

General Info

to **disable** Q & A notifications for this solicitation.

Digital ID required

Deadline

08/15/2023 11:00 AM CDT

Advertised

07/17/2023 01:18 PM CDT

Business Name

Arkansas Department of Transportation - Equipment and Procurement

Location(s)

Statewide, Arkansas



County of Pulaski, AR, Esri, HERE, Garmin, FAO, NOA... Powered by Esri

Number

H-24-218H

Description

Asphalt Emulsions
FOB: Statewide

Allows zero unit prices and labor

Yes

Allows negative unit prices and labor

Yes

Allows multiple bids per solicitation

No

Q & A

Deadline

Same as solicitation deadline.

Remarks

ATTACHMENT LIST

CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM.pdf (157 KB)

Download, complete, and upload in the Required ...

Standard Bid Conditions Revised 2022.pdf (156 KB)**Asphalt Emulsion Specifications (Updated).pdf** (491 KB)**BID INVITATION**

Electronic Sealed bids for furnishing the commodities and/or services described below, subject to the Standard Bid Conditions or this Bid Invitation will be opened at the above-noted bid opening date and time at the ARDOT Equipment and Procurement Division located at 11302 West Baseline Road, Little Rock, AR 72209. Bids must be submitted on this form, with attachments when appropriate, or bids will be rejected.

In compliance with this Bid Invitation and subject to all the Conditions thereof, the undersigned offers and agrees to furnish any and all items upon which prices are quoted, at the price set opposite each item.

Company Name:***Name:***

Address:*

Title:*

Federal Tax ID or Social Security No:*

Phone:*

Fax:

E-mail:*

Signature:*

Asphalt Emulsions

Supply Contract to furnish to ARDOT requirements of various Asphalt Emulsions at locations and pricing set forth on Bid form for the period beginning **October 1, 2023, through March 31, 2024 (6 Months)**.

All bidders should complete and return the Eligible Bidder Certification (Attachment A) and Disclosure Form (see Page 2 of Standard Bid Conditions – Item 18) and Restriction of Boycott of Israel Certification issued with this bid. A current copy of the DFA Illegal Immigrant Contractor Disclosure Certification (see Page 1 of Standard Bid Conditions – Item 17) should also be submitted with bid. These forms are kept on file and remain current for one year from date of submission. Forms do not need to be submitted again, during that time, unless there is a status change.

Bid Bond in the amount of \$500.00 required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 4 on page 1 of Standard Bid Conditions. Performance Bond in the amount of \$2,000.00 will be required of successful bidder prior to providing goods/services. **Personal and company checks are not acceptable as Performance Bonds.** See Condition 4 on page 1 of Standard Bid Conditions.

Surety Bonds may be submitted electronically through the online bidding process. If submitting a Surety Bond that is not compatible with Surety 2000 and Tinubu, your company still may do so. Other Surety Companies will still be accepted but must be received in Equipment and Procurement before the time of bid opening at 11302 West Baseline Road, Little Rock, AR 72209 prior to the designated time of the bid opening. This includes Cashier’s checks, Certified checks, or Money orders submitted as bid bonds must be physically received by Equipment & Procurement.

Bids and Specifications are available on-line by going to the ARDOT Web Site – www.ardot.gov and clicking on “Commodities and Services Bids/Contracts Information”. Tabulations will also be available at this site after award of bid/contract. If you have any questions, call this office at 501-569-2667.

Bid Form

Location	CMS-1PC	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Pick-up					

Location	CMS-1PC	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Crittendon					
Cross					
Lee					
Monroe					
Phillips					
St. Francis					
Woodruff					
Arkansas					
Ashley					
Chicot					
Desha					
Drew					
Grant					
Jefferson					
Lincoln					
Hempstead					
Howard					
Lafayette					
Little River					
Miller					
Nevada					
Pike					
Sevier					
Crawford					
Franklin					
Logan					

Location	CMS-1PC	TYPE 1	TYPE 2	TYPE 3	TYPE 4
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Polk					
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Scott					
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Sebastian					
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ILLEGAL IMMIGRANT CERTIFICATION

Pursuant to Arkansas Code Annotated § 19-11-105, Contractor(s) **shall** certify with OSP that they do not employ or contract with illegal immigrants.

By signing below, the Contractor agrees and certifies that they do not employ illegal immigrants and will not employ illegal immigrants during the remaining aggregate term of the contract.

[H-24-218H]

AASIS Number:

Asphalt Emulsions

Contractor Name:*

Contractor Signature:*

Date:*

RESTRICTION OF BOYCOTT OF ISRAEL CERTIFICATION

Pursuant to Arkansas Code Annotated § 25-1-503, a public entity **shall not** enter into a contract valued at \$1,000 or greater with a company unless the contract includes a written certification that the person or company is not currently engaged in, and agrees for the duration of the contract not to engage in, a boycott of Israel.

By signing below, the Contractor agrees and certifies that they do not currently boycott Israel and will not boycott Israel during any time in which they are entering into, or while in contract, with any public entity as defined in § 25-1-503.* If at any time after signing this certification the contractor decides to engage in a boycott of Israel, the contractor must notify the contracting public entity in writing.

If a company does boycott Israel, see Arkansas Code Annotated § 25-1-503.

Name of public entity: Arkansas Department of Transportation

[H-24-218H]/Asphalt Emulsions

Contractor Name:*

Contractor Signature:*

Date:*

* "Public Entity" means the State of Arkansas, or a political subdivision of the state, including all boards, commissions, agencies, institutions, authorities, and bodies politic and corporate of the state, created by or in accordance with state law or regulations, and does include colleges, universities, a statewide public employee retirement system, and institutions in Arkansas as well as units of local and municipal government.

ATTACHMENT A - ELIGIBLE BIDDER CERTIFICATION

The Bidder represents and warrants for itself, its employees and its subcontractors and certifies they:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
2. Have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph two (2) of this Certification;
4. Have not within a one-year period preceding this application/Bid had one or more public transactions (Federal, State, or local) terminated for cause or default; and

The Bidder represents, warrants and acknowledges the understanding that restrictions placed on the employment of labor or on the scale of pay for the work on a contract will be the requirements of the Fair Labor Standards Act (Federal Wage-Hour Law) of 1938, 28 USC §201 et seq., and other applicable labor laws.

The person executing this Certification further represents, warrants and affirms the truthfulness and accuracy of the contents of the statements submitted on or with this Certification and understands that the provisions of 31 USC §3801 et seq. are applicable thereto.

BIDDER NAME (Company Name):*

BY (Signature):*

TITLE:*

BID BOND

In the amount of \$1,000.

Guarantee Method*

Choices...

Paper Bid Bond, Cashier's Check, Certified Check, Money Order, or an Annual Bond on File

Confirmation*
 Choices...

Electronic Bid Bond

Bond ID* Surety Agency*
 Choices...

Surety State* Principal*

ENVELOPE REQUIRED DOCUMENT LIST

Name	Omission Terms
The information supplied in this component will be available to the owner-agency immediately after the bid deadline, but before the bid is opened.	
Paper Bid Bond, Cashier's Check, Certified Check, Money Order, or an Annual Bond on File Original, wet-ink documents are required at time of bid op...	I have opted to electronically verify my bid bond.

1 Required Document

REQUIRED DOCUMENT LIST

Name	Omission Terms
Contract and Grant Disclosure and Certification Form Failure to complete all of the following information may re...	

1 Required Document

ARDOT - STANDARD BID CONDITIONS

1. **GENERAL:** Any special terms and conditions included in the invitation for bid override these standard terms and conditions. The standard terms and conditions and any special terms and conditions become part of any contract entered into if any or all parts of the bid are accepted by the Arkansas Department of Transportation (ARDOT).
2. **ACCEPTANCE AND REJECTION:** ARDOT reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
3. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
4. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. Personal and company checks are not acceptable as Bid Bonds. Surety Bonds may be submitted electronically through the online bidding process. Cashier's checks, Certified checks, or Money orders submitted as bid bonds must be physically received by Equipment & Procurement located at 11302 West Baseline Road, Little Rock, AR 72209 prior to the designated time of the bid opening. Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by ARDOT or fails to honor their bid. When a bidder claims and can show clear and convincing evidence that a material mistake was made in the bid and was not the bid intended, the bidder may be permitted to withdraw their bid prior to award without forfeiture of bid bond. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. Personal and company checks are not acceptable as Performance Bonds. In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company that is authorized to do business in the State of Arkansas and that is listed on the current United States Department of the Treasury Listing of Approved Sureties. Surety bonds must be executed by a resident or non-resident agent who is licensed by the Arkansas State Insurance Commissioner to represent the surety company executing the bond, and the resident or non-resident agent shall file with the bond the power of attorney of the agent to act on behalf of the bonding company. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). These bonds shall not only serve to guarantee the completion of the work, but also to guarantee the excellence of both workmanship and material until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled. In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
5. **TAXES:** The ARDOT is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the ARDOT as an addition thereto, and should be added to the billing to the ARDOT. The ARDOT is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the ARDOT.
6. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
7. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
8. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
9. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
10. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Received common carrier bills that reflect ICC authorized rate changes must be furnished.

11. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of ARDOT request, and free demonstrations within 30 days, unless ARDOT extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by ARDOT. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
12. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
13. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the ARDOT, as soon as possible, of the reason for any delay and the expected delivery date. The ARDOT has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
14. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by ARDOT after delivery. Default in promised delivery or failure to meet specifications authorizes the ARDOT to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
15. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).
16. **NOTICE OF NONDISCRIMINATION:** The Arkansas State Highway Commission, through ARDOT, complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, ARDOT does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in the ARDOT's programs and activities, as well as the ARDOT's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the ARDOT's nondiscrimination policies may be directed to Joanna P. McFadden Section Head – EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501)569-2298, (Voice/TTY 711), or the following email address: joanna.mcfadden@ardot.gov. Free language assistance for Limited English Proficient individuals is available upon request. This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.
17. **PROHIBITION OF EMPLOYMENT OF ILLEGAL IMMIGRANTS:** Pursuant to Arkansas Code Annotated 19-11-105, all bidders must certify prior to award of a contract that they **do not** employ or contract with any illegal immigrant(s) in its contract with the state. Bidders shall certify online at <https://www.ark.org/dfa/immigrant/index.php>.
18. **DISCLOSURE:** Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that order, **shall** be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy **shall** be subject to all legal remedies available to the agency.

CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency.

SUBCONTRACTOR: _____
 SUBCONTRACTOR NAME: _____
 Yes No

IS THIS FOR:

TAXPAYER ID NAME: _____
 Goods? Services? Both?

YOUR LAST NAME: _____ FIRST NAME: _____ M.I.: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____ COUNTY: _____

AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED:

FOR INDIVIDUALS *

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse is a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark (✓)		Name of Position of Job Held <small>(senator, representative, name of board/ commission, data entry, etc.)</small>	For How Long?		What is the person(s) name and how are they related to you? <small>(i.e., Jane Q. Public, spouse, John Q. Public, Jr., child, etc.)</small>	Relation
	Current	Former		From MM/YY	To MM/YY		
General Assembly						Person's Name(s)	
Constitutional Officer							
State Board or Commission Member							
State Employee							

None of the above applies

FOR AN ENTITY (BUSINESS) *

Indicate below if any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark (✓)		Name of Position of Job Held <small>(senator, representative, name of board/ commission, data entry, etc.)</small>	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?	Ownership Interest (%)	Position of Control
	Current	Former		From MM/YY	To MM/YY			
General Assembly						Person's Name(s)		
Constitutional Officer								
State Board or Commission Member								
State Employee								

None of the above applies

Contract and Grant Disclosure and Certification Form

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.

As an additional condition of obtaining, extending, amending, or renewing a contract with a state agency I agree as follows:

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM**. Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.
2. I will include the following language as a part of any agreement with a subcontractor:

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.
3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

Signature _____	Title _____	Date _____
Vendor Contact Person _____	Title _____	Phone No. _____

Agency Use Only			
Agency Number _____	Agency Name _____	Agency Contact Person _____	Contract or Grant No. _____

**ARKANSAS DEPARTMENT OF TRANSPORTATION
 SPECIAL PROVISION**

JOB NO.

REJUVENATING MASS CRACK TREATMENT

Description:

This item shall consist of the application of a polymer modified asphalt rejuvenating mass crack treatment, as specified, according to these specifications, and in reasonably close conformity with the plans or as directed.

The treatment consists of furnishing properly distributed rejuvenating asphalt emulsion scrubbed into the cracks and voids followed by a uniform application of aggregate for building a riding surface, improving the surface friction of a roadway, sealing cracks in the roadway, reducing the rate of oxidation of a surface mixture, or as an interlayer to delay or reduce the occurrence of reflective cracking.

Materials:

- (a) **Asphalt Emulsion.** The asphalt emulsion for rejuvenating mass crack treatment shall meet the requirements of the following table and shall be composed of a polymer modifier, a petroleum based rejuvenating agent, and asphalt. The emulsion supplier shall receive quarterly certificates of analysis (COA) for both the polymer and rejuvenating agency manufacturers. The COAs shall be provided to the Department upon request.

Property	Test Procedure (AASHTO)	Specification	
		(min)	(max)
Emulsion Properties			
Viscosity, Saybolt-Furol, @ 77°F, SFS	T59	50	350
Storage, 24 hour, %	T59	-	1
Oil Distillate, %	T59	-	0.5
Sieve Test, %	T59	-	0.1
Residue by Distillation ⁽¹⁾ @ 350°F, %	T59	60	-
Residue Properties From Distillation			
Penetration @ 4°C, 200g weight, 60 sec	T49	30	-
Residue Properties From Low Temp Evaporation			
R78, Procedure B			
MSCR @ 52°C, J _{nr} @ 3.2/kPa	ASTM D7405	-	4.0
Polymer Properties⁽²⁾			
Tests on Modifier Mass Change, %	ASTM D471 (modified)		50%
Test on Rejuvenating Agent			
Flash Point, COC, °F	ASTM D92	380	-
Viscosity, 140°F, cSt	ASTM D2170	50	175
Saturate, % by wt	ASTM D2007	-	30
Asphaltenes	ASTM D2007	-	1.0
Test on Residue from RTFO			
Weight change, %	ASTM D2872	-	6.5
Viscosity Ratio	ASTM D2170	-	3

ARKANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION

JOB NO.

REJUVENATING MASS CRACK TREATMENT

1. Exception to AASHTO T59: Bring the temperature on the lower thermometer slowly to 350°F plus or minus 10°F. Maintain this temperature for 20 minutes. Complete the total distillation in 60 plus or minus 5 minutes.
2. Modify ASTM D471 as follows:
 - a. Place 0.8g of modifier into an 18-mm silicone rubber DSR mold.
 - b. If necessary, dry at ambient lab conditions for 72 hr.
 - c. Remove the modifier from the mold and place the sample into a forced draft oven on release paper for 48 hr at 40°C.
 - d. After 48 hr, cool and weigh the sample to the nearest 0.0001 g. Record the weight.
 - e. Pour 30 g of rejuvenating agent in a 90-ml metal container.
 - f. Place modifier sample in the container and add another 30 g of rejuvenating agent. Ensure the modifier sample is completely covered; add more rejuvenating agent if necessary.
 - g. Cover the container with a metal lid and place it into a 40°C oven for 48 hr.
 - h. Remove the sample from the container. Use a paper towel to blot the surface of the sample to remove excess rejuvenator. Allow sample to cool to room temperature and weigh to the nearest 0.0001 g.
 - i. Calculate the mass change, expressed in Equation 1. Mass change will be positive.
 - i. $Mass\ Change\ (\%) = \frac{M_2 - M_1}{M_1} \times 100$
 - ii. Where:
 - iii. M_1 = Mass of modifier sample before being conditioned in the rejuvenating agent (g); and
 - iv. M_2 = Mass of modifier sample after conditioning in the rejuvenating agent (g).

(b) Rejuvenating Agent. The manufacturer of the rejuvenating agent, through the emulsion supplier and the contractor, shall submit to the Department test results certifying that the material meets the specification shown in the table above. The Department shall not accept test results dated more than 120 calendar days from the date of the project start. At any time during the project, the Department may obtain, and have tested at Department expense, samples of the rejuvenating agent being used in manufacturing of emulsion delivered to the project.

(c) Latex Polymer. The manufacturer of the latex polymer, through the emulsion supplier and the contractor, shall submit to the Department test results certifying that the material meets the specification shown in the table above. The Department shall not accept test results dated more than 120 calendar days from the date of the project start. At any time during the project, the Department may obtain, and have tested at Department expense, samples of the latex polymer being used in manufacturing of emulsion delivered to the project.

(d) Aggregate. Unless otherwise noted, the aggregate material shall be crushed stone listed in and meeting the requirements of Subsection 403.01 and having a gradation of Class 4 Mineral Aggregate as indicated in Subsection 403.02. When a Rejuvenating Mass Crack Treatment is to be used as an interlayer a Class 1 Mineral Aggregate as indicated in Subsection 403.02 may be used. It shall be stated in the plans if the Class 1 Mineral aggregate is required.

Equipment:

(a) Pressure Distributor. An approved mechanical pressure distributor shall meet the requirements of Section 403.

**ARKANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

JOB NO.

REJUVENATING MASS CRACK TREATMENT

(b) Broom Sled. A broom sled as described herein shall be used to force the emulsion into cracks and voids after application of the emulsion from a pressurized distributor and before the application of aggregate.

The broom sled frame shall be constructed of metal and equipped with means to be attached to and pulled by the distributor truck.

The broom sled must be equipped with a means of raising and lowering the broom sled when desired. It shall be towable in the elevated position. The height of the broom sled assembly shall be adjustable related to the amount of emulsion carried by the broom heads themselves such that, regardless of application rate, the broom sled carries an excess of emulsion in front of the broom heads across the width of the area to be treated while containing the emulsion inside of the broom sled frame and not outside of the intended width of the treatment.

The main body of the broom sled shall have an overall frame size similar to the one shown in the drawing below. The nearest and furthest members, paralleling the back of the distributor truck, and diagonal members shall be equipped with street brooms. The leading member and the trailing member shall have broom heads angled at approximately 10 to 15 degrees off the centerline of the supporting member. The diagonal members shall have broom heads attached in line with the centerline of the supporting member. Each individual street broom attached to the broom sled assembly shall have a density of bristles to sufficiently push the emulsion evenly within the desired area of application. The stiffness of the bristles shall not bend excessively during application and spreading of the emulsion.

The broom sled shall be equipped with hinged wing assemblies attached to the main body not to exceed 4.5 feet per side, with diagonals and equipped with the identical street brooms as described herein.

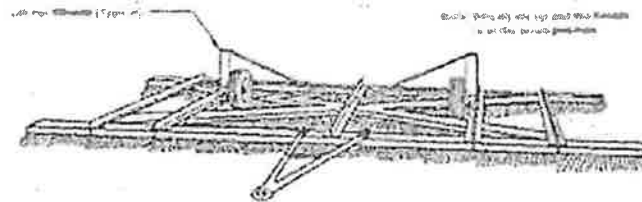
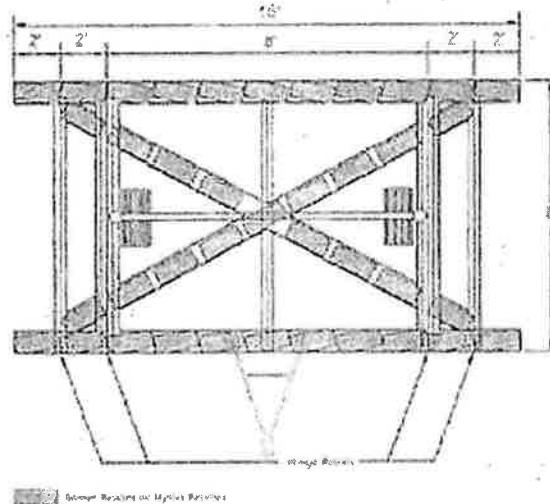
The purpose of the maximum rigid frame width and the hinged wing extensions is not only for maximum width of 16 feet but to maintain the scrubbing process evenly as contours and cross-sections change across the existing road surface. A means or method of controlling the broom sled, causing it to track evenly behind the distributor in curves and on cross slopes, is required.

All broom sled designs shall be submitted to the Department for approval. Demonstration that the broom sled design is capable of filling the cracks with emulsion shall be performed prior to the Engineer approving the broom sled design. Demonstration of the broom sled may be performed on the test strip. An example broom sled design diagram is included in this document.

ARKANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION

JOB NO.

REJUVENATING MASS CRACK TREATMENT



Scrub Broom

(c) **Aggregate Spreader.** The mechanical aggregate spreader shall meet the requirements of Subsection 403.07.

(d) **Rollers.** Rollers shall meet the requirements of Subsection 403.08.

(e) **Rotary Broom.** The Rotary Broom shall be capable of removing debris and loose mineral aggregate from the surface as needed and based on the specifications herein.

Test Strip:

Prior to the beginning of the project, the contractor shall be required to perform a test strip with a minimum length of 100 feet to assure the materials, contractor personnel and equipment are suitable to produce a satisfactory Rejuvenating Mass Crack Treatment. The test strip may be conducted as part of the calibration procedure. The test strip may be in a suitable area such as a parking lot or staging area. The contractor may also elect to use the project site for the test strip. If the test strip is placed within the project limits the contractor shall correct any deficiencies before opening to traffic as directed by the Engineer at no additional cost to the Department. The location for the test strip shall be approved by the Engineer prior to placement of the test strip.

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Construction Requirements:

(a) General. The methods employed in performing the work, and all equipment, tools, and machinery used in handling material and executing any part of the work shall be subject to the approval of the Engineer before the work is started and whenever found unsatisfactory shall be changed or improved as required. Equipment, tools, and machinery used must be maintained in a satisfactory condition; and must conform to the requirements provided in Section 403.

The surfaces of all structures shall be protected by some satisfactory method to prevent their being disfigured by the application of asphalt material. Objectionable asphalt discoloration, caused by the Contractor's operations, shall be removed from all roadway and bridge structures at no cost to the Department.

Asphalt material shall not be applied on a surface having excess moisture or when weather conditions are unsuitable. The Contractor shall monitor local weather conditions to avoid placing material on the road ahead of adverse weather that could subsequently damage the material. In the event materials are damaged by adverse weather, they shall be replaced or repaired at no additional cost to the Department.

Special precautions shall be taken to ensure that the equipment is operated in a manner that distributes the asphalt and aggregate evenly and uniformly. Deposits of asphalt and aggregate material upon the road surface in excess of the quantity specified, caused by stopping or starting the distributing machine, overflow, leakage, or other mechanical or human errors, shall be removed.

Prior to performing the actual work, all equipment shall be adjusted and calibrated according to Section 403 and applicable manufacturer's requirements.

The surface section shall be constructed in half widths for each application.

(b) Preparation of Existing Surface. Potholes and surface depressions will be repaired by the Department prior to the Rejuvenating Mass Crack Treatment work unless shown otherwise on the plans. Immediately prior to application of the asphalt material, clean and de-grass existing pavements over the full width to be treated and all raised pavement markers shall be removed.

Manholes, valve boxes, drop inlets and other service entrances shall be protected from the asphalt emulsion by a suitable method.

(c) Sweeping and Cleaning. Before the asphalt material is applied, the surface shall be thoroughly cleaned and swept with a rotary power broom to remove all dust, dirt, mud, and loose or foreign material. A blower may be used to assist in the cleaning operation. The sweeping and cleaning operations shall be carried only far enough in advance of the application of the asphalt material to ensure that the surface is maintained in the proper condition at the time of application. Clean areas not reached by the power broom or blower by hand brooming or blowing.

(d) Application of Asphalt Material. After the surface to be treated has been prepared as specified above, the asphalt material for the surface treatment shall be sprayed uniformly over the surface by means of an approved mechanical pressure distributor,

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meeting the requirements of Section 403, shown on the plans and at the designated rate of application as shown on the plans.

The optimum application rate of asphalt material is dependent on the mineral aggregate gradation as well as the condition of the pavement in which the Rejuvenating Mass Crack Treatment is to be applied. The application rate of the asphalt material may be adjusted by the Engineer based on field conditions at the time of construction.

The asphalt material shall be applied at the temperature between 140 - 180°F. The Contractor shall ensure uniformity of distribution at junctions of distributor loads by use of building paper or other approved methods.

After asphalt material is applied and broomed to force material into cracks and voids, no equipment or traffic will be permitted on the surface until the aggregate is applied and rolled.

(e) Application of Mineral Aggregate. The mineral aggregate shall not contain excessive free moisture and shall be spread immediately following the application of the asphalt material. Operations shall not proceed or continue when the asphalt material is allowed to chill, set up, dry, or otherwise impair retention of the mineral aggregate. The mineral aggregate shall be spread with a mechanical spreader meeting the requirements of Section 403. The mineral aggregate shall be distributed over the asphalt material and at the rate of application shown in the plans. The use of an approved chip box to distribute the mineral aggregate will be permitted on detour construction and other areas approved by the Engineer where the use of a mechanical spreader is impractical. Spreading shall be accomplished in such manner that the tires of the trucks or aggregate spreader at no time contact the uncovered and freshly applied asphalt material. Portions of the surface not covered by mechanical spreaders shall be hand spotted so that the entire surface will be uniformly covered. Light hand brooming may be necessary to distribute excess aggregate.

(f) Rolling and Brooming. A minimum of two pneumatic rollers, along with one rotary power broom shall be used with each aggregate spreader being used. A steel wheel roller will be allowed as a finish roller with approval by the Engineer.

Rolling shall begin immediately behind the spreader. Each surface treatment shall be completely rolled a minimum of three times.

After the final set of asphalt has occurred and no more than 48 hours after application, the surface shall be lightly broomed to remove excess aggregate. Generally, the brooming shall be confined to the cooler hours of the day and shall be conducted so as not to displace embedded material.

(g) Second and Successive Applications. If the work involves two or more applications of asphalt material and mineral aggregate, the rates of application for this material will be those specified on the plans or as designated by the Engineer. The method of construction will be the same as for an asphalt surface treatment meeting the requirements of Section 402. If a second seal is to be constructed, the emulsion shall conform to Subsection 403.03(d) or Subsection 403.03(e). Each application shall be placed only after the preceding application has been satisfactorily completed and cured. Further, the asphalt

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material shall be firmly set and the aggregate firmly embedded so as not to be displaced by brooming. Before application, the surface shall be thoroughly swept with a rotary power broom so that no dust or loose aggregate is left that might cause a plane of cleavage.

Traffic Control:

During the application of the asphalt material and aggregate, and during the rolling operation, traffic will not be allowed on the new surface. When traffic must use the lane adjacent to the lane under construction, the Contractor shall regulate the flow of vehicles past the surfacing operation at a speed not to exceed 25 miles per hour (40 km/h). The Engineer may require the use of a pilot vehicle.

Until the asphalt has set and the cover aggregate is firmly embedded, traffic shall not exceed 25 miles per hour (40 km/h). The vehicle speeds shall be controlled by the use of one or a combination of barricades, flaggers, signs, or pilot vehicles that will minimize the loss of cover aggregate. The method used for speed control shall be approved by the Engineer and will be subject to change or modification should the selected method of control prove unsatisfactory.

The Contractor shall route the aggregate haul trucks to and from the work area so that they will not have to turn on the freshly placed surface treatment.

Temperature and Seasonal Limitations:

Asphalt material shall not be applied when the ambient and surface temperature including shaded areas is below 60°F (15°C). In addition, asphalt surface treatments shall not be applied outside the following seasonal limitations:

Traveled Lanes	April 15 to September 30
Shoulders	April 1 to October 31

No deviation from the above limitations will be allowed except by written permission from the Engineer.

Method of Measurement:

- (a) Mineral aggregate in surface treatments will be measured either by the cubic yard (cubic meter) or by the ton (metric ton).
- (b) Rejuvenating Mass Crack will be measured by the gallon (liter).

Basis of Payment:

Work completed and accepted and measured as provided above will be paid for as follows:

- (a) Mineral aggregate will be paid for at the contract unit price bid per ton (metric ton) or per cubic yard (cubic meter) for Mineral Aggregate in Asphalt Surface Treatment.

In cases where the combined specific gravity of the material used for Mineral Aggregate in Rejuvenating Mass Crack Treatment exceeds 2.80 and the method of measurement is by the ton (metric ton), the quantity of material will be adjusted for payment by multiplying the quantity of the material used by the specific gravity of 2.80 and dividing by the higher specific gravity.

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(b) Asphalt material will be paid for at the contract unit price bid per gallon (liter) for Rejuvenating Emulsified Asphalt (CMS-1PC).

The above contract unit price shall be full compensation for surface preparation including the removal of the raised pavement; furnishing, loading, heating, hauling, placing, and applying materials; for cleaning, sweeping, brooming, rolling; and for all labor, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Mineral Aggregate in Asphalt Surface Treatment (Class ____)	Cubic Yard (Cubic Meter) or Ton (Metric Ton)
Rejuvenating Emulsified Asphalt (CMS-1PC)	Gallon (Liter)