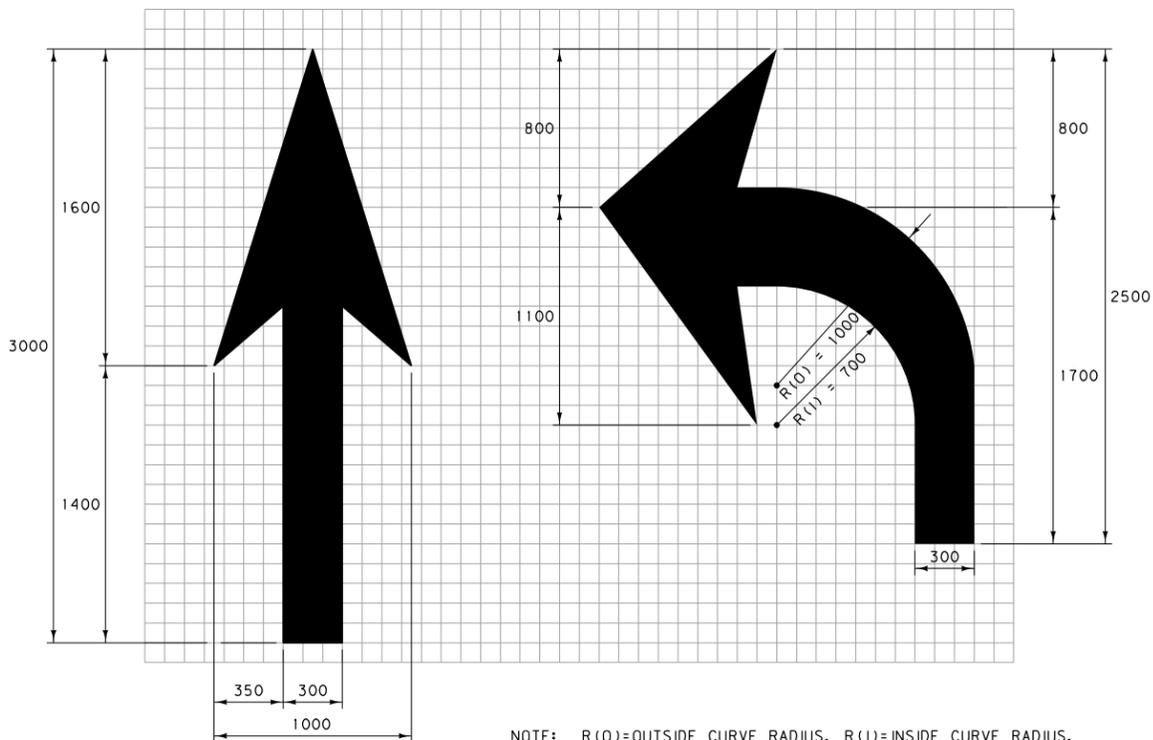


STRAIGHT ARROW

AREA = 1.12 m²
 P = 0.43 L
 E = 0.57 L
 (1 SQUARE = 100 mm)

TURN ARROW

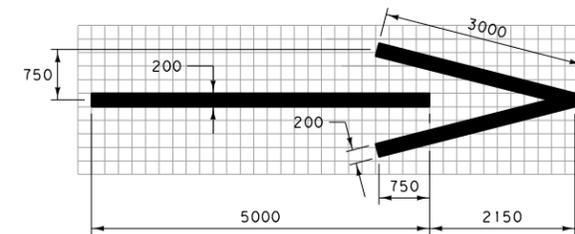
AREA = 1.52 m²
 P = 0.58 L
 E = 0.77 L
 (1 SQUARE = 100 mm)



NOTE: R(O)=OUTSIDE CURVE RADIUS, R(I)=INSIDE CURVE RADIUS.

FREEWAY AND RAMP ARROW

AREA = 2.15 m²
 P = 0.82 L
 E = 1.09 L
 (1 SQUARE = 200 mm)



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ALL ARROWS ARE TO BE WHITE.

USE THE SIZES OF ARROWS SHOWN UNLESS SMALLER OR LARGER SIZES ARE NEEDED. THE SIZE OF ARROWS MAY BE SCALED PROPORTIONATELY DOWN BY APPROXIMATELY ONE-THIRD FOR LOW-SPEED, URBAN CONDITIONS. LARGER SIZES MAY BE USED FOR ABOVE AVERAGE SPEEDS AND OTHER CRITICAL LOCATIONS.

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QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.

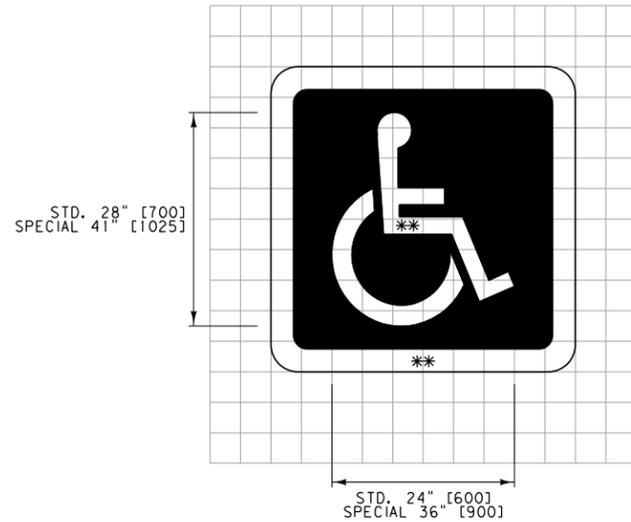
(P) - PAINT VOLUMES ASSUME A 0.381 mm THICKNESS.
 (E) - EPOXY VOLUMES ASSUME A 0.508 mm THICKNESS.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-15
PAVEMENT MARKINGS (ARROWS)	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION <i>servicing you with pride</i>	

ACCESSIBILITY PARKING SPACE SYMBOL

AREA = 11.04 FT² [0.99 m²]
 P = 0.10 GAL. [0.38 L]
 E = 0.14 GAL. [0.50 L]
 (1 SQUARE = 4" [100])

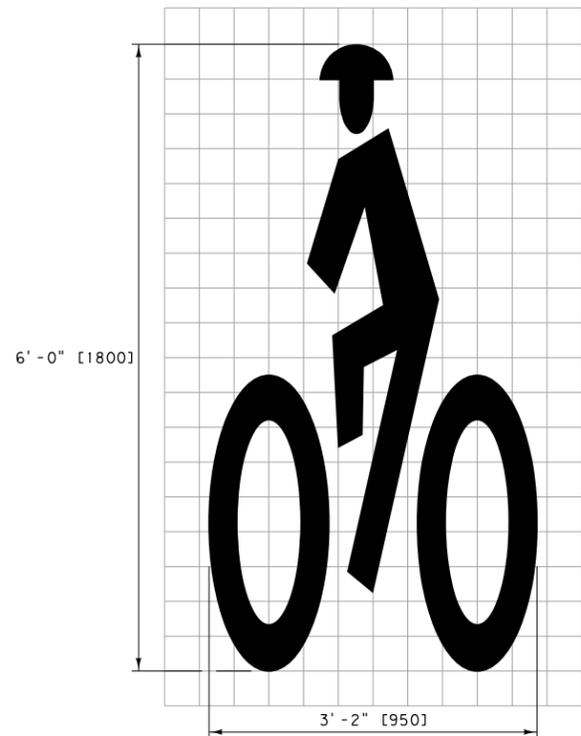


NOTE: CENTER SYMBOL IN PARKING STALL

** STROKE WIDTH:
 STD. 3" [75]
 SPECIAL 4" [100]

BIKE LANE SYMBOL

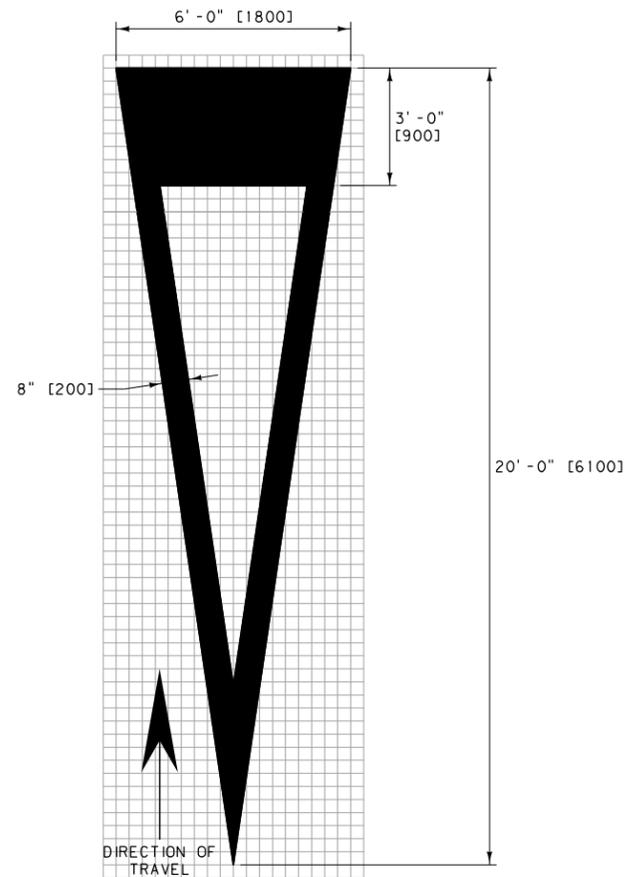
AREA = 5.95 FT² [0.54 m²]
 P = 0.06 GAL. [0.21 L]
 E = 0.07 GAL. [0.27 L]
 (1 SQUARE = 4" [100])



YIELD AHEAD TRIANGLE

(HIGH SPEED)

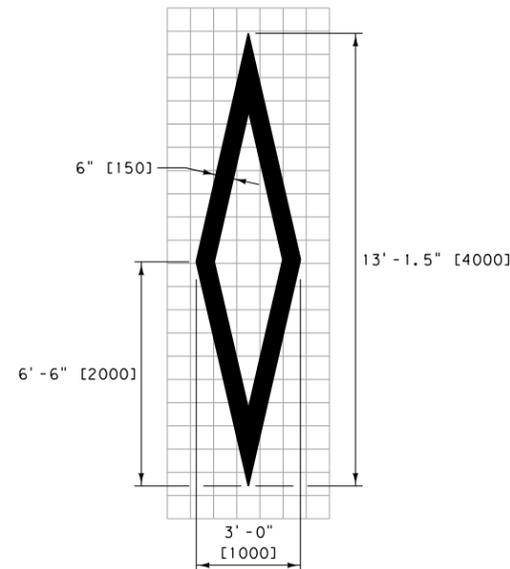
AREA = 36.54 FT² [3.33 m²]
 P = 0.34 GAL. [1.27 L]
 E = 0.46 GAL. [1.69 L]
 (1 SQUARE = 4" [100])



NOTE: FOR LOW SPEED INSTALLATIONS, THE 3'-0" [900] AND 20'-0" [6100] DIMENSIONS MAY BE REDUCED TO 2'-6" [750] AND 13'-0" [4000] RESPECTIVELY.

PREFERENTIAL LANE SYMBOL

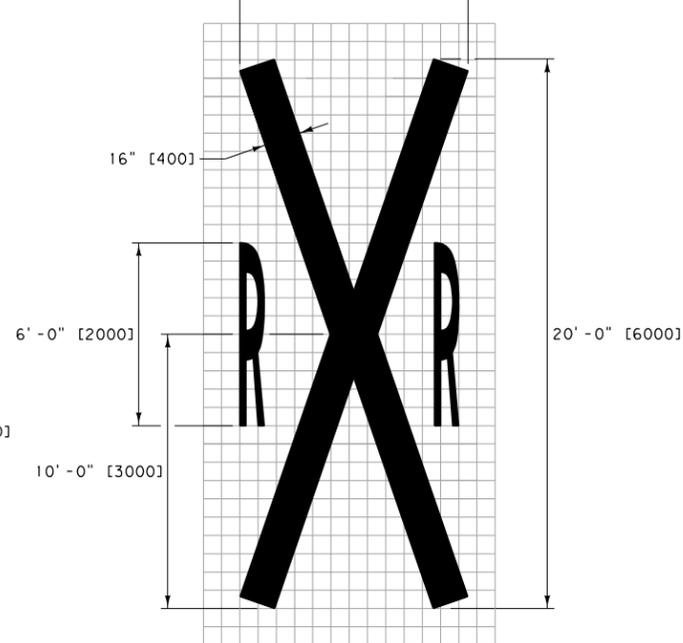
AREA = 11.16 FT² [1.05 m²]
 P = 0.10 GAL. [0.40 L]
 E = 0.14 GAL. [0.53 L]
 (1 SQUARE = 0.65' [200])



RAILROAD CROSSING SYMBOL

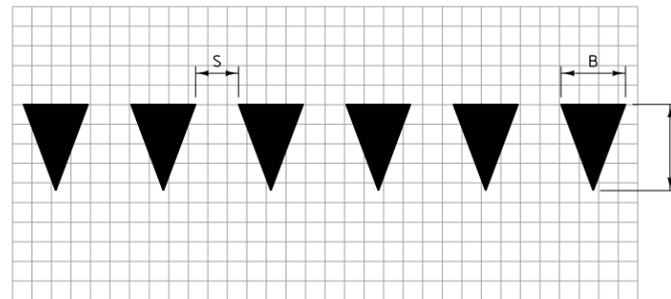
AREA = 58.10 FT² [5.42 m²]
 P = 0.54 GAL. [2.07 L]
 E = 0.73 GAL. [2.75 L]
 (1 SQUARE = 8" [200])

MAY VARY ACCORDING TO LANE WIDTH
 8'-0" [2500]



YIELD LINE LAYOUT
 (QUANTITIES PER TRIANGLE)

(B = 2'-0" [600])
 AREA = 3.00 FT² [0.27 m²]
 P = 0.03 GAL. [0.10 L]
 E = 0.04 GAL. [0.14 L]



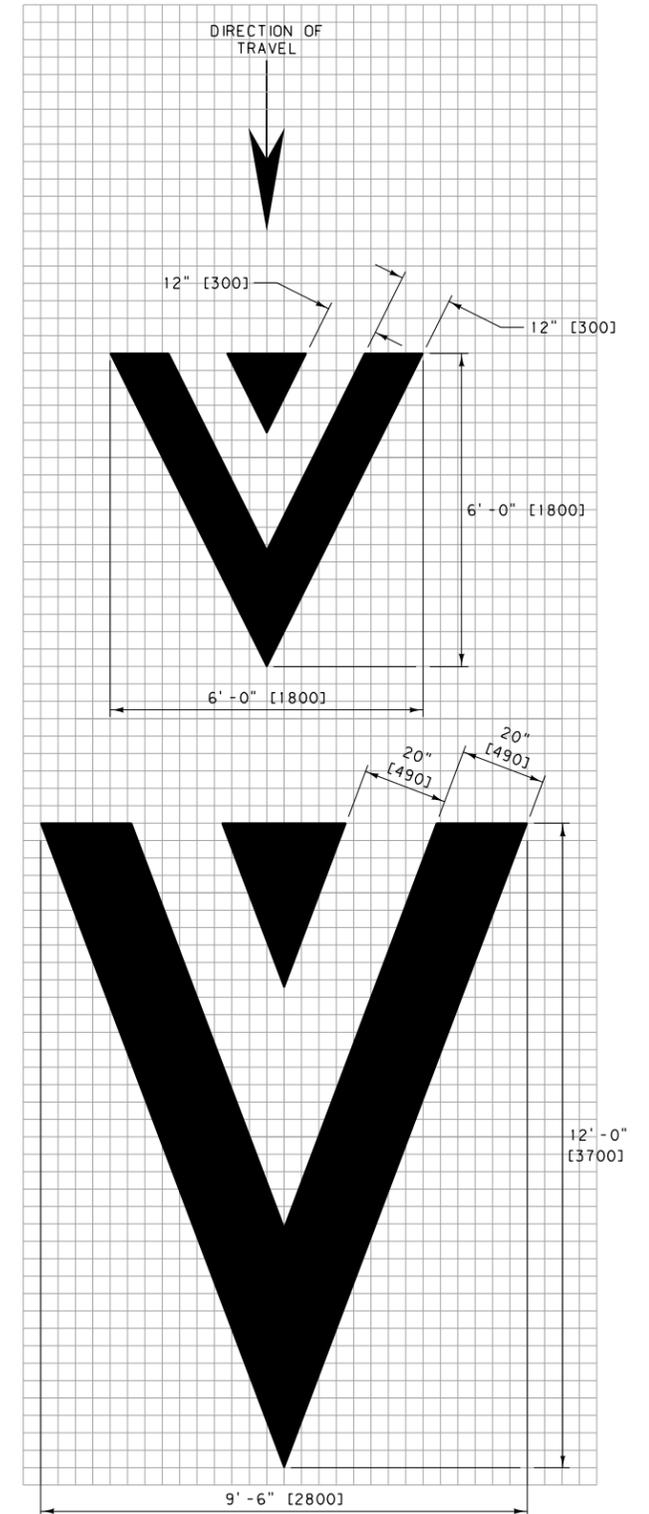
B = 2'-0" [600]
 H = 3'-0" [900]
 S = 12" [300]

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- ALL SYMBOLS ARE TO BE WHITE EXCEPT FOR THE ACCESSIBILITY PARKING SPACE SYMBOL WHICH HAS A BLUE BACKGROUND AND WHITE BORDER OPTIONS.
- DO NOT EXCEED MORE THAN ONE LANE IN WIDTH FOR ANY PAVEMENT MARKINGS EXCEPT IN THE CASE OF THE WORD "SCHOOL". SEE DTL. DWG. NO. 620-10 FOR MORE INFORMATION.
- WHEN WORDS AND SYMBOLS ARE USED IN COMBINATION, SPACE THEM AT LEAST FOUR TIMES THE HEIGHT OF CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITION.
- QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.
- (P) - PAINT VOLUMES ASSUME A 15 MIL [0.381] THICKNESS.
 (E) - EPOXY VOLUMES ASSUME A 20 MIL [0.508] THICKNESS.

SPEED HUMP MARKINGS

AREA = 50.42 FT² [4.56 m²]
 P = 0.47 GAL. [1.74 L]
 E = 0.63 GAL. [2.32 L]
 (1 SQUARE = 4" [100])



DETAILED DRAWING
 REFERENCE DWG. NO.
 STANDARD SPEC. 620-20
 SECTION 620

PAVEMENT MARKINGS
 (SYMBOLS)

--REVISED--
 APRIL 2012

EFFECTIVE: FEBRUARY 2005

MDT MONTANA DEPARTMENT
 OF TRANSPORTATION
-serving you with pride

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.