

SECTION 02720 – PAINTED TRAFFIC MARKINGS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and placing painted traffic markings as shown on the Drawings.
- B. Details not shown on the Drawings shall be in conformity with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD) and the Alaska Traffic Manual Supplement published by the Alaska Department of Transportation and Public Facilities.
- C. This WORK shall also include re-striping all paint markings to their original conditions, if damaged by the CONTRACTOR's operations.

PART 2 – PRODUCTS

2.1 MATERIAL

- A. White and yellow traffic marking paint shall be methyl methacrylate and conform to AASHTO M 248, Type F.
- B. Blue marking paint shall match CBJ Street Department disability blue marking paint.
- C. Glass spheres for reflectorizing traffic paint shall conform to AASHTO M 247, Type I, and shall be supplied by a moisture resistant coating

PART 3 – EXECUTION

3.1 GENERAL

- A. Lines shall be applied as solid, dashed or dotted stripes, either singly or in combination, as shown on the Drawings. Dashed lines shall be applied in a 40 foot cycle consisting of a ten foot dash and a 30 foot gap between dashes, unless otherwise shown on the Drawings. The CONTRACTOR shall use an accurate dashing mechanism, which is capable of being easily adjusted to retrace existing dashed markings or to apply new materials at the correct spacing. Dashed lines which are to be applied over plainly visible existing dashed lines shall begin within six inches of the beginning of the existing dash, unless otherwise directed by the ENGINEER.
- B. Gaps not marked as a result of template use for spray-applied auxiliary markings shall be filled with marking material after template removal.
- C. Pavement markings shall be free of uneven edges, overspray, or other readily visible defects which detract from the appearance or function of the pavement markings.
- D. Lines shall be sharp, well defined, and uniformly retroreflective. The width of the applied shall be the width specified plus or minus ¼-inch. Fuzzy lines, excessive overspray, or non-uniform applications are unacceptable. Lines shall be inspected at night by the ENGINEER to verify effective light reflection. Pavement markings which are improperly

SECTION 02720 – PAINTED TRAFFIC MARKINGS

applied, located, or reflectorized shall be corrected. Lines applied with insufficient material quantities shall be properly reapplied. Improperly located lines shall be removed. New lines shall then be applied in the correct locations at the CONTRACTOR's expense, including the furnishing of approved materials.

- E. Methods and equipment used for pavement preparation, marking removal shall be subject to the approval of the ENGINEER. Glass beads shall be kept dry during storage and prior to use.
- F. Other construction WORK, such as shoulder paving, topsoil placement and grading, and seeding, shall be scheduled and performed in a manner to avoid damage to applied pavement markings.
- G. Pavement marking materials shall not be applied to the reflector of a recessed pavement marker. The CONTRACTOR shall interrupt the application of the pavement marking line at each recessed pavement marker where marking material would otherwise be applied to the marker prismatic reflector. The maximum gap in the marked line at each marker shall be 18-inches. Pavement marking material applied to a prismatic reflector surface shall be removed by the CONTRACTOR, or the reflector shall be replaced at this expense the same working day. When the CONTRACTOR must most remove material from the reflector, the reflector's brightness shall be restored to its prior condition.

3.2 PAVEMENT PREPARATION

- A. The CONTRACTOR shall clean all visible loose or foreign material from the surface to be marked. The pavement marking equipment shall be equipped with an air jet to remove all debris from the pavement in advance of the applicator gun. The air jet shall operate when marking material is being applied and be synchronized with marking material application.
- B. Pavement markings shall be applied only when the surface is clean and dry. The CONTRACTOR shall power broom clean all surfaces where edge lines are to be applied. When required by the ENGINEER, other surfaces shall also be power broom cleaned.
- C. Marking shall not be applied to Portland cement concrete until the concrete in the areas to be marked is clean of membrane curing material and is dry.

3.3 LAYOUT AND PREMARKING

- A. The CONTRACTOR shall lay out the locations of all lines, words and other symbols to assure their proper placement. The layout and premarking lines shall be approved by the ENGINEER before marking operations are started. When applying longitudinal or transverse lines, the CONTRACTOR shall use existing lines, construction joints or premarking to guide this marking equipment.
- B. Premarking shall be located from survey data or reference points and offset so as to parallel the theoretical edge of the marking lines at a maximum distance of one inch. Templates are required for the layout of arrows, words and other symbols. Premarking for longitudinal lines shall be placed at 40-foot intervals, and shall not exceed two inches

SECTION 02720 – PAINTED TRAFFIC MARKINGS

in width or 12 inches in length. Premarking for auxiliary markings shall be located as shown on the Drawings or schematic forms provided by the ENGINEER.

3.4 LINE PLACEMENT TOLERANCE

- A. Pavement marking lines shall be straight or smoothly curved, true to the alignment of the pavement, and shall not deviate laterally from the proper location at a rate of more than two inches in 100 feet. No deviation greater than three inches will be permitted.

3.5 LINE TYPES

- A. Marking materials shall be applied at a minimum rate of 16.5 gallons per mile per four inch wide stripe, with a 20 mill minimum thickness, and shall, except for parking lot stall markings, be uniformly retroreflective. The minimum rate of application for broken traffic stripes shall be prorated.
- B. Edge lines shall be continuous stripes, four inches in width. Center of stripe shall be located as shown on the Drawings.
- C. Lane lines shall be four inch wide white stripes between contiguous lanes of pavement carrying traffic in the same direction. They shall be dashed unless specified solid. They shall be offset to the left of the longitudinal joint, if present, or the theoretical line lying between contiguous lanes, if a joint is not present. The nearer edge of the stripe shall be two inches to the left of the joint or line.
- D. Centerlines shall be single or double yellow stripes between contiguous lanes of pavement carrying traffic in opposite directions. Centerline marking shall also include two way left-turn lane striping and the outline of left-turn island. Each stripe shall be four inches wide, solid or dashed.
- E. Channelizing lines shall be continuous white stripes, eight inches wide.
- F. Stop lines shall be solid white strips, 24-inches wide. Crosswalk lines shall be solid white strips, 24 inches wide.
- G. Parking lot stall marking lines shall be continuous white stripes, four inches in width.
- H. Lane arrows and letters shall be white markings, with a minimum rate of application of 0.01 gallon per square foot of markings.

3.6 EQUIPMENT AND APPLICATION OF PAINTED TRAFFIC MARKINGS

- A. The markings shall be applied by machine methods acceptable to the ENGINEER. The paint machine shall be of the spray type capable of satisfactorily applying the paint under pressure with uniformity of feed through nozzles spraying directly upon the pavement. Each machine shall be capable of applying two separate stripes, either solid or skip, at the same time. Each paint tank shall be equipped with a mechanical agitator. Each nozzle shall be equipped with satisfactory cutoff valves which will apply broken or skip lines automatically. Each nozzle shall have a mechanical bead dispenser that will operate simultaneously with the spray nozzle and distribute the beads in a uniform pattern at the

SECTION 02720 – PAINTED TRAFFIC MARKINGS

rate specified. Each nozzle shall also be equipped with suitable line guides consisting of metallic shrouds or air blasts.

- B. The paint shall be thoroughly mixed prior to application, and shall be applied when the air temperature is above 40° F and rising, to a clean and dry surface
- C. Glass beads shall be applied at a minimum rate of 5.5 pounds of beads for each gallon of paint.
- D. The painted area shall be protected from traffic until the paint is thoroughly dry.

3.7 REMOVAL OF PAVEMENT MARKINGS

- A. When indicated on the Drawings, pavement markings shall be removed. The markings shall be removed by high-pressure water blast, sand blast, high temperature burning with excess oxygen, or other methods, with the approval of the ENGINEER. Care shall be exercised during marking removal not to scar, discolor or otherwise damage the pavement surface. Overpainting or other methods of covering markings in lieu of removal shall not be permitted.

END OF SECTION