



QUANTITIES			
LETTER	AREA (FT ²)	PAINT (GAL.)	EPOXY (GAL.)
A	5.72	0.05	0.07
B	7.56	0.07	0.09
C	5.22	0.05	0.07
D	6.61	0.06	0.08
E	6.78	0.06	0.08
F	5.00	0.05	0.06
G	6.06	0.06	0.08
H	6.44	0.06	0.08
I	2.78	0.03	0.03
J	3.87	0.04	0.05
K	6.58	0.06	0.08
L	4.11	0.04	0.05
M	7.84	0.07	0.10
N	7.33	0.07	0.09
O	6.28	0.06	0.08
P	5.70	0.05	0.07
Q	6.42	0.06	0.08
R	6.66	0.06	0.08
S	6.68	0.06	0.08
T	4.11	0.04	0.05
U	5.88	0.05	0.07
V	5.06	0.05	0.06
W	7.38	0.07	0.09
X	4.99	0.05	0.06
Y	4.17	0.04	0.05
Z	5.44	0.05	0.07

NOTES:

EACH SQUARE EQUALS 4 INCHES.

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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 6.0 FEET. 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.

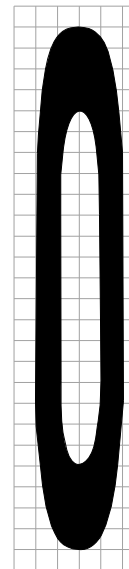
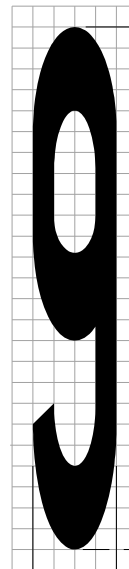
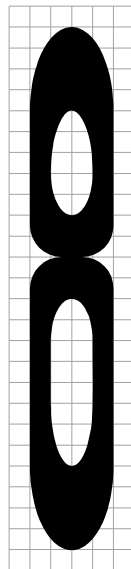
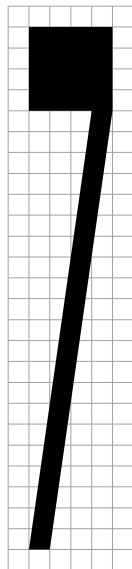
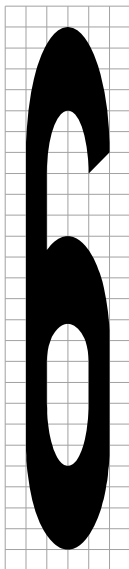
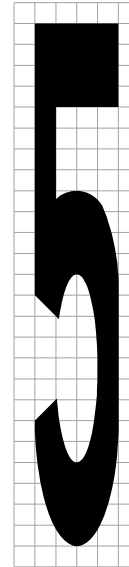
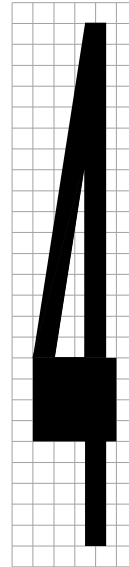
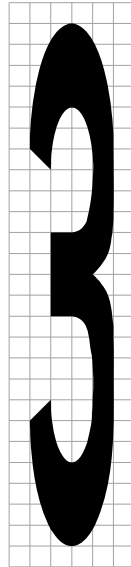
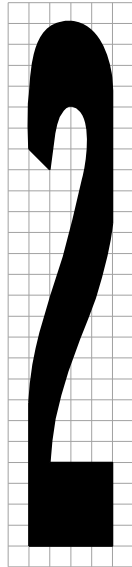
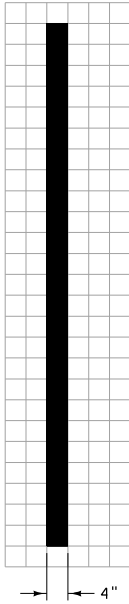
WHEN WORDS AND SYMBOLS ARE USED IN COMBINATION, SPACE THEM AT LEAST FOUR TIMES THE HEIGHT OF CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITION.

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 15 MIL THICKNESS.
EPOXY VOLUMES ASSUME A 20 MIL THICKNESS.

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



NOTES:

EACH SQUARE EQUALS 4 INCHES.

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 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 6 FEET. 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.

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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 15 MIL THICKNESS.
EPOXY VOLUMES ASSUME A 20 MIL THICKNESS.

QUANTITIES

#	AREA (FT ²)	PAINT (GAL.)	EPOXY (GAL.)
1	2.78	0.03	0.03
2	6.76	0.06	0.08
3	5.97	0.06	0.07
4	5.54	0.05	0.07
5	6.86	0.06	0.09
6	6.94	0.06	0.09
7	4.11	0.04	0.05
8	7.74	0.07	0.10
9	6.94	0.06	0.09
0	7.11	0.07	0.09

DETAILED DRAWING

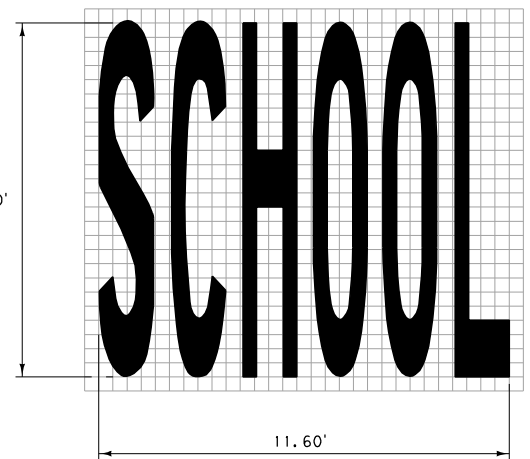
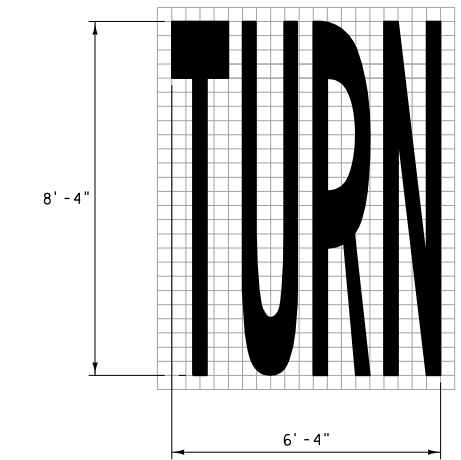
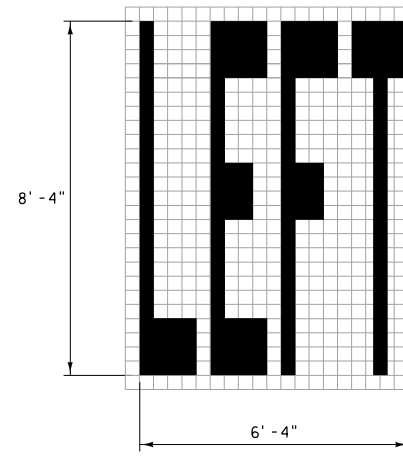
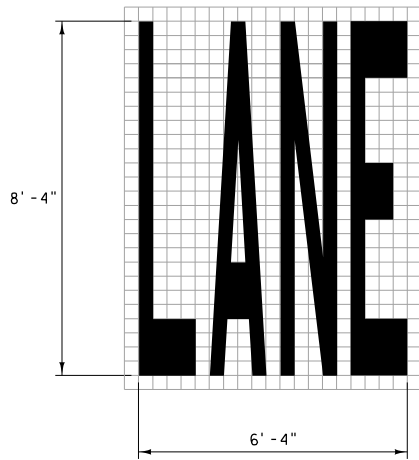
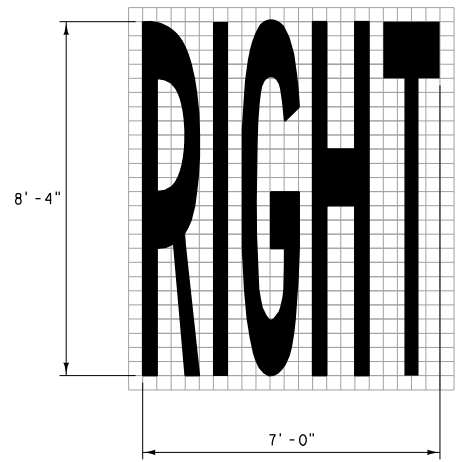
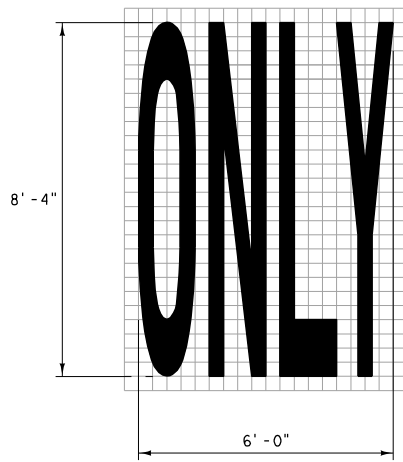
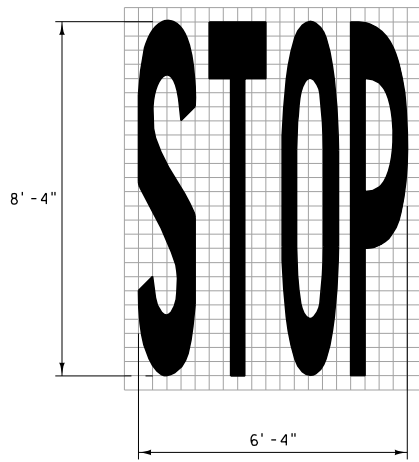
REFERENCE DWG. NO.
STANDARD SPEC. 620-05
SECTION 620

**PAVEMENT MARKINGS
(NUMBERS)**

EFFECTIVE: FEBRUARY 2005



**MONTANA DEPARTMENT
OF TRANSPORTATION**



NOTE: EACH SQUARE EQUALS 0.40'

NOTES:

UNLESS OTHERWISE NOTED EACH SQUARE EQUALS 4 INCHES.

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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 6 FEET. 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 15 MIL THICKNESS. EPOXY VOLUMES ASSUME A 20 MIL THICKNESS.

QUANTITIES

WORD	AREA (FT ²)	PAINT (GAL.)	EPOXY (GAL.)
STOP	22.77	0.21	0.28
ONLY	21.89	0.20	0.27
RIGHT	26.05	0.24	0.33
LANE	23.94	0.22	0.30
LEFT	20.00	0.19	0.25
TURN	23.98	0.22	0.30
SCHOOL	48.14	0.45	0.60

DETAILED DRAWING

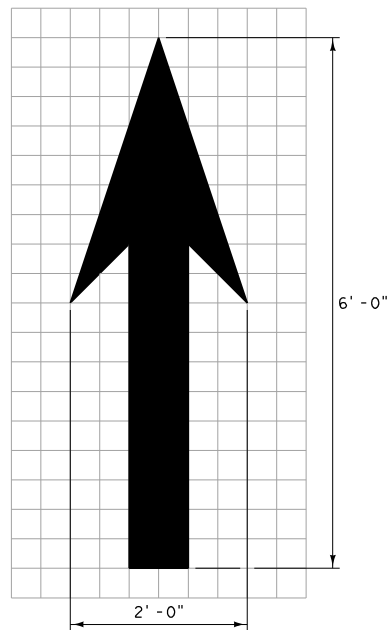
REFERENCE DWG. NO.
STANDARD SPEC. 620-10
SECTION 620

PAVEMENT MARKINGS (WORDS)

EFFECTIVE: FEBRUARY 2005

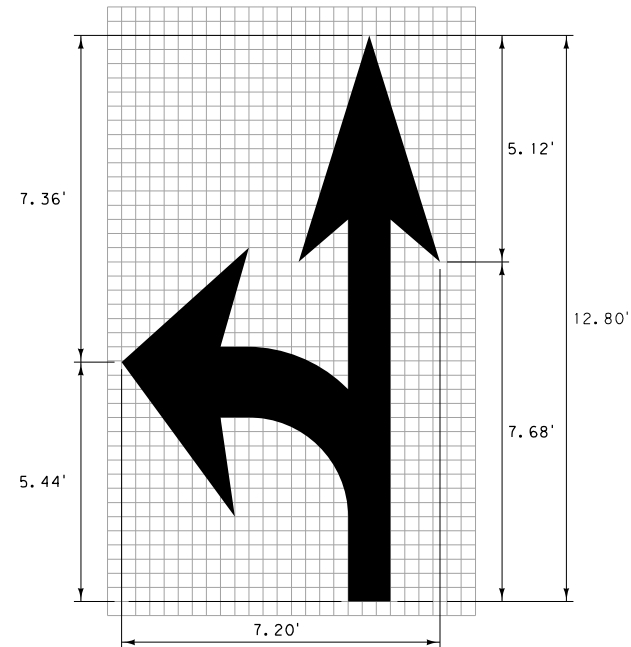
DIRECTIONAL ARROW FOR BIKE LANE

AREA = 4.56 FT²
 P = 0.04 GAL.
 E = 0.06 GAL.
 (1 SQUARE = 4")



COMBINED ARROW

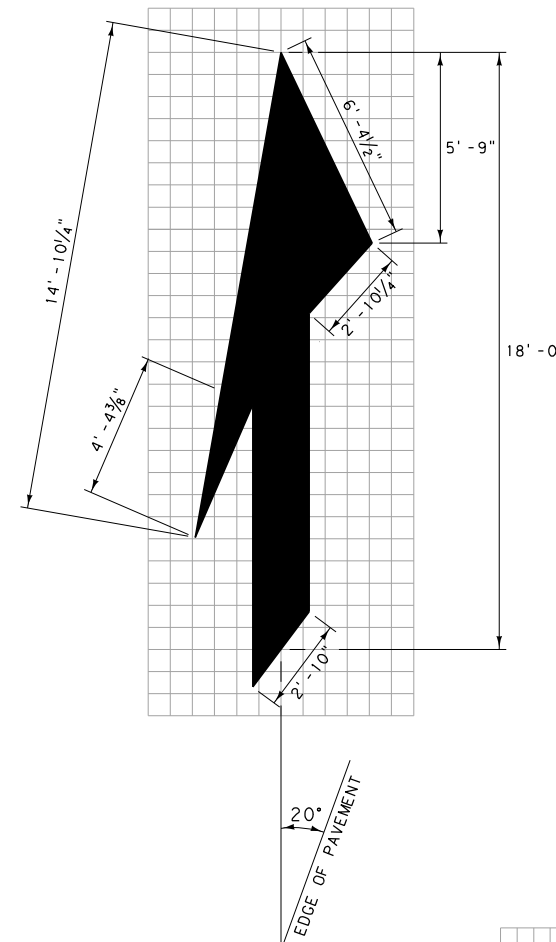
AREA = 25.99 FT²
 P = 0.24 GAL.
 E = 0.32 GAL.
 (1 SQUARE = 0.32')



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

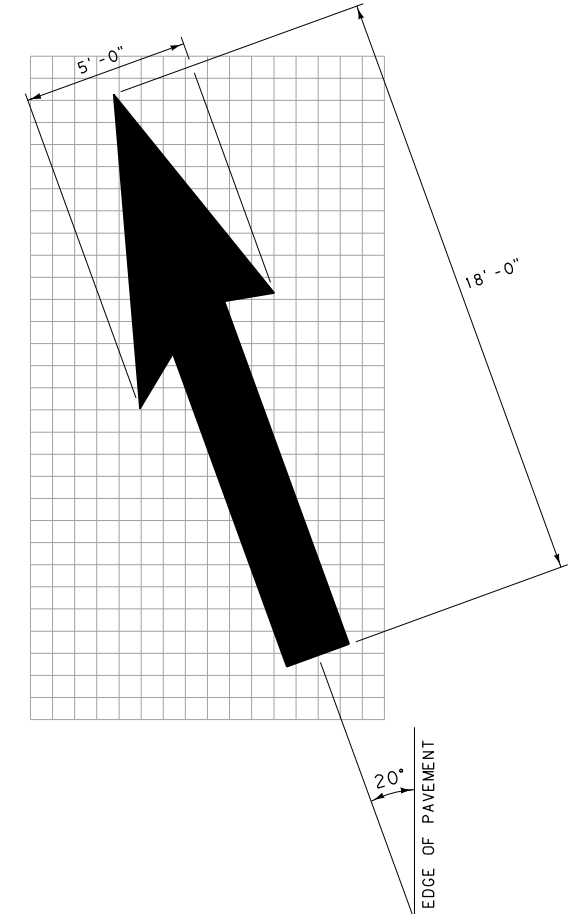
18 ft LANE DROP ARROW (RIGHT)
 (FOR LEFT LANE, USE MIRROR IMAGE)

AREA = 38.63 FT²
 P = 0.36 GAL.
 E = 0.48 GAL.
 (1 SQUARE = 8")



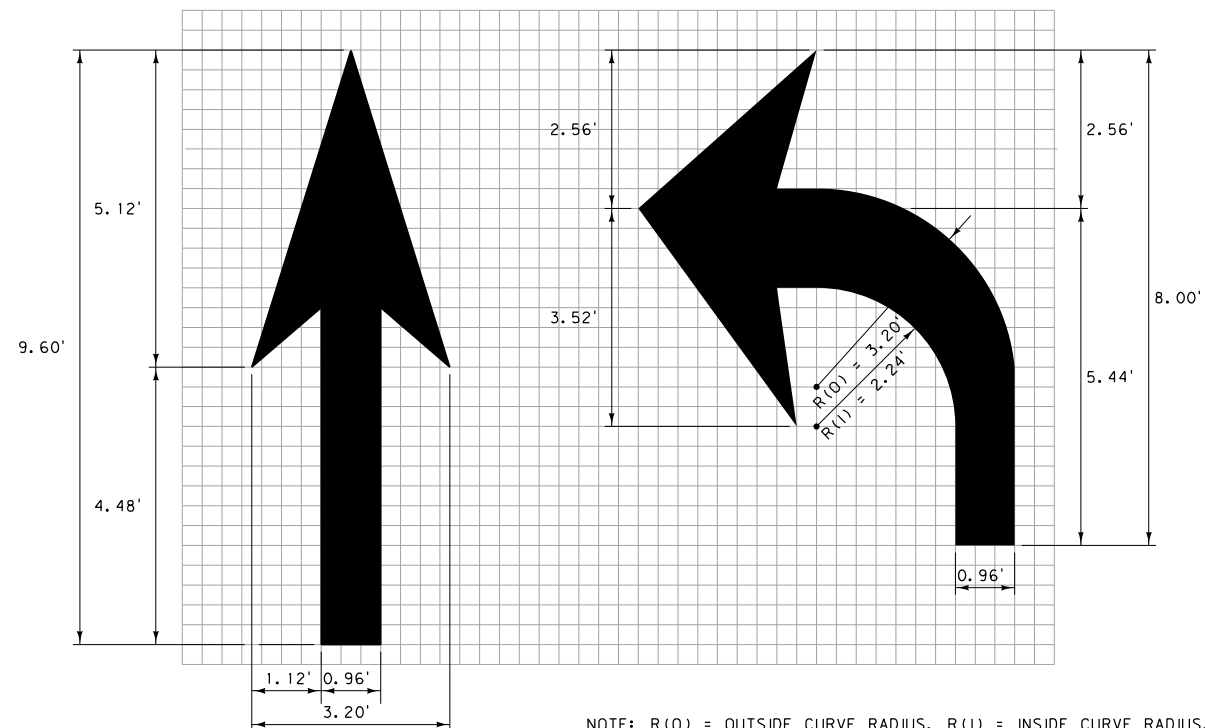
LANE-REDUCTION ARROW

AREA = 38.99 FT²
 P = 0.36 GAL.
 E = 0.49 GAL.
 (1 SQUARE = 8")



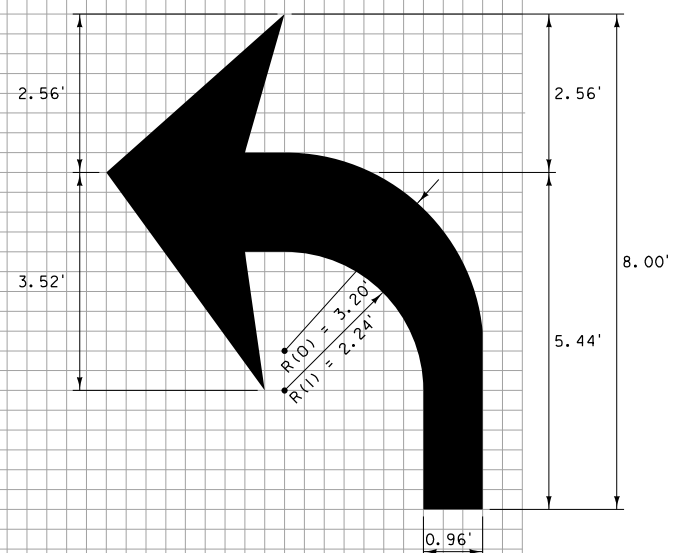
STRAIGHT ARROW

AREA = 11.42 FT²
 P = 0.11 GAL.
 E = 0.14 GAL.
 (1 SQUARE = 0.32')



TURN ARROW

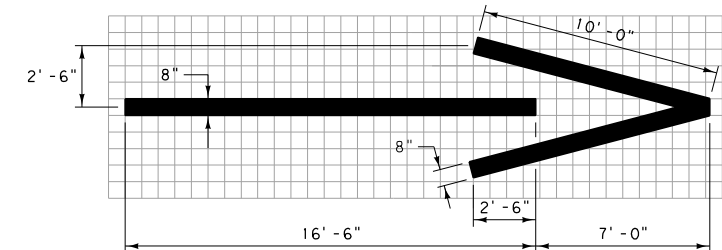
AREA = 15.57 FT²
 P = 0.15 GAL.
 E = 0.19 GAL.
 (1 SQUARE = 0.32')



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

FREEWAY AND RAMP ARROW

AREA = 23.64 FT²
 P = 0.22 GAL.
 E = 0.30 GAL.
 (1 SQUARE = 8")



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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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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.

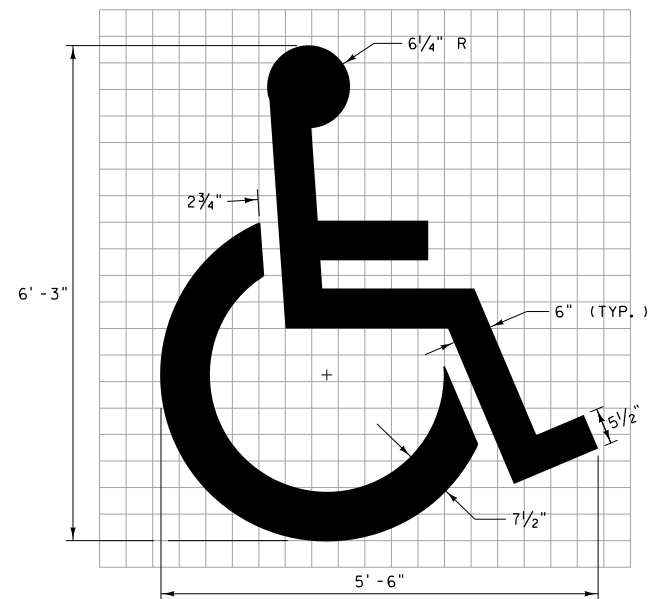
QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.

(P) - PAINT VOLUMES ASSUME A 15 MIL THICKNESS.
 (E) - EPOXY VOLUMES ASSUME A 20 MIL THICKNESS.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-15
PAVEMENT MARKINGS (ARROWS)	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	

HANDICAPPED SYMBOL

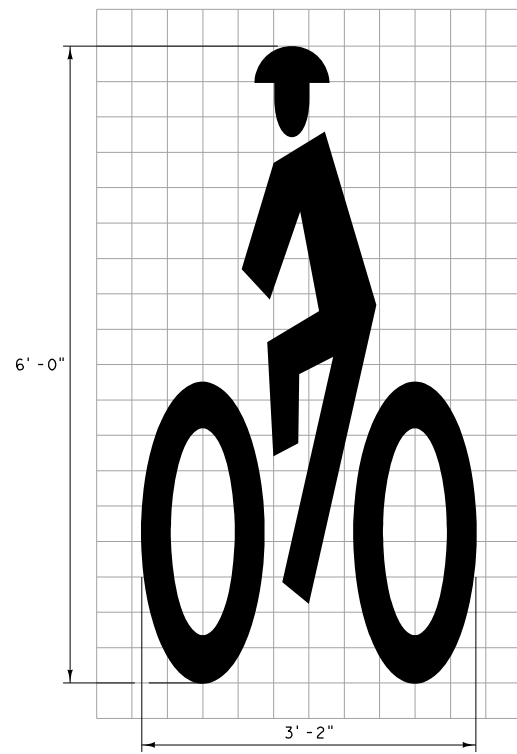
AREA = 9.42 FT²
 P = 0.09 GAL.
 E = 0.12 GAL.
 (1 SQUARE = 4")



NOTE: CENTER SYMBOL IN PARKING STALL

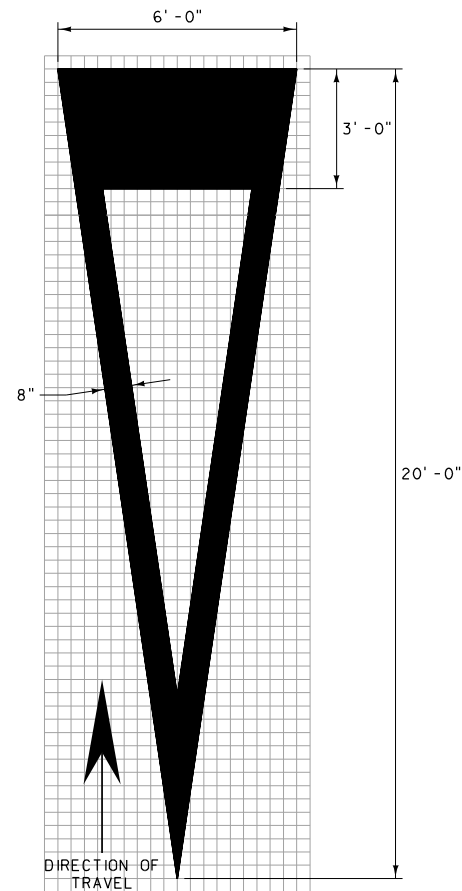
BIKE LANE SYMBOL

AREA = 5.95 FT²
 P = 0.06 GAL.
 E = 0.07 GAL.
 (1 SQUARE = 4")



YIELD AHEAD TRIANGLE (HIGH SPEED)

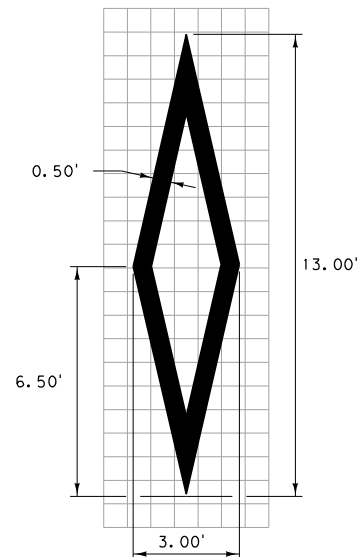
AREA = 36.54 FT²
 P = 0.34 GAL.
 E = 0.46 GAL.
 (1 SQUARE = 4")



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

PREFERENTIAL LANE SYMBOL

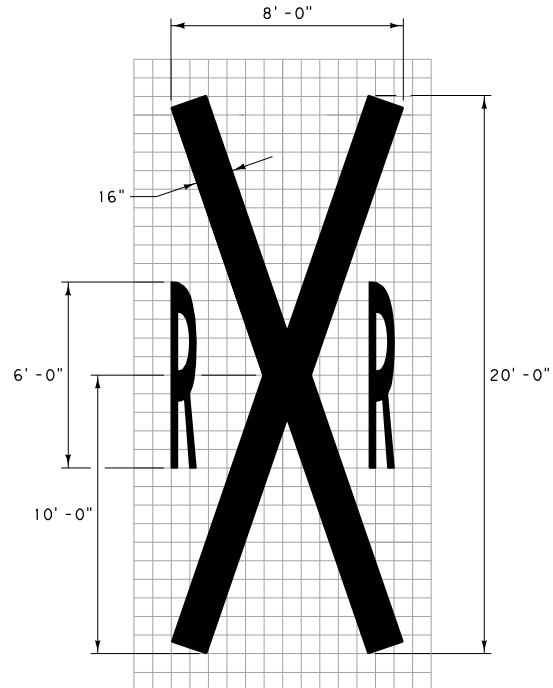
AREA = 11.06 FT²
 P = 0.10 GAL.
 E = 0.14 GAL.
 (1 SQUARE = 0.65')



RAILROAD CROSSING SYMBOL

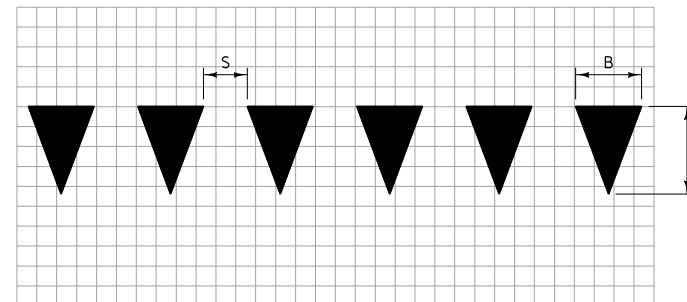
AREA = 58.10 FT²
 P = 0.54 GAL.
 E = 0.73 GAL.
 (1 SQUARE = 8")

MAY VARY ACCORDING TO LANE WIDTH



YIELD LINE LAYOUT (QUANTITIES PER TRIANGLE)

(B = 12") AREA = 0.75 FT² P = 0.01 GAL. E = 0.01 GAL.
 (B = 2'-0") AREA = 3.00 FT² P = 0.03 GAL. E = 0.04 GAL.



B = 12" to 2'-0"
 H = 1.5 * B
 S = 3" to 12"

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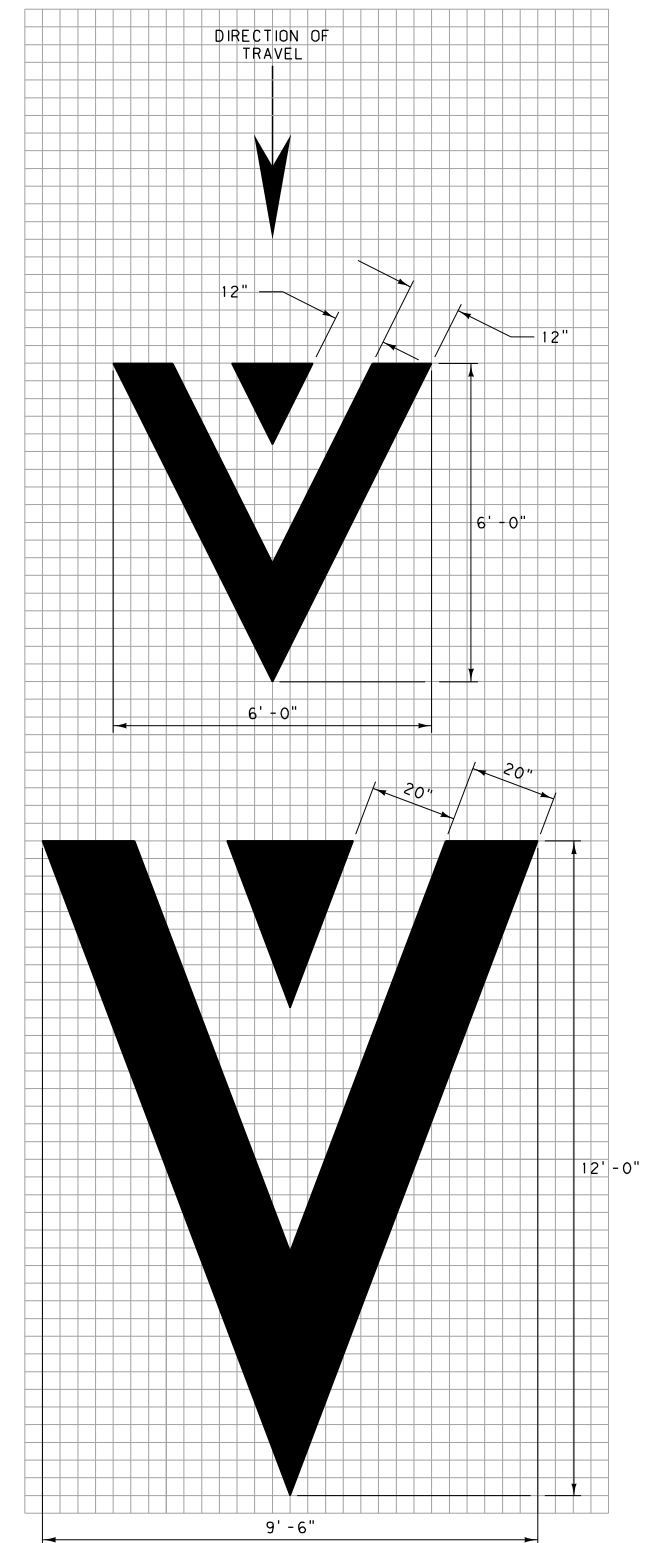
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(P) - PAINT VOLUMES ASSUME A 15 MIL THICKNESS.
 (E) - EPOXY VOLUMES ASSUME A 20 MIL THICKNESS.

SPEED HUMP MARKINGS

AREA = 50.42 FT²
 P = 0.47 GAL.
 E = 0.63 GAL.
 (1 SQUARE = 4")



DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-20
PAVEMENT MARKINGS (SYMBOLS)	
EFFECTIVE: FEBRUARY 2005	
	MONTANA DEPARTMENT OF TRANSPORTATION