Parish of Ascension

www.ascensionparish.net

KENNY MATASSA
ASCENSION PARISH PRESIDENT

ASPHALTIC CONCRETE
PAVEMENT PRESERVATION
2019=2020
ENG-19-200

ADDENDUM No. 1

June 10, 2019

SECTION 00300 LOUISIANA UNIFORM PUBLIC WORK BID FORM - UNIT PRICE FORM

- **Add REF. NO. 6A, “BIORESTOR Asphalt Rejuvenator Emulsion for Bituminous Pavements”.**
- **Replace REF. NO. 5 with, “TEXTURED BITUMINOUS SURFACE TREATMENT (Spray Applied) (Item 1)”.**
- **Replace REF. NO. 6 with, “TEXTURED BITUMINOUS SURFACE TREATMENT(Squeegee Applied) (Item 2)”.**

SECTION 02670 ASPHALT FOG SEAL

- **Remove Section**

ADD SUPPLEMENT 1

ADD SUPPLEMENT 2

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

____
BIDDER'S NAME

TO: Ascension Parish Council
____
Gonzales, Louisiana 70737
(Owner to provide name and address of owner)

BID FOR: Asphaltic Concrete Pavement Preservation 2019-2020
(Owner to provide name of project and other identifying information)

UNIT PRICES: This is form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amount shall be stated in figures and only in figures.

DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 1	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
Mobilization (For Task Orders Less than $25,000) (Per NOTICE TO PROCEED or Task Order) (Contiguous Location as Defined in Section 01400 of these Specifications) 01400	5	Each		

DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 2	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
Mobilization (For Task Orders Greater than $25,000 and Less than $200,000) (Fog Seal Only) (Per NOTICE TO PROCEED or Task Order) (Contiguous Location as Defined in Section 01400 of These Specifications) 01 400	3	Each		

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BID FOR: Asphaltic Concrete Pavement Preservation 2019-2020
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DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 3	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
Mobilization (For Task Orders Greater than $200,000) (Fog Seal Only) (Per NOTICE TO PROCEED or Task Order) (Contiguous Location as Defined in Section 01400 of These Specifications) 01400	2	Each		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 4	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Annual Road Review Report (Max 20 Miles) (01716)	2	Each		

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BID FOR: Asphaltic Concrete Pavement Preservation 2019-2020
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DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 5	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
~~Fog Sealing Asphalt Pavement (02670)~~ Textured Bituminous Surface Treatment (Spray Applied) (Item 1) (Supplement 1)	~~200,000~~ 180,000	S.Y.		

DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 6	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
~~Fog Seal Aggregate (Pre-Coated Stone/Lightweight Aggregate) (02670)~~ Textured Bituminous Surface Treatment (Squeegee Applied) (Item 2) (Supplement 1)	~~100,000~~ 5,000	S.Y.		

DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 6A	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
BIORESTORE Asphalt Rejuvenator Emulsion for Bituminous Pavements (Supplement 2)	25,000	S.Y.		

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BID FOR: Asphaltic Concrete Pavement Preservation 2019-2020
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DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 7	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
Temporary Signs and Barricades (For Task Orders Less than $25,000) (Per Work Task) (02713)	5	Each		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 8	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Temporary Signs and Barricades (For Task Orders Greater than $25,000 and Less than $200,000) (Per Work Task) (02713)	3	Each		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 9	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
Temporary Signs and Barricades (For Task Orders Greater than $200,000) (Per Work Task) (02713)	2	Each		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 10	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Temporary Reflectorized Raised Pavement Markers (Tabs) (02720A)	500	Each		

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BID FOR: Asphaltic Concrete Pavement Preservation 2019-2020
(Owner to provide name of project and other identifying information)

UNIT PRICES: This is form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amount shall be stated in figures and only in figures.

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 11	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Temporary Pavement Marking (Tape) (Broken Line) (4" Width)(4' Length)(40' Centers) {02737)	15	Mile		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 12	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Removal of Existing Pavement Markings (02765A)	15	Mile		

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DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 13	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
Cleaning and Sealing Longitudinal and Transverse Joints in PCC Pavement (02795)	10,000	L.F.		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 14	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Cleaning and Sealing Random Cracks in PCC Pavement (02795)	10,000	L.F.		

DESCRIPTION:	Base Bid or Alt.#__________			
REF. NO. 15	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Cleaning and Sealing Random Cracks in Asphalt Pavement (02796)	500,000	L.F.		

DESCRIPTION:	▪ Base Bid or Alt.#__________			
REF. NO. 16	QUANTITY	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
Cleaning and Sealing Large Cracks with Fiber Reinforced Polymer Patching (02797)	12,000	lbs.		

SUPPLEMENT 1

TEXTURED BITUMINOUS SURFACE TREATMENT

SCOPE

The following specification covers the materials and construction requirements of a Textured Bituminous Surface Treatment. The objective of this treatment is to extend the life of existing asphalt surfaces, by applying an aggregate filled surface treatment on the pavement surface to preserve and defer degradation. This surface treatment is designed to preserve and replace materials to the asphalt pavement's surface that's been lost through oxidation and weathering.

DESCRIPTION

The Textured Bituminous Surface Treatment is a surface preservation treatment consisting of an engineered mixture of fine aggregates, clay, polymers, additives, and an asphalt emulsion that cures by evaporation. Fine aggregate shall be blended into the mixed emulsion prior to applying and / or, broad-casted simultaneously. Application method shall be spray applied and or squeegee/drag-box applied. Application Method will be determined by engineer and will be based on road condition.

MATERIALS

Asphalt Emulsion

The asphalt-based emulsion shall be Optipave™ Surface Seal SMT-215, Onyx® NA or an approved equal.

Aggregate

The aggregate material shall meet the following specifications:

- Contain less than .10% free silica
- Appearance shall be dark in color (Visual approval by Engineer)
- Hard Angular Particles (6-7 on Moh's scale)
- Uniform Density (75-120 lbs. per cubic foot)
- Low Friability

Sieve Required will be determined by Engineer based on road surface condition at time of application.

	Sieve # 1	**Sieve # 2**	**Sieve # 3**
Sieve	**% Retained**	**% Retained**	**% Retained**
6	0	0	0
8	0	0	0-1
12	0	0-1	0-15
16	0	0-15	20-45
20	0-2	5-35	15-45
30	8-15	20-45	10-30
40	25-35	15-35	0-15
70	12-20	5-15	0-15
100	1-5		
Pan	0-2	0-5	0-5

Emulsified Surface Sealer

An emulsified surface sealer shall be applied after 2nd coat of Textured Bituminous Surface Treatment has fully cured and shall be placed within 5 days, weather permitting. The surface sealer shall be an emulsified liquid, modified with polymers and additives to seal and promote adhesion of textured aggregate and once cured shall not change color of unsealed road. When applied the emulsified sealer shall not change the skid resistance of the treated roadway and shall not change the properties of the asphalt-based emulsion. Product shall contain minimum 5% polymer by weight.

APPLICATION EQUIPMENT

The specialized distributor shall be capable of spraying and or squeegeeing the surface treatment material according to specifications and application methods. Equipment shall be capable of spray applying the Asphalt based Emulsion blended with 2 - 5 lbs. of specified aggregate per gallon. The distributor tank shall be round and have full sweep continuous agitation to maintain homogeneous consistency throughout the application process. The minimum tank capacity shall be 1400 gallons. When broadcasting specified aggregate, it shall be applied at target application rate simultaneously while surface treatment material is being applied to pavement surface. Broadcasted material must have consistent spread pattern and distribute aggregate evenly across pavement. Equipment shall be capable of covering complete lane widths in single pass (spray or squeegee). On-site storage tanks are required to have full sweep agitation to ensure consistency of product being stored prior to use. Hand squeegee or spray shall be acceptable in areas where practicality prohibits the use of mechanized equipment.

Equipment shall have weigh scales to ensure application rates are within specification. Print out are to be turned in to Engineer each day material is applied. Other measurement devices may be used if approved by Engineer.

Air compressors used while cleaning pavement surface shall be equipped with an approved oil and water trap.

SURFACE PREPARATION

Immediately prior to product being applied, the pavement shall be cleaned of any loose materials, including but not limited to; dirt, debris, and vegetation. Recommended cleaning equipment: mechanical sweeper, heat lance, wire wheel crack chaser, and power blower. Any large oil or gas spots shall be pre-treated with an approved fuel surface prep, to reduce any bleed through in new surface.

Manholes, valve boxes, drop inlets, gutter drains, bridges or other structures shall be protected from the surface treatment mixture by methods approved by the Engineer.

All cracks in the pavement surface should be sealed prior to applying surface treatment. If cracks are not sealed, it will be at the engineers discretion to seal cracks prior to surface treatment being applied.

WEATHER REQUIREMENTS / PRECAUTIONS

Bituminous Textured Surface Treatment

Temperature shall be 55 degrees F and rising prior to application, with a minimum of 6 hours above 55 degrees F after initial application. Pavement shall be dry prior to installation and should not be applied if rain is in forecast within 4 hours of initial application to assure sealer has time to completely cure. Do not apply in heavy fog. New asphalt pavement must cure for 45 days prior to applying surface treatment.

APPLICATION PROCEDURES & RATES

Target Application Rates

ITEM NO.	TEXTURED BITUMINOUS SURFACE TREATMENT SPRAY APPLICATION		
	MATERIALS	**TARGET APPLICATION RATES**	**UNITS**
1	Surface Treatment Material (Final Mix Design)	.22 - .28	Gallons per Square Yard
	Aggregate Mixed with Emulsion Prior to Application	2 - 5	LBS per Gallon of Asphalt Based Emulsion
	Aggregate Broadcasted**	.5 - 1	LBS per Square Yard
	Emulsified Surface Sealer*	.03 - .06	Gallons per Square Yard

ITEM NO.	TEXTURED BITUMINOUS SURFACE TREATMENT SQUEEGEE / SPRAY APPLICATON		
	MATERIALS	**TARGET APPLICATION RATES**	**UNITS**
2	Surface Treatment Material (Final Mix Design) 1st coat - Squeegee	1 – 4	Square Yards per Gallon
	Aggregate Mixed with Emulsion Prior to Application 1st coat - Squeegee	5-10	LBS per Gallon of Asphalt Based Emulsion
	Surface Treatment Material (Final Mix Design) 2nd coat – Spray	.10 - .12	Gallons per Square Yard
	Aggregate Mixed with Emulsion Prior to Application 2nd coat – spray	2 – 5	LBS per Gallon of Asphalt Based Emulsion
	Aggregate Broadcasted**	.5 – 1	LBS per Square Yard
	Emulsified Surface Sealer*	.03 - .06	Gallons per Square Yard

* When broadcasting aggregate the Emulsified Surface Sealer shall be applied after 2nd coat of the Textured Bituminous Surface Treatment has cured, and shall be applied within 5 days, weather permitting. Must be uniform spray and treat surface evenly.

** The Broadcasting of specified aggregate must be applied simultaneously while surface treatment material is being applied to the pavement surface.

Application Method

Item No. 1

Two separate application coats are required, first coat shall be 0.10 – 0.15 gallons per square yard. Total quantity applied after second coat shall meet target application rates. The first application must be thoroughly set and free of any damp areas before the second application begins. Within 5 days of final coat being applied the Emulsified Surface Sealer shall be applied.

Item No. 2

Two separate application coats are required, first coat shall be squeegee/drag box applied at target application rate. The second coat shall be sprayed at target application rate. Within 5 days of final coat being applied the Emulsified Surface Sealer shall be applied.

The Engineer will verify the application rates using an approved metering device. Contractor shall document the following information per application:shot rate, relative humidity, ambient temperature, surface temperature, and wind speed, this information shall be provided to Engineer upon his/her request. Application rates and application methods will be determined by Engineer prior to start of project and are to subject to change at discretion of Engineer based on road surface conditions.

Approved traffic control measures shall be used by the Contractor to protect the Textured Bituminous Surface Treatment from traffic until new surface will support traffic without damage and tracking is negligent, usually less than 1 hour. Weather conditions could affect cure rate. Flag men, warning signs, and barricades shall be provided by the Contractor to properly control traffic from traveling in the freshly laid materials.

MEASUREMENT

Textured Bituminous Surface Treatment
All work / services as described by these specifications and satisfactorily completed will be measured by the square yard.

ACCEPTENCE

Field inspection by Engineer will be conducted to verify coverage and application rates.

Mat Appearance:

- No running onto concrete curbs, curb pans, and shoulders
- No Streaking
- No light spots
- No de-bonding due to road contaminants
- Total coverage of the pavement surface has a homogenous appearance

PAYMENT

Payment will be made at the contract unit cost for each item based on the quantities measured as specified above.

PAY ITEMS

ITEM NO.	ITEM	UNIT	QUANTITY
1	**CLEANING AND APPLYING TEXTURED BITUMINOUS SURFACE TREATMENT ON ASPHALT PAVEMENT** **Spray Application**	SQUARE YARD	
2	**CLEANING AND APPLYING TEXTURED BITUMINOUS SURFACE TREATMENT ON ASPHALT PAVEMENT** **Squeegee/Spray Application**	SQUARE YARD	

SUPPLEMENT 2

MANUFACTURER SPECIFICATIONS

BIORESTOR Asphalt Rejuvenator Emulsion

for Bituminous Pavements

- **SCOPE:**

This work shall consist of furnishing all labor, material, and equipment necessary to perform all operations for the application of the rejuvenator to the surface of bituminous pavements as a preservative seal/rejuvenator. The rejuvenation of surface courses shall be by spray application of a bio-based rejuvenating agent composed of naturally derived products with the exception of polymer modification, emulsified with water. All work shall be in accordance with the requirements, the applicable drawings, and subject to the terms and conditions of these guidelines.

- **MATERIAL SPECIFICATIONS: BIORESTOR CONCENTRATE**

The asphalt rejuvenating concentrate shall be composed of a bio-based oils uniformly mixed with polymer. Proper mixing of product is required prior to its application. Each bidder must submit with their bid a certified statement from the rejuvenator manufacturer showing that the rejuvenating concentrate conforms to the requirements below:

Table 1. BIORESTOR® Asphalt Rejuvenator Emusifiable Concentrate Requirements

Property	Test Method	Requirements
Bio-Based Content, %	ASTM D-6866	90 min.
Viscosity 77^{o}F, s	ASTM D-4212 Zahn #2	15-35
Flash, COC, ^{o}F	ASTM D-92	200 min.
Specific Gravity	ASTM E-100-17	0.86-0.90
Residual, w%	ASTM 244 (Mod[1])	64-72
Polymer content, %		5 min.
pH		7 max.
*Odor		Pine/Citrus
*Appearance		Clear/Amber

[1]ASTM 244 Evaporation Test for percent residue is modified by heating a 50 gram sample to 149ºC (300ºF) until constant mass, then calculating results

MATERIAL SPECIFICATIONS: BIORESTOR EMULSION (1 TO 1 DILUTE)

The asphalt rejuvenating agent must be mixed 1 to 1 with clean potable water before application to pavement surface. Mixing equipment shall be used to insure proper mixing of concentrate as well as the spraying equipment design allows for circulation and proper mixing of diluted (1 to 1) of concentrate.

Table 2. BIORESTOR® Asphalt Rejuvenator Emulsion Requirements		
Bio-Based Content, %	ASTM D-6866	90 min.
Viscosity 77^{o}F, s	ASTM D-4212 Zahn #2	10-25
Specific Gravity	ASTM E-100-17	0.92-0.95
Residual, w%	ASTM 244 (Mod[1])	32-36
Appearance		Milky/White
[1]ASTM 244 Evaporation Test for percent residue is modified by heating a 50 gram sample to 149ºC (300ºF) until constant mass, then calculating results *Water dilution shall be performed with potable water 1:1 by volume adding water to the concentrate		

- **MATERIAL PERFORMANCE & TEST SECTIONS:**

The rejuvenating agent shall have a record of satisfactory service as an emulsified asphalt rejuvenating agent and in-depth sealer. Satisfactory service shall be based on the capability of the material to decrease the viscosity of the asphalt binder as follows. The viscosity shall be reduced by a minimum of 30% for pavements less than or equal to 3 years old and 40% for pavements greater or equal to 4 years old. The rejuvenating agent shall not harm pavement stripping so restriping is not required.

The bidder must submit with his bid the manufacturer's certification that the material proposed for use is in compliance with the concentrated rejuvenating agent requirements and the diluted emulsion requirements.

The bid submittal must include documentation of previous use and test data conclusively demonstrating that the rejuvenation product has been used successfully; and that the construction joint rejuvenation product has been proven to perform in a manner equivalent to above performance specification, through third party testing and/or agency use showing the required change in the recovered asphalt binder properties.

The agency, at their option, may require testing to be performed to determine the rejuvenator's effect on the pavement. An untreated sample can be removed prior to treatment or taken from a small section that was left untreated to allow all cores to be taken at the same time. Treated cores should be taken 30-90 days after treatment. This is typical time frame but can be modified if needed. The top 3/8" of each core shall be removed for testing. The asphalt binder shall be extracted and recovered from this portion of the core using Caltrans Test Method (CTM) 365. Viscosities are then determined on the recovered asphalt binder using a sliding plate microviscometer (CTM 348) or Dynamic Shear Rheology (AASHTO T315). Penetrations are calculated from a nomograph. The percent decrease for viscosity or percent decrease in DSR values shall be calculated to show the effect of the rejuvenator.

BIORESTOR® Asphalt Rejuvenator Emulsion as manufactured by BioBased Spray Systems, LLC is a product of known quality and accepted performance.

- **APPLICATOR EXPERIENCE:**

The asphalt rejuvenating concentrate shall be received and diluted by the end applicator, 1:1 by volume. The asphalt rejuvenating emulsion agent shall be applied by an experienced applicator of such material. A project superintendent knowledgeable and experienced in application of the asphalt rejuvenating agent must be in control of each day's work. Prior knowledge of traffic control, traffic management, and traffic safety is required. Applicator shall have had training on spray system set up, maintenance, application rates, and proper storage.

Disruption of traffic flow must be held to a minimal amount of time. Traffic must not be allowed onto the roadway until rejuvenating agent has cured. Approximately 30-60 minutes.

- **PREPARATION AND APPLICATION**

Bidder is responsible for sweeping and cleaning of asphalt prior to treatment. All dirt, leaves, standing water, foreign material, etc. shall be removed. Self-propelled sweepers or high volume power-blowing equipment provides the applicator with a sufficient pavement conditions.

Product will be shipped and delivered to end user as a concentrate. Product shall be applied as a diluted emulsion 1:1 by volume by the applicator. Rate of application for the entire asphalt pavement is stated at 0.02 gal/sq. yd. for asphalt 3 years or newer, and 0.03 gal/sq. yd. for asphalt older than 3 years. Construction joint treatment with the emulsion is stated as 0.03 gal/sq. yd. for new pavements and up to 5 years age. Older pavements may require possibly up to 0.04 gal/sq. yd. Pavements with low air void or high density (94%+) are not recommended as good candidates for rejuvenation. For optimal results consult with a pavement preservation engineer professional prior to application.

Treated sections of pavement shall be kept free of traffic until cured. Typically between 30-60 minutes with weather and pavement conditions determining these time factors. Traffic control shall be in accordance with local, state and federal requirements.

- **PRODUCT STANDARDS:**

The product "**BIORESTOR® Asphalt Rejuvenator Emulsifable Concentrate**" as previously manufactured by BioBased Spray Systems, LLC is the standard concentrate to be emulsified with water 1:1. **BIORESTOR® Asphalt Rejuvenator Emulsion** applied by the applicator, is the standard for the asphalt rejuvenating emulsion agent requirements and the prices quoted on the bid sheet base bid shall be for one of these standards.

LEGAL DISCLAIMER

Selection time and rate all suggested above are recommendation from the manufacture but are NOT subject to liability. For best product application, discuss with pavement maintenance engineer to determine product optimization.

BioBased Spray Systems, LLC and all of its affiliates, believe the information set forth herein to be true and accurate. However, any statements, suggestions or recommendations made by BioBased Spray systems, LLC and its affiliates are without any warranty or guarantee whatsoever, and shall not create a legal duty on the part of any BioBased Spray Systems LLC and its affiliates.

BioBased Spray Systems LLC and its affiliates reserve the right to withdraw any product from commercial availability and to make any changes to any existing commercial or developmental product.