

ADDENDUM NO. 1
RECHE CANYON ROAD AND OTHER ROADS
WORK ORDER: H15172
AREA: COLTON
ROAD NO.: VARIOUS LOCATIONS

BIDS OPEN 10:00 AM, THURSDAY, DECEMBER 5, 2024

By Email via ePro System

The bid opening will be publicly viewable via goto.com, details are available in the Notice to Bidders pages of the Project Special Provisions.

Amend the Project Special Provisions as follows:

1. NOTICE TO BIDDERS

a. At the end of Page NB-1, add this paragraph:

The work is separated into the following schedules of work:

- Schedule A: All roads except Rancho Avenue (Road Number: 687100)
- Schedule B: Rancho Avenue (Road Number:687100)

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed. The lowest responsible bidder will be determined by the project total (Schedule A subtotal or Schedule A + Schedule B subtotal).

2. DIVISION II – GENERAL CONSTRUCTION

a. Delete entire Section 10-1.03 and **Replace** with:

10-1.03 PERMITS AND AGREEMENT

Prior to construction, the Contractor shall obtain permits as required for all work located within the City of Colton, and obtain encroachment permits from the City of Moreno Valley and Caltrans for temporary traffic control.

The Contractor shall conform to all Permits and Agreements requirements in the performance of work on this project.

Full compensation for permit fees and complying with the requirements of the City of Colton, the City of Moreno Valley and Caltrans, not otherwise provided for, shall be considered as included in the prices paid for the **various contract items** of work and no additional compensation will be allowed therefor.

b. Delete the last paragraph of Section 10-1.12 and **Replace** with:

The contract price paid per **Square Yard (SY)** for **Cold Plane Asphalt Concrete Pavement (0.20', 0.14', 0.167', 0.24', and 0.30' Thick)** shall include full compensation for furnishing all

labor, materials including asphalt concrete for temporary transitions, tools, equipment and incidentals, and for doing all the work involved in cold planning and disposing of planed material; and constructing, maintaining, removing and disposing of temporary transitions, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

c. Delete entire Section 10-1.15 Asphalt Concrete (RAP Optional) and **Replace with:**

10-1.15 ASPHALT CONCRETE (RAP Optional)

Asphalt concrete shall conform to the provisions in Section 39-2, "Hot Mix Asphalt" of the Standard Specifications and these Special Provisions.

The Contractor may produce asphalt concrete using reclaimed asphalt pavement (RAP). The Contractor may substitute RAP for a portion of the virgin aggregate in asphalt concrete in an amount **not exceeding 15 percent** of the asphalt concrete dry aggregate mass.

RAP shall not be used in Open Graded Asphalt Concrete or Rubberized Asphalt Concrete.

RAP shall be processed from asphalt concrete removed from pavement surfaces. RAP shall be stored in stockpiles on smooth surfaces free of debris and organic material. RAP stockpiles shall consist only of homogeneous RAP. The Contractor may process and stockpile RAP throughout the project's life. Processing and stockpiling operations shall prevent material contamination and segregation.

The asphalt concrete shall conform to the plans and the following requirements:

1. Asphalt concrete shall be produced at a central mixing plant.
2. The **Aggregate for Apply Tack Coat and Construct 0.10' Type A HMA, 3/8-inch, Aggregate Gradation, PG 64-10 PM** as specified in Section 39-2.02B(4)(b), "Aggregate Gradations," of the Standard Specification. The **Asphalt Binder Grade** shall be **PG 64-10 PM**.
3. The **Aggregate for Asphalt Concrete (Asphalt Concrete Leveling Course)** shall conform to **Type A, 3/8-inch, Aggregate Gradation**, as specified in Section 39-2.02B(4)(b), "Aggregate Gradations," of the Standard Specification. The **Asphalt Binder Grade** shall be **PG 64-10**.
4. The **Aggregate for Asphalt Concrete (Type A)** shall conform to **Type A, 1-inch, Aggregate Gradation**, as specified in Section 39-2.02B(4)(b), "Aggregate Gradations," of the Standard Specification. The **Asphalt Binder Grade** shall be **PG 64-28 PM**.
5. If the Contractor does not use RAP, the amount of asphalt binder to be mixed with the aggregate for Type A asphalt concrete will be determined by the Contractor and submitted to the Engineer for approval in accordance with California Test 367 (except Open Graded asphalt concrete) or California Test 368 for Open Graded asphalt concrete using the samples of aggregates furnished by the Contractor in conformance with Section 39-2.01A(4), "Quality Assurance," of the Standard Specifications.
6. If the Contractor uses RAP, the amount of asphalt binder to be mixed with the combined virgin aggregate and RAP will be determined by the Contractor and submitted to the Engineer for approval in accordance with California Test 367 amended by Lab Procedure-9 (LP-9). LP-9 is available at:

<http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmlab.htm>

Whenever in Lab Procedure-9 the terms “Hot Mix Asphalt” and “HMA” are used, they shall be understood to mean and refer to “Asphalt Concrete” and “AC” respectively.

At least 5 days before starting production of asphalt concrete using RAP, the Contractor shall submit a proposed asphalt concrete mix design in writing to the Engineer.

Replace The First Paragraph of Section 39-2.01A(3)(d) “Test Results”, with:

For mix design, JMF verification, production start-up, and each 10,000 tons, submit AASHTO T 283 and AASHTO T 324 (Modified) test results electronically to the Engineer.

Add The Following as the First Paragraph of Section 39-2.01A(4)(b) “Job Mix Formula Verification”, with:

At the Engineer’s sole discretion, the Engineer may choose to verify the full Job Mix Formula (JMF), or any portion thereof, or accept the Contractors submitted test results in lieu of verification testing in accordance with the following sections. In any case, this verification will serve the purposes of this project alone, and shall not be used for any other project.

Remove the paragraphs of Section 39-2.01A(4)(b) “Job Mix Formula Verification”, as follows:

Paragraph 9; which starts “You may adjust...”

Paragraph 10; which starts “For each HMA type...”

Paragraph 11; which starts “A verified JMF...”

Replace Section 39-2.01A(4)(d) “Job Mix Formula Renewal”, with:

39-2.01A(4)(d) Reserved

Replace Section 39-2.01A(4)(e) “Job Mix Formula Modification”, with:

39-2.01A(4)(e) Reserved

Replace Section 39-2.01D “Payment” with:

39-2.01D Payment

Replace the second paragraph of Section 39-2.02A(1) “Summary”, as follows:

You may, by written request separate from the Job Mix Formula (JMF) submittal, request the Engineer allow you to use a Warm Mix Asphalt (WMA) Technology.

Remove the first paragraph and table of Section 39-2.02B(4)(b) “Aggregate Gradations”.

Remove the second paragraph and table of Section 39-2.02C “Aggregate Gradations”.

A prime/tack coat is required:

a) Prime Coat shall be applied to the base prior to placing the Hot Mix Asphalt. Prime Coat shall be e-prime or approved equal and will be spread at a rate of 0.15 to 0.35 gal/sy, as directed by the Engineer.

b) Tack coat shall be applied to existing pavement including planed surfaces, between layers of HMA and vertical surfaces of curbs, gutters, and construction joints. Tack coat must comply with the specifications for asphaltic emulsion in 2015 Caltrans Standard Specifications Section 94, "Asphaltic Emulsion," or asphalt binder in Section 92, "Asphalt Binders." Tack coat shall be spread at a rate of 0.02 to 0.10 gal/sy, as directed by the Engineer.

The price paid for asphalt concrete shall include all costs for prime or tack coat(s) applied to all edges and between layers of asphalt concrete paving or overlay.

Additional asphalt concrete surfacing material shall be placed along the edge of the surfacing at road connections and private drives, hand raked, if necessary, and compacted to form smooth connecting surfaces. Full compensation for furnishing all labor and tools and doing all the work necessary to hand rake said connecting surfaces shall be considered as included in the contract prices paid per ton for the various contract items of asphalt concrete surfacing involved and no additional compensation will be allowed therefor.

Replace Section 39-2.02D "Payment" with:

Quantities of asphalt concrete with/without RAP, will be paid for at the contract unit price per **TON** for **Apply Tack Coat and Construct 0.10' Type A, 3/8-inch Aggregate Gradation, PG 64-10 PM; Asphalt Concrete Leveling Course (Type A, 3/8" Aggregate Gradation, PG 64-10 HMA); and Asphalt Concrete (Type A, 1" Aggregate Gradation, PG 64-28 PM HMA)** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing asphalt concrete complete in place, as shown on the plans, and as specified in the Standard Specifications, these special provisions, and as directed by the Engineer.

d. Delete entire Section 10-1.16 Rubberized Asphalt Concrete (Type G) and **Replace** with:

10-1.16 RUBBERIZED ASPHALT CONCRETE (TYPE G)

Rubberized asphalt concrete shall be Type G and shall conform to the provisions in Section 39-2.03, "Hot Mix Asphalt," of the 2015 Standard Specifications and these special provisions.

The rubberized asphalt concrete shall conform to the following requirements:

1. Rubberized asphalt concrete shall be produced at a central mixing plant using Crumb Rubber Modifier. Terminal Blend is not allowed.
2. RAP material shall not be used.
3. The aggregate for rubberized asphalt concrete shall conform to the (Type G, 3/4" Inch as specified in the plans and bid sheet) grading specified in Section 39-2.03B(4)(b), "Aggregate Gradations," of the Standard Specifications.
4. The aggregate for rubberized asphalt concrete shall conform to the (Type G, 1/2" Inch as specified in the plans and bid sheet) grading specified in Section 39-2.03B(4)(b), "Aggregate Gradations," of the Standard Specifications
5. The asphalt binder grade shall be PG 64-16.

6. The terms "Hot Mix Asphalt" and "HMA" are used, they shall be understood to mean and refer to "Asphalt Concrete" and "AC" respectively

Additional asphalt concrete surfacing material shall be placed along the edge of the surfacing at road connections and private drives, hand raked, if necessary, and compacted to form smooth connecting surfaces. Full compensation for furnishing all labor and tools and doing all the work necessary to hand rake said connecting surfaces shall be considered as included in the contract prices paid per ton for the various contract items of asphalt concrete surfacing involved and no additional compensation will be allowed therefor.

Immediately in advance of applying paint binder, the roadway shall be free of moisture, loose or extraneous material and the cost of said work shall be considered as included in the contract price per ton for the asphalt concrete involved and no additional compensation will be allowed therefor.

A Tack Coat/Prime Coat is required.

The price paid for rubberized asphalt concrete will include all costs for tack coat(s) applied to all edges and between layers of asphalt concrete paving or overlay.

In order to preserve the structural integrity of the road, public safety and convenience, the Contractor shall overlay all feathered, milled or cold planed areas or sections of the road immediately within seven (7) working days, as shown on the plans, and as directed by the Engineer.

Quantities of rubberized asphalt concrete will be paid for at the contract price per **Ton (TON)** for **Rubberized Asphalt Concrete (Type G, 3/4" Aggregate Gradation, PG 64-16 RHMA)** and **Rubberized Asphalt Concrete (Type G, 1/2" Aggregate Gradation, PG 64-16 RHMA)** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing rubberized asphalt concrete, complete in place, as shown on the plans, and as specified in the Standard Specifications, these special provisions, and as directed by the Engineer.

e. Delete entire Section 10-1.17 Crack Seal and Apply Seal Master and **Replace** with:

10-1.17 CRACK SEAL AND APPLY SEAL COAT

Treat cracks from 1/4" to 1.5" in width for the entire length of the crack. Fill or repair cracks wider than 1.5" is included in the scope of work.

For a traffic lane adjacent to a shoulder, treat cracks on the shoulder.

If in the event, severe cracks in the existing asphalt concrete surfacing were found on the paved traffic lanes and shoulders that are **1/4" (0.25") wide to 1.5" in width** shall be prepared and filled with crack sealant in accordance with these special provisions.

Cracks which are greater than 1.5" in width and potholes in the existing surface shall be filled with 3/8" max., HMA.

MATERIALS

The modified asphalt crack sealant shall be a mixture of paving asphalt and ground rubber or ground rubber and polymer. The gradation of the ground rubber shall be such that 100 percent will pass a 2.36-mm (No.8) sieve. The modified asphalt crack sealant shall conform to the following requirements:

Test	ASTM Designation	Requirements
Softening Point	D 36	82°C min.
Cone Penetration @ 25°C	D 3407	30 dmm min.
Resilience @ 25°C	D 3407	40 percent min.
Flow	D 3407	3 mm max.

The modified asphalt crack sealant material shall be furnished premixed in containers with an inside liner of polyethylene. Packaged material shall not exceed 60 pounds. The modified asphalt crack sealant material shall be capable of being melted and applied to cracks at temperatures below 204°C. When heated, it shall readily penetrate cracks ¼" wide or wider.

The Contractor shall provide the Engineer with a Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificate of Compliance," of the Standard Specifications with each shipment of crack sealant. Said certificate shall also certify that the sealant complies with the specifications and shall be accompanied with storage and heating instructions and cautions for the material.

PREPARATION

Cracks to be filled, potholes to be repaired, and adjacent asphalt concrete surfacing shall be cleaned and shall be free of dirt, vegetation, debris and loose sealant. A weed-killer/soil sterilant shall be applied. Cleaning shall be done by air blasting. Old sealant that protrudes above the asphalt concrete surfacing shall be completely removed. Routing will not be required. Hot compressed air or other means, approved by the Engineer, shall be used to clean and dry the crack immediately prior to application of material. When moisture is present, hot compressed air or other means, approved by the Engineer, shall be used to clean and dry the crack immediately prior to application of material.

APPLICATION

The crack sealant material shall be applied only after the cracks and adjacent asphalt concrete surfacing have been cleaned. Crack sealant material shall be spread with any type nozzle or device approved for use by the Engineer that will place the material within the specified temperature range

and to the dimensions shown on the plans. All cracks shall be squeegeed when necessary after application of the crack sealant material.

The finished sealant material placed shall be flush with the existing roadway surface. Within 2 days after application of sealant, sealed cracks that reopen or in which the sealant material sags below the surrounding asphalt concrete surfacing and shoulders shall be resealed.

The curing time shall be per manufacturer's recommendation.

If the Contractor is delayed in the completion of the contract work as a direct result of the work.

The payment of quantity for crack treatment is the length of measured in lane lines along the edge of each paved lane parallel to the pavement's centerline.

Material for applying Crack Seal shall comply with Liquid Road Crack Master or approved equal.

Material for applying 2 Coats Seal Coat and 3 Coats Seal Coat shall comply with Liquid Road Seal Master or approved equal.

The contract **Lump Sum** price paid for **Apply Crack Seal/Crack Fill** shall include full compensation for furnishing all labor, materials, including asphalt concrete for repairs, tools, equipment and incidentals, and for doing all the work involved in cleaning, repairing and preparing the surfaces; and constructing, maintaining, removing and disposing of temporary transitions, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The contract price paid per **Square Yard** for **Apply 2 Coats of Liquid Road by Seal Master or approved equal**, and **Apply 3 Coats Liquid Road by Seal Master or approved equal** shall include full compensation for furnishing all labor, materials, including asphalt concrete for repairs, tools, equipment and incidentals, and for doing all the work involved in cleaning, repairing and preparing the surfaces; and constructing, maintaining, removing and disposing of temporary transitions, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

LIQUID ROAD SEAL MASTER

PRODUCT DESCRIPTION

Liquid Road Crack Coat for Roads is a polymer-modified, fiber-reinforced asphalt emulsion coating that is job-mixed with specially graded aggregate and applied to pavement surfaces. The result is a highly durable, slip-resistant surface treatment that greatly extends pavement service life. Liquid Road meets ASTM D8099/ D8099M-17 Standard Specifications for Asphalt Emulsion Pavement Sealer.

RECOMMENDED USES

Liquid Road Crack Coat is a hot-applied polymer-modified asphalt mixed with specially designed aggregate and modifier combinations that is chosen to properly fill wide cracks and defects, thus allowing for the prevention of water infiltration while restoring and improving traffic quality.

ESTIMATING MATERIAL REQUIREMENTS

For road application, one gallon of Liquid Road will cover approximately 24-30 square feet (2.66-3.33 square yards) per coat when properly mixed and applied.

APPLICATION RATE OF MIXED MATERIALS

Apply properly mixed Liquid Road (Liquid Road and Aggregate) at a rate of 20-25 square feet (2.22-2.77 square yards) per gallon per coat. Application rates may vary due to pavement porosity and method of application. Multi-coat application is recommended for optimum durability (See APPLICATION PROCEDURES below.)

Table 1 - Physical Properties of Liquid Road as Supplied Without Sand		
ASTM	Test Description	Result
D5	Penetration of Bituminous Materials-Base Asphalt	12-45 Pen
D6937	Density of Emulsified Asphalt	1,000 -1300 g/l
D6930	Settlement and Storage Stability of Emulsified Asphalts	20% max./24 hr.
D113	Ductility of Bituminous Materials-Base Asphalt	5-15 cm
Std. %	Percent Polymer Solids to Asphalt by wt.	3% min.
E70	PH of Aqueous Solutions with Glass Electrodes	6-10 PH
D6378	Vapor Pressure (VPX), mm Hg @ 25° C (77° F)	22-26 mm Hg
D36	Softening Point of Emulsion Residue (Ring and Ball Apparatus)	> 200° F
Table 1 - Continued		
D562	Viscosity using a Stormer-Type Viscometer	60-110 KU
D4060	Abrasion Resistance- Taber Abraser Dry Method	< 1% Loss
D522	Mandrel Bend Test of Attached Coatings	No Cracking
D870	Water Resistance of Coatings using Water	No

	Immersion	Delamination
D6904	Resistance to Wind-Driven Rain	No Delamination
D4585	Water Resistance of Coatings Using Controlled Condensation	No Delamination
D1735	Water Resistance of Coatings Using Water Fog Apparatus	No Delamination
D2247	Water Resistance of Coatings in 100% Relative Humidity	No Delamination
D4541	Adhesion Strength over Asphalt Pavement	> 200 PSI
D3910-6.4	Wet Track Abrasion Test	< 15 g/ft ² Loss
D2939-5	Uniformity of Emulsified Bituminous Coatings	PASS
D2939-7	Weight per Gallon	9-11 lbs./gal
D2939-8	Residue by Evaporation, %	40-60%
D2939-13	Drying Time- 50% humidity, 73.4 ± 3.6°F	2-6 hrs.
D2939-14	Resistance to Heat- No Blistering, sagging or slipping	PASS
D2939-15	Resistance to water- No softening, delamination or re-emulsification	PASS
D2939-16	Flexibility- No Cracking or Delamination	PASS
D2939-26	Resistance to Impact- No Chipping, Cracking or Delamination	PASS
D2939-27	Resistance to Impact After Accelerated Weathering	PASS
D2172	Asphalt Content by Weight, %	Min. 16%
D4799	QUV UV Aging-1,000 Hours	No Color Fade

D3359	Measuring Adhesion by Tape- No More than a Trace of Peeling	PASS
Volatile Organic Compounds	Determination of Volatile Organic Compounds (VOC) in various Coatings	< 10 g/l
PAH Content (Percentage)	Polycyclic Aromatic Hydrocarbon Content (Percentage)	Less than one-tenth of 1% (< .10%)
D2939-22	Wet Film Continuity	PASS
D95	Water Content %	40-60%
D2939-10	Ash Content of Residue, %	40-65%

Table 2 - Physical Properties Of Liquid Road Job-Mixed With Specified Aggregate And Ready For Road Application (See Table 3 For Aggregate Specifications)		
ASTM	Test Description	Result
D2939-8	Residue by Evaporation, %	45-65%
E303	Measuring Surface Frictional Properties- British Pendulum Tester	Min. 70 BPN
E274	Locked Wheel Skid Testing	> 30 SN
D4060	Abrasion Resistance- Taber Abraser Dry Method	< 1% Loss
D3910-6.4	Wet Track Abrasion Test	< 25 g/ft ² Loss
D5	Penetration of Bituminous Materials-Base Asphalt	12-45 Pen
D113	Ductility of Bituminous Materials-Base Asphalt	5-15 cm
Std. %	Percent Polymer Solids to Asphalt by wt.	3% min.
E70	PH of Aqueous Solutions with Glass Electrodes	6-10 PH
D6378	Vapor Pressure (VPX), mm Hg @ 25° C (77° F)	22-26 mm Hg

D36	Softening Point of Emulsion Residue (Ring and Ball Apparatus)	> 200° F
D562	Viscosity using a Stormer-Type Viscometer	60-110 KU
D870	Water Resistance of Coatings using Water Immersion	No Delamination
D6904	Resistance to Wind-Driven Rain	No Delamination
D4585	Water Resistance of Coatings Using Controlled Condensation	No Delamination
D1735	Water Resistance of Coatings Using Water Fog Apparatus	No Delamination
D2247	Water Resistance of Coatings in 100% Relative Humidity	No Delamination
D4541	Adhesion Strength over Asphalt Pavement	> 200 PSI
D2939-7	Weight per Gallon	10-12 lbs./gal
D2939-13	Drying Time- 50% humidity, 73.4 ± 3.6°F	2-6 hrs.
D2939-5	Uniformity of Emulsified Bituminous Coatings	PASS
D2939-22	Wet Film Continuity	PASS
D95	Water Content %	35-55%
D2939-10	Ash Content of Residue, %	60-75%
D2939-14	Resistance to Heat- No Blistering, sagging or slipping	PASS
D2939-15	Resistance to water- No softening, delamination or re-emulsification	PASS
D2939-16	Flexibility- No Cracking or Delamination	PASS
D2939-26	Resistance to Impact- No Chipping, Cracking or Delamination	PASS

D2939-27	Resistance to Impact After Accelerated Weathering	PASS
D4799	QUV UV Aging-1,000 Hours	No Color Fade
D3359	Measuring Adhesion by Tape- No More than a Trace of Peeling	PASS
Volatile Organic Compounds	Determination of Volatile Organic Compounds (VOC) in various Coatings	< 10 g/l
D2939-26	Resistance to Impact- No Chipping, Cracking or Delamination	PASS
D2939-27	Resistance to Impact After Accelerated Weathering	PASS
D4799	QUV UV Aging-1,000 Hours	No Color Fade
D3359	Measuring Adhesion by Tape- No More than a Trace of Peeling	PASS
SCAQMD Method 304	Determination of Volatile Organic Compounds (VOC) in various Coatings	< 50 g/l

SURFACE PREPARATIONS

Surface must be clean and free from loose material and dirt. Cracks should be filled with SealMaster Cold Pour or Hot-Applied Crack Filler. On extremely weathered and oxidized pavement surfaces, tack coating (priming) may be beneficial. Tack coat shall consist of diluted SealMaster Asphalt Binder, SS1h or CSS1h. Dilute 1 part Asphalt Binder, SS1h or CSS1h with 4 parts water. Apply diluted material at a rate of .05 to .10 gallon per square yard. Allow tack coat to dry thoroughly before applying Liquid Road.

APPLICATION EQUIPMENT

Liquid Road for Roads shall be applied by mechanical squeegee and or brush equipment. Equipment shall have continuous agitation or mixing capabilities to maintain homogenous consistency of Liquid Road and Aggregate mixture throughout the application process. Truck mount or self-propelled squeegee/brush equipment shall have at least 2 squeegee or brush devices (one behind the other) to assure adequate distribution and penetration of Liquid Road into bituminous pavement. Hand squeegees and brushes shall be acceptable in areas where practicality prohibits the use of mechanized equipment.

Table 3 - Liquid Road Aggregate Specifications For Road Application			
Mesh-Sieve (ASTM E11)	Size	Typical Retained Individual Sieves %	Mean On
No. 8 Mesh (2.38 mm)		-0-	
No. 10 Mesh (2.00 mm)		0-5%	
No. 12 Mesh (1.68 mm)		2-10%	
No. 16 Mesh (1.19 mm)		30-60%	
No. 20 Mesh (.841 mm)		20-50%	
No. 30 Mesh (.595 mm)		2-10%	
No. 40 Mesh (.420 mm)		1-5%	
No. 50 Mesh (.297 mm)		1-5%	
No. 70 Mesh (.210 mm)		1-5%	
No. 100 Mesh (.149 mm)		0-5%	
Sand or Aggregate shall have a typical AFS of 11-15 Mesh			

MIXING PROCEDURES

For application on roads mix Liquid Road in accordance with the following mix design (based on 100 gallons of Liquid Road for ease of calculation):

- Liquid Road..... 100 gallons
- Sand (11-15 mesh).....400 lbs.

NOTE: See Table 3 – Liquid Road Aggregate Specification for Road Application

APPLICATION PROCEDURES

To achieve optimum performance and the desired results for Liquid Road it is important to follow proper application procedures.

- 1.) Apply first squeegee/brush coat of mixed Liquid Road at a rate of 20-25 square feet (2.22-2.77 square yards) per gallon. Allow first coat to dry thoroughly before applying second coat.

2.) Apply second squeegee/brush coat of mixed Liquid Road at a rate of 20-25 square feet (2.22-2.77 square yards) per gallon. Allow second coat to dry thoroughly before opening to traffic.

CAUTIONS

Both surface and ambient temperature shall be a minimum of 50°F and rising during Liquid Road application. Do not apply if temperature is expected to drop below 50°F within a 24 hour period after Liquid Road application.

LIQUID ROAD CRACK MASTER

PRODUCT DESCRIPTION

CrackMaster Mastic Roads is a hot-applied polymer modified asphalt mixed with specially designed aggregate and modifier combinations that is chosen to properly fill wide cracks and defects, thus allowing for prevention of water infiltration while restoring and improving traffic quality.

RECOMMENDED USES

CrackMaster Mastic Roads is designed as a long-term repair solution for wide thermal cracks, fatigue cracking, rutting and depressed, broken-up areas. CrackMaster Mastic Roads can be used on streets & roads in all climates.

PERFORMANCE CHARACTERISTICS

Table 1 - Physical Properties Of CrackMaster Mastic Roads		
ASTM	Test Description	Result
D5329	Cone Penetration 77°F (150G/5s)	60 Max
D36	Softening Point	200°F Min
D3111	Flexibility 1" Mandrel: 90° bend 2s	Pass 20°F (7°C)
D5329	Tensile Adhesion: 77°F/25°C	400% min
D5329	Resilience: 77°F/25°C	40% min
	Asphalt Compatibility	Compatible
	Recommended Application Temp	380°F
	Maximum Heating Temp	400°F

SPECIFICATIONS

ASTM-D8260-20

USAGE GUIDELINES

Read and follow application instructions before use. This product must be heated using indirect heating methods, either a double boiler or hot oil circulating kettle. Equipment must be capable of maintaining constant agitation to the material to keep aggregate suspended evenly.

SURFACE PREPARATIONS

Proper surface preparation facilitates adequate adhesion and consequently the maximum life of the mastic sealant. In order for proper adhesion, the crack/ joint must be free of moisture, dust, loose aggregate, and other contaminants. The substrate and air temperatures must be 40°F or above and rising. Use oil- free compressed air and heat to clean and dry the joint immediately prior to sealing.

MELTING AND APPLICATION PROCEDURES

The melting kettle should be a double boiler or conventional oil jacketed unit equipped with an agitator and temperature control devices for both the material and heat transfer oil. Carefully insert small quantities of CrackMaster Mastic Roads into the melting equipment while the agitator is turned off. Load material slowly to avoid splash back. After the initial load has reached the recommended pouring temperature, fresh material may be added to the melter as required. Melt only the material that will be used during that day. Purge material remaining in the kettle lines at the end of each sealing operation. The material may be safely reheated and can be applied using a pressure feed wand system or a pour pot.

PACKAGING AND AVAILABILITY

CrackMaster Mastic Roads is packed in 40 lb. polybags in a high-strength corrugated box. Each pallet contains 56 boxes of approximately 2,240 pounds.

3. PROPOSAL PAGES

- a. **Delete** pages Sheet P-4 and P-5 in the Proposal Pages and **Replace** with Revised proposal pages Addendum No. 1 P-4 and P-5. **(Attachment #1)**

Amend the Project Plans as follows:

1. **Delete** entire Plan Set and **Replace** with:
Revised Addendum No.1 Plan Set. **(Attachment #2)**


Make the following information available for bidders:

Attachments:

- Attachments #1: Revised Proposal Pages Addendum No.1 P-4 & P-5
- Attachments #2: Revised Addendum No.1 Plan Set

The addition of these requirements shall be considered in concert with existing documents in preparation of bids. **THE BIDDER'S CERTIFICATION FOR THIS ADDENDUM NO. 1 SHALL BE SIGNED BY THE SAME PERSON WHO SIGNS THE PROPOSAL AND SHALL BE SUBMITTED WITH THE PROPOSAL. ANY proposal not accompanied by a signed BIDDER'S CERTIFICATION (below) acknowledging receipt of this Addendum No. 1 will NOT be accepted.**

Noel Castillo, Director
Department of Public Works

By: 
Andy Silao, P.E., Chief
Contracts Division

AS:mb

BIDDER'S CERTIFICATION:

By my signature hereunder, I acknowledge receipt of Addendum No. 1 and I fully understand the intent and detail of Addendum No. 1, which I have considered in my preparation of the attached proposal.

Bidder's Signature

Date

Note: The page containing the executed BIDDER'S CERTIFICATION (just this page), must be included with the proposal.