

SECTION 905 -- PROPOSAL (CONTINUED)

I (We) further propose to execute the attached contract agreement (Section 902) as soon as the work is awarded to me (us), and to begin and complete the work within the time limit(s) provided for in the Specifications and Advertisement. I (We) also propose to execute the attached contract bond (Section 903) in an amount not less than one hundred (100) percent of the total of my (our) part, but also to guarantee the excellence of both workmanship and materials until the work is finally accepted.

I (We) enclose a certified check, cashier's check or bid bond for **five percent (5%) of total bid** and hereby agree that in case of my (our) failure to execute the contract and furnish bond within Ten (10) days after notice of award, the amount of this check (bid bond) will be forfeited to the State of Mississippi as liquidated damages arising out of my (our) failure to execute the contract as proposed. It is understood that in case I am (we are) not awarded the work, the check will be returned as provided in the Specifications.

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda):

ADDENDUM NO. <u> 1 </u>	DATED <u> 2/15/2005 </u>	ADDENDUM NO. _____	DATED _____
ADDENDUM NO. _____	DATED _____	ADDENDUM NO. _____	DATED _____

Number	Description
1	Revised Table of Content Pages 1 & 2; Revised Notice To Bidders 978M page2, replaces same; Add Notice To Bidders #992M & S.P. 907-626-13M; Revised Proposal Sheet 2-16, replaces same; Revised Project Disk Required.

TOTAL ADDENDA 1
(Must agree with total addenda issued prior to opening of bids)

Respectfully Submitted,

DATE _____

Contractor

Signature

TITLE _____

ADDRESS _____

(To be filled in if a corporation)

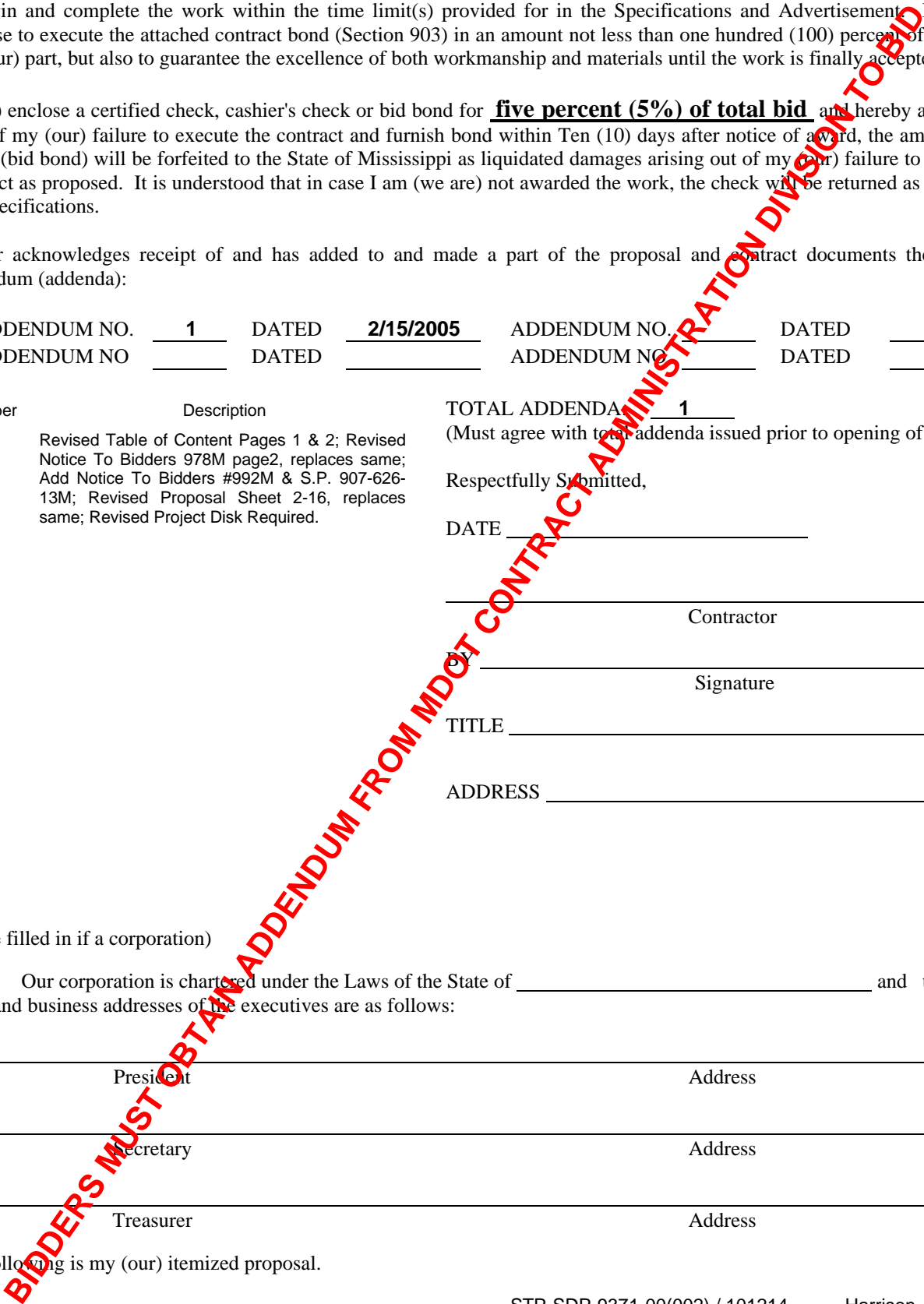
Our corporation is chartered under the Laws of the State of _____ and the names, titles and business addresses of the executives are as follows:

President Address

Secretary Address

Treasurer Address

The following is my (our) itemized proposal.



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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Ref No	Pay Item	Description
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272	230-B	Tree Planting, Live Oak
273	230-B	Tree Planting (Southern Magnolia)
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Ref No	Pay Item	Description
990	907-626-I	150-mm Inverted Profile Thermoplastic Traffic Stripe (Skip White)
1000	907-626-BB	150-mm Thermoplastic Traffic Stripe (Continuous White)(2.25-mm min.)
1010	907-626-CC	150-mm Thermoplastic Edge Stripe (Continuous White)(1.50-mm min.)
1020	907-626-EE	150-mm Thermoplastic Traffic Stripe (Continuous Yellow)(2.25-mm min.)
1030	907-626-FF	150-mm Thermoplastic Edge Stripe (Continuous Yellow)(1.50-mm min.)
1040	907-626-GG	Thermoplastic Detail Stripe (150-mm Equivalent Length)(White)(2.25-mm
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1070	907-626-HH	Thermoplastic Legend (White)(3.00-mm min.)
1080	907-627-K	Red-Clear Reflective High Performance Raised Markers
1090	907-627-L	Two-Way Yellow Reflective High Performance Raised Markers
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Ref No	Pay Item	Description
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1140	630-A	Standard Roadside Signs (Sheet Aluminum, 2.03-mm Thickness)
1150	630-A	Standard Roadside Signs (Sheet Aluminum, 3.18-mm Thickness)
1160	630-B	Interstate Directional Signs (Bolted Extruded Aluminum Panels, Ground
1170	630-C	Steel U-Section Posts (4.46 kg/m)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 992M

CODE: (SP)

DATE: 02/02/2005

SUBJECT: Permanent Skip White Stripe

PROJECT: STP-SDP-9371-00(002) / 101214 -- Harrison County

Bidders are advised that the permanent skip white stripe shown on the summary of quantities sheet and in the permanent pavement marking details of the plans is in error. The plans indicate the permanent skip white stripe to be 907-626-AA, 150-mm Thermoplastic Traffic Stripe (Skip White). The correct permanent skip white stripe, as shown on the bid sheets, is 907-626-I: 150-mm Inverted Profile Thermoplastic Traffic Stripe (Skip White) meeting the requirements of Special Provision No. 907-626-13M.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-626-13M

CODE: (SP)

DATE: 09/15/2004

SUBJECT: Inverted Profile Thermoplastic Traffic Stripe

Section 626, Thermoplastic Traffic Markings, of the 1996 Metric Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applicable for inverted profile thermoplastic traffic stripe only:

907-626.01--Description. Inverted profile thermoplastic pavement markings consists of furnishing materials and placing inverted profile thermoplastic pavement markings in reasonably close conformity with these specifications and the details shown on the plans or established.

Inverted profile thermoplastic pavement markings, high contract, shall consist of furnishing materials and placing inverted profile thermoplastic pavement markings over a black thermoplastic pavement marking in order to enhance the marking's visibility.

907-626.02--Materials.

907-626.02.1--General. The inverted profile thermoplastic marking material shall consist of an alkyd/maleic or hydrocarbon based formulation. The material shall be so manufactured as to be applied to the pavement in a molten form, with internal and surface application of glass spheres, and upon cooling to normal pavement temperature, shall produce an adherent, reflectorized pavement marking of specified thickness and width, capable of resisting deformation.

Materials shall be obtained from approved sources as listed on the Department's "List of Approved Sources" for Inverted Profile Thermoplastic Pavement Marking Materials. The material shall not scorch, break down, discolor, or deteriorate when held at the application temperature for four hours or when reheated four times to the application temperature. Temperature-vs-viscosity characteristics of the plastic material shall remain constant when reheated four times, and shall be the same from batch to batch.

The thermoplastic material shall be a product especially compounded for pavement markings. The pavement markings shall maintain their original dimension and shall not smear or spread under normal traffic at temperatures below 60°C. The markings shall have a uniform cross section. Pigment shall be evenly dispersed throughout its thickness. The exposed surface shall be free from tack and shall not be slippery when wet. The material shall not lift from pavement in freezing weather. Cold ductility of the material shall be such as to permit normal movement with the pavement surface without chipping or cracking.

Black thermoplastic compound for the placement of inverted profile thermoplastic pavement markings, high contract, shall consist of a hydrocarbon or alkyd/maleic based formulation.

The manufacturers of the thermoplastic compound, glass beads and epoxy primer sealer shall furnish to the Engineer three copies of certified test reports showing results of all tests specified herein and shall further certify that the materials meet all requirements. The Contractor shall provide the warranty as specified herein to the Engineer.

907-626.02.2--Inverted Profile Thermoplastic Material. The thermoplastic material shall consist of homogeneously mixed pigments, fillers, resins and glass beads, and shall be available in both white and yellow. The material shall be free from all skins, dirt, and foreign objects. Materials shall conform to AASHTO Designation: M 249 with the following modifications:

907-626.02.2.1--Intermixed Glass Beads. The thermoplastic material shall contain a minimum of 40 percent Class H glass beads by mass. Class H glass beads shall meet the requirements of ASTM Designation: D 1155, and shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO Designation: M 247, Section 4.4.2. Class H beads shall have a minimum of 70 percent true spheres and the +850µm sieve shall be tested visually.

The gradation of the Class H beads shall meet the following:

<u>U. S. Standard Sieve</u>	<u>% Passing</u>
1.70 mm	100
1.40 mm	95 - 100
1.18 mm	80 - 100
1.00 mm	30 - 100
850 µm	15 - 100
600 µm	10 - 100
300 µm	0 - 50
150 µm	0 - 5

907-626.02.2.2--Binder Content. The binder content of the thermoplastic material shall be 19 percent minimum.

907-626.02.2.3--Titanium Dioxide. The titanium dioxide shall meet ASTM Designation: D 476, Type II, Rutile grade - 10 percent minimum titanium content.

907-626.02.2.4--Yellow Pigment. The yellow pigment for the yellow thermoplastic material shall be five (5) percent minimum.

907-626.02.2.5--Specific Gravity. The specific gravity of the thermoplastic pavement marking material shall not exceed 2.35.

907-626.02.2.6--Flow Characteristics.

907-626.02.2.6.1--Flowability. After heating the thermoplastic material for four (4) hours ±5 minutes at 218 ±2°C and testing flowability, the white thermoplastic shall have a maximum percent residue of 22 percent and the yellow thermoplastic shall have a maximum residue of 24 percent.

907-626.02.2.6.2--Flow Resistance. The material shall exhibit a maximum flow of 10%. The material's ability to form ribs on the markings shall be evaluated by casting a disc of material approximately 90 millimeters wide by 25 millimeters long by and 15 millimeters deep. After the material is cooled to ambient temperature, measure the exact height. The material shall then be stored at 88°C for four (4) hours. After the material is cooled to ambient temperature, re-measure the exact height and express the flow resistance as a flow percentage.

907-626.02.2.7--Reflectivity. The initial reflectance for the in-place marking shall have a minimum reflectance value of 450 mcd/lux/m² for white and 350 mcd/ lux/m² for yellow, when measured with a Mirolux 30 retroreflectometer, or approved equal.

907-626.02.2.8--Wet Reflectivity. The initial reflectance for the in-place marking when wet shall have a minimum reflectance value of 200 mcd/ lux/m² for white and 175 mcd/ lux/m² for yellow, when measured with an approved retroreflectometer. The stripe shall be wetted utilizing a pump type sprayer for five (5) seconds. After 30 seconds, place the retroreflectometer on the stripe and measure the reflectance.

907-626.02.2.9--Inverted Profile. The thermoplastic pavement marking material shall be applied to have individual profiles having a minimum height of 3.55 millimeters with the recessed inverted profiles having a thickness of 0.65 to 1.25 millimeters. The profiles shall be well defined, spaced approximately 25 millimeters apart, and not excessively run back together.

907-626.02.3--Black Pavement Marking Material for High Contrast Inverted Profile Pavement Markings.

907-626.02.3.1--General. In the molten state, the material shall not give off fumes that are toxic or otherwise injurious to persons or property. The manufacturer shall provide material safety data sheets for the product.

The temperature versus viscosity characteristic of the plastic material shall remain constant and the material shall not deteriorate in any manner during three reheating processes. There shall be no obvious change in color of the material as a result of up to three reheatings, or in maintaining the material at application temperature up to an aggregate time of four (4) hours, or from batch to batch. The maximum elapsed time after application at which normal traffic will leave no impression or imprint on the new stripe shall be 30 seconds when the air and road surface temperature is approximately 20 ±3°C. The applied stripe shall remain free from tack and shall not lift from the pavement under normal traffic conditions within a road temperature range of -29°C to 66°C. The stripe shall maintain its original dimensions and placement. Cold ductility of the material shall be such as to permit normal dimensional distortion as a result of tire impact within the temperature range specified.

The material shall provide a stripe that has a uniform thickness throughout its cross section.

907-626.02.3.2--Binder. The binder shall be hydrocarbon or alkyd/maleic based. The binder shall consist of a homogeneous mixture of pigment, fillers, resins, waxes and plasticizers. The total binder content shall be well distributed throughout the compound. The binder shall be free

from all foreign objects or ingredients that would cause bleeding, staining or discoloration. The binder shall be 19 percent minimum by mass of the thermoplastic compound.

907-626.02.3.3--Pigment. The pigment used for black pavement marking compound shall be as required and shall be uniformly distributed throughout the marking compound.

907-626.02.3.4--Filler. The filler to be incorporated with the resins shall be a white calcium carbonate, silica or any approved substitute.

907-626.02.3.5--Specific Gravity. The specific gravity of the marking compound shall not exceed 2.0.

907-626.02.3.6--Softening Point. After heating the marking compound for 4 hours ± 5 minutes at $190 \pm 2^\circ\text{C}$ and testing in accordance with ASTM Designation: E 28, the material shall have a minimum softening point of 82°C as measured by the ring and ball method.

907-626.02.3.7--Tensile Bond Strength. After heating the marking compound for 4 hours ± 5 minutes at $190 \pm 2^\circ\text{C}$, the tensile bond strength shall exceed 1.2 MPa when tested in accordance with ASTM Designation: D 4806. The material shall be applied to unprimed, sandblasted Portland cement concrete block at a thickness of two millimeters and at a temperature of $190 \pm 2^\circ\text{C}$. The test shall be conducted at room temperature.

907-626.02.3.8--Impact Resistance. After heating the marking compound for 4 hours ± 5 minutes at $190 \pm 2^\circ\text{C}$, the impact resistance shall be a minimum of 5.6 Newton-meters minimum when tested in accordance with ASTM Designation: D 2794. No cracks or bond loss shall occur when a 2-mm thick film drawdown is made at $190 \pm 2^\circ\text{C}$ on an unprimed sandblasted Portland cement concrete block. The sample is tested with a male indenter 15 millimeters and no female Die at room temperature.

907-626.02.3.9--Identification. Each package of material shall be stenciled with the manufacturer's name, the type of material and specification number, the month and year the material was packaged and lot number. The letters and numbers used in the stencils shall be a minimum of 12 millimeters in height.

907-626.02.3.10--Packaging. The material shall be packaged in suitable containers that will not adhere to the product during shipment and storage. The container of pavement marking material shall weigh approximately 22 kilograms. Each container shall designate the color, type of resin, type of application and user information. The label shall warn the user that the material shall be heated in the range of $176 \pm 2^\circ\text{C}$.

907-626.02.3.11--Storage Life. The material shall meet the requirements of this specification for a period of one year. The material must also meet uniformly with no evidence of skins or unmelted particles for this one-year period. The manufacturer shall replace any material not meeting the above requirements.

907-626.02.3.12--Certifications. The material manufacturer shall furnish a certified copy of material test reports to the Engineer.

907-626.02.4--Drop-On Glass Beads. Drop-on glass beads shall be separated into two (2) classes, as follows:

907-626.02.4.1--Class G Glass Beads. Class G glass beads shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO Designation: M 247, Section 4.4.2 and shall exhibit the following characteristics:

- **Color and Clarity:** The glass beads shall be colorless and clear, and shall be free of carbon residues.
- **Index of Refraction:** minimum 1.50
- **Roundness:** The glass beads shall have a minimum of 80% true spheres per screen for the two highest sieve quantities, determined visually, and a maximum of 3% angular particles per sieve, determined visually. The remaining sieves shall have a minimum of 75% true spheres, determined visually per aspect ratio using microfiche reader.
- **Air Inclusions:** 10% maximum
- **Specific Gravity:** The specific gravity of the glass beads shall be a minimum of 2.50.
- **Gradation:** The gradation of Class G glass beads shall be as follows:

<u>U. S. Standard Sieve</u>	<u>% Passing</u>
1.70 mm	100
1.40 mm	100 - 95
1.18 mm	100 - 80
1.00 mm	100 - 20
850 μm	90 - 20
600μm	100 - 50
Pan	100 - 90

All Class G glass beads shall be coated with an adhesion promoting coating.

907-626.02.4.2--Class H Glass Beads. Class H glass beads shall meet the requirements of ASTM Designation: D 1155, and shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO Designation: M 247, Section 4.4.2. Class H beads shall have a minimum of 70 percent true spheres and the +20 sieve shall be tested visually.

The gradation of the Class H beads shall meet the following:

<u>U. S. Standard Sieve</u>	<u>% Passing</u>
1.18 mm	99 - 100
850 μm	75 - 100
600 μm	55 - 95
300 μm	10 - 35
150 μm	0 - 5

907-626.03--Construction Requirements.

907-626.03.1--Equipment. The application equipment shall be specifically designed for placing thermoplastic material in a hot molten state on the pavement surface utilizing a pressure type application method. The thermoplastic stripe shall be formed by a die that is allowed to drag along in proximity with the pavement surface. The die is pulled forward by a special linkage that will allow it to automatically level itself as to float and remain parallel with the pavement surface. The traffic stripe shall be formed by reason that the hot thermoplastic material is forced under pressure through four sides to the die onto the pavement surface. The top of the die shall be enclosed and provide entry means for the hot molten thermoplastic material to enter the die cavity. The bottom of the die shall contain a movable door that is remote controlled so as to start or stop the flow of thermoplastic material onto the pavement surface. When the movable door is open, thermoplastic material can flow through the die and will apply a thermoplastic stripe that will be formed rearward of the advancing die. The pavement surface shall be at the bottom of the die enclosure. Thermoplastic material shall be fed to the die under pressure through flexible oil-jacketed stainless steel hoses. The thermoplastic material must be either pumped or fed from a pressure vessel to the die under pressure in order to obtain the proper adhesion with the pavement surface.

The system shall consist of a low pressure drop-on type glass bead gun, (bead coat #1). The thermoplastic die shall be oil-jacketed on four (4) sides and is formed from a single solid block of steel. The glass bead gun shall dispense glass beads onto the hot thermoplastic stripe from a height of approximately 25 millimeters above the pavement surface. The point at which the glass beads strike the surface of the stripe shall be approximately 75 millimeters behind the strike point of the thermoplastic material itself. This reflective bead coat #1 shall utilize Class G glass beads as specified herein, and shall provide a surface coating of 50 percent of the thermoplastic stripe surface. Of this 50 percent stripe coverage, at least 50 percent of the beads shall be embedded to a depth of 60 percent of their diameter.

A second curtain coater, low pressure drop-on type glass bead gun capable of applying a continuous sheet or ribbon of glass beads, shall follow at an interval of approximately 250 millimeters behind the first bead gun. This second glass bead gun shall apply bead coat #2 which will form a continuous drop-on coat of Class H glass beads immediately in front of the profiling device. This second curtain of glass beads shall have a low impact speed so that they are not forced into the stripe under pressure.

A special rotatable wheel profiling device shall be located approximately 200 millimeters behind bead gun #2. This rotatable wheel device shall be approximately 175 millimeters in diameter and shall have a plurality of spaced projections located around its circumference. The profiling device shall be wider than the stripe being applied in order that the stripe shall be adequately covered. The projections on the rotatable profiling device shall have an angular profiling surface set at an angle to the pavement surface. The rotatable profile device shall be mounted with an automatic leveling device to the same carriage assembly as the thermoplastic gun. This is required so that a traffic stripe of accurate and uniform definition can be obtained. The inverted profile grooves shall be pressed into the hot molten thermoplastic stripe within one (1) second of the thermoplastic material application in order to insure proper bead adhesion to the stripe. Using rollers to place grooves in the traffic stripe utilizing a separate vehicle or grooves that are not pressed within one (1) second of the thermoplastic material application will not be allowed. To insure that no thermoplastic material adheres to the wheel as it rotates and profiles the stripe, a small air atomizer water jet shall apply a thin mist coat of water to the rotatable profile wheel. It is the intent of this specification that a minimum amount of water be used and that no water puddles greater than six millimeters in diameter be allowed to accumulate on the pavement surface in proximity to the freshly placed stripe. Excess water on the pavement surface can cause bond failure of the thermoplastic material.

All parts of the thermoplastic holding tank including manifolds, hoses, pipes, dies, etc., shall be oil-jacketed to insure accurate temperature control. The thermoplastic material shall be preheated in kettles designed specifically for that purpose. Each kettle of preheated thermoplastic material shall be properly mixed and heated to the correct application temperature. The preheated material shall then be fed to the thermoplastic gun for application.

The striping machine shall contain enough glass beads and water to apply one full kettle of thermoplastic material.

907-626.03.2--Cleaning of Pavement Surface. Immediately before application, the areas to receive markings shall be cleaned thoroughly using equipment capable of cleaning without damaging the pavement surface. This will include, but not be limited to, all vegetation, loose soil, oils, and other debris. On areas of pavement cured with compound, the membrane shall be removed completely by "shot" blasting, sand blasting or other approved method. Striping shall follow as closely as practical after the pavement surface has been cleaned.

907-626.03.3--Application Over Existing Striping. Where shown on the plans or directed by the Engineer, the existing traffic stripe shall be removed by grinding or sandblasting. When placing inverted profile thermoplastic pavement markings on existing pavement that has more than one light coat (pavement not showing through stripe) of striping material, the existing stripe shall be removed to the point that 80 percent of the pavement surface is visible.

Removal of existing stripe will be paid for as a separate item of work.

Where unsatisfactory striping performed by the Contractor must be removed and replaced in accordance with these specifications, the Contractor shall use the removal method described above. No payment will be made for removal or replacement of the Contractor's unsatisfactory striping.

907-626.03.4--Surface Conditions. When placing inverted profile thermoplastic pavement markings, no striping shall be permitted when the pavement surface temperature is less than 16°C. A non-contact infrared pyrometer shall be furnished by the Contractor for use by the Engineer for verification of the temperature. Striping shall not be performed when there is moisture on the pavement surface or when winds exceed 19 kph. When unseen moisture is suspected to be present, a moisture test shall be performed. The test shall be as follows:

- 1) Place a piece of roofing felt on the pavement surface.
- 2) Pour two liters of thermoplastic material at application temperature onto the paper.
- 3) After two (2) minutes, lift the paper and inspect to see if moisture has been drawn from the pavement.
- 4) If moisture is present, striping is not to begin until the surface is moist free.

Documentation of weather and pavement conditions shall be recorded as part of completing the MDOT Inverted Profile Thermoplastic Pavement Marking Inspectors Report.

907-626.03.5--Application. Prior to the placement of pavement markings, the Contractor shall furnish the Engineer three copies of the manufacturer's warranty stating that the manufacturer will guarantee the pavement marking to meet the requirements of this specification.

The thermoplastic material shall be preheated and thoroughly mixed. The application temperature of the thermoplastic material shall be between 205°C and 220°C. A digital thermometer complete with a 600-mm probe shall be furnished by the Contractor for use by the Engineer for verification of the temperature.

When measured at the highest point of the profile, the cold thickness of the in-place thermoplastic stripe shall be a minimum of 3.55 millimeters for Inverted Profile Thermoplastic Pavement Markings. The thickness of the thermoplastic material in the bottom of the profiles shall range from 0.65 to 1.25 millimeters. The individual profiles shall be located transversely across the stripe at intervals of approximately 25 millimeters. The bottoms of these intervals shall be between 2.4 to 8.0 millimeters wide. In order to drain water and to reflect light, it is normal for the top surface of the inverted profiles to be irregular. The application rate of thermoplastic material for Inverted Profile Thermoplastic Pavement Markings shall be a minimum of 760± kilograms per kilometer for a continuous 150-mm stripe.

The application rate for Class G glass beads (bead coat #1) shall be 85± kilograms per kilometer for 150-mm continuous stripe.

The application rate for Class H glass beads (bead coat #2) shall be 85± kilograms per kilometer for 150-mm continuous stripe.

The thickness of the striping materials shall be verified periodically (at least every 400 meters) and any thickness more than five (5) percent under the designated thickness shall be reworked. A consistent, uncorrected under-run will not be allowed and the Contractor will be required to install the specified minimum thickness of 3.55 millimeters. A wet thickness gauge and cold

thickness gauge shall be furnished by the Contractor for use by the Engineer for the verification of film thickness.

When striping over existing painted stripe (one light coat), on old oxidized asphalt, on all concrete surfaces or on asphalt surfaces when ambient temperatures are below 21°C, a two component epoxy primer sealer shall be used and installed as recommended in writing by the thermoplastic material manufacturer. The epoxy primer sealer shall be EX255/EX256 as manufactured by Crown Paint Company of Oklahoma City, Oklahoma, or approved equal. The Contractor shall furnish certification of compatibility of the epoxy primer sealer to be used with the thermoplastic material supplied. If an alternate epoxy primer sealer to the EX255/EX256 is used, the Contractor shall furnish a mill analysis and proof of adequate performance of the alternate epoxy primer sealer when used with thermoplastic pavement markings.

907-626.03.6--Inverted Profile Thermoplastic Traffic Stripe, High Contrast. Before applying the black pavement marking material, the Contractor shall remove any dirt, glaze, grease or any other material that would reduce the adhesion of the thermoplastic to the pavement.

The pavement marking material shall be installed in a molten state by the spray method at a minimum temperature of 176°C and a maximum temperature of 218°C. Scorching or discoloration of material shall be cause for rejection by the Engineer. The machinery shall be constructed so that all mixing and conveying parts, up to and including the thermoplastic gun, maintain the material in the molten state.

The pavement marking materials shall not be applied when air and pavement surface temperatures are below 16°C or when the surface of the pavement contains any evidence of moisture.

The pavement marking material shall be applied at a thickness of not less than 10 millimeters.

The equipment used to install hot applied pavement marking material shall provide continuous mixing and agitation of the material while maintaining a minimum temperature exceeding 205°C. A strainer shall be in place between the main material reservoir and the gun to prevent accumulation and clogging. The equipment shall be constructed for easy accessibility to parts requiring cleaning and maintenance.

After the black thermoplastic pavement markings are applied, inverted profile thermoplastic markings shall be placed over the black thermoplastic pavement markings in accordance with the specifications and to the dimensions and details shown on the plans or established.

907-626.03.7--Warranty. The manufacturer shall warrant that the inverted profile thermoplastic markings will meet the minimum performance level of 150 mcd/lux/m² dry and 75 mcd/ lux/m² wet for a period of 48 months from the date of final inspection when exposed to normal roadway conditions regardless of the average daily traffic. Failure to meet this requirement will result in the total replacement of the portion of the stripe shown to be below these minimums. All costs of labor, material and other incidentals necessary for the replacement of unacceptable pavement markings shall be at no additional costs to the State.

Compliance will be determined by an average brightness reading over a minimum zone marking length of 100 meters, using an approved reflectometer. The zone of measurement referred to includes centerline stripe, edge lines and skip lines.

Performance Requirements:	White		Yellow	
	<u>Dry</u>	<u>Wet</u>	<u>Dry</u>	<u>Wet</u>
Initial Reflectivity, mcd/ lux/m ²	450	200	350	175
48-Month Retained Reflectivity	150	75	150	75

The measurement procedure for this warranty will entail a visual night inspection by a manufacturer representative and a MDOT representative to identify areas of the installation, which appear to be below the specified minimum, warranted reflectance value. All reflectance measurements for dry conditions shall be made on a clean dry surface at a minimum temperature of 4°C. All reflectance measurements for wet conditions shall be made using the setting conditions of Subsection 907-626.02.2.8 at a minimum temperature of 4°C.

Measurement intervals for installations with areas less than, or equal to, five (5) kilometers shall be at a minimum of three (3) check points for each zone. These check points should include the start point, approximate mid-point and the end point.

Measurement intervals for installations with areas greater than five (5) kilometers shall be at a minimum of three (3) check points, one at the start point, one at the end point and additional measurements spaced at 5-kilometer intervals between the start and end points of the area in question.

The number of measurements at each check point for each zone will be as follows:

- (A) Skip Lines: Eighteen (18) measurements, distributed over six (6) skip lines, shall be made at each check point.
- (B) Center Lines and/or Edge Lines: Eighteen (18) measurements shall be made over 100 meters of continuous stripe.

When taking reflectivity measurements, the value of the measurement shall be determined by averaging three measurements; one at the left edge of the stripe, one at the center of the stripe and one at the right edge of the stripe.

In addition, the reflectance values measured at each check point shall be averaged by zone to determine conformance to the minimum warranted reflective values.

907-626.04--Method of Measurement. Inverted profile thermoplastic traffic stripe of the type specified will be measured by the meter by the kilometer, as indicated, from end-to-end of individual stripes. In the case of skip lines the measurement will include skips. The length used to measure centerline and edge stripes will be the horizontal length computed along the stationed control line. Inverted profile thermoplastic detail traffic stripe will be measured by the meter from end-to-end of individual stripes. Measurements will be made along the surface of each

stripe and will exclude skip intervals where skips are specified. Stripes more than 150 millimeters in width will be converted to equivalent lengths of 150-mm widths.

907-626.05--Basis of Payment. Inverted profile thermoplastic traffic stripe, measured as prescribed above, will be paid for at the contract unit price per meter or kilometer, as applicable, which shall be full compensation for completing the work.

Payment will be made under:

907-626-I:	150-mm Inverted Profile Thermoplastic Traffic Stripe, Skip White	- per kilometer or meter
907-626-J:	150-mm Inverted Profile Thermoplastic Traffic Stripe, Continuous White	- per kilometer or meter
907-626-K:	150-mm Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow	- per kilometer or meter
907-626-L:	150-mm Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow	- per kilometer or meter
907-626-M:	Inverted Profile Thermoplastic Detail Traffic Stripe, <u>Color</u>	- per meter
907-626-II:	150-mm Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Skip White	- per kilometer or meter
907-626-JJ:	150-mm Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Continuous White	- per kilometer or meter
907-626-KK:	150-mm Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Skip Yellow	- per kilometer or meter
907-626-LL:	150-mm Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Continuous Yellow	- per kilometer or meter
907-626-MM:	Inverted Profile Thermoplastic Detail Traffic Stripe, High Contrast, <u>Color</u>	- per meter

SECTION 905

STP-SDP-9371-00(002) / 101214

PROPOSAL (Sheet No. 2- 16)

Harrison County

REF. NO.	PAY ITEM NO.	ADJ. CODE	APPROX. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE		ITEM TOTAL	
						DOLLAR	CENT	DOLLAR	CENT
(950)	619-G4			7 meter	Barricades (Type III) (Single Faced) (Permanent)				
(960)	619-G5			483 each	Free Standing Plastic Drums				
(970)	619-G7			8 each	Warning Lights (Type "B")				
(980)	907-622-A			1 each	Engineer's Field Office Building (Type 2)				
(990)	907-626-I CHANGED 02/15/2005			31 kilometer	150-mm Inverted Profile Thermoplastic Traffic Stripe (Skip White)				
(1000)	907-626-BB			1 kilometer	150-mm Thermoplastic Traffic Stripe (Continuous White)(2.25-mm min.)				
(1010)	907-626-CC			35 kilometer	150-mm Thermoplastic Edge Stripe (Continuous White)(1.50-mm min.)				

(11/16/2004)