COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS

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August 17, 2009

NOTICE TO PLAN HOLDERS FOR CONSTRUCTION OF

ROADWAY & BRIDGE SURFACE PRESERVATION PROGRAM

County Project No. M09000

ADDENDUM NO. 3

I. CHANGES TO ADDENDUM NO. 2:

The following shall replace Paragraphs A and B of Addendum No. 2:

A. The following shall be added to Section **10-1.25 "POLYMER MODIFIED ASPHALT RUBBER CHIP SEAL",** page SP-58:

Rubberized Asphalt Binder for the Alternative Surface Course (1/8-inch Rubberized Asphalt Binder Chip Seal) shall be applied to the ½-inch chip seal surface at a rate of 0.20 to 0.23 gallons per square yard, as directed by the Engineer

Granulated Reclaimed Tire Rubber for RAB

The gradation of the CRM and SBS polymer for RAB binder when tested in accordance with ASTM C-136 (dry sieve only) and using a 100 gram sample, shall meet the requirements in the following table.

CRM and SBS Polymer Grading Requirements For RAB Binder		
Sieve Size	**Reclaimed Tire CRM Percent Passing**	**SBS Polymer Percent Passing**
#20	100	Per Binder Manufacturer
#30	95-100	Per Binder Manufacturer
#50	Open	Per Binder Manufacturer
#200	Open	Per Binder Manufacturer

RAB Binder

The temperature of the blended PG asphalt cement shall not be less that 375° F nor more than 450° F when the CRM and the SBS Polymer are homogenously blended and/or milled with either binder, in the field. The combined materials shall be reacted for a minimum of 120 minutes after the incorporation of all the CRM and SBS Polymer. The RAB shall meet the requirements of the following, when the reaction/interaction is complete.

Specifications Limits for RAB (Rubberized Asphalt Binder) or (PG 76-22TR "field blend")

Rotational Viscosity, 400° F (205° C) Spindle 1 @ 12 RPM: cps (ASTM D2669)	Min Max	200 900
Penetration, 77° F (25° C) lOOg / 5 sec., dmm (ASTM D5)	Min Max	40 80
Softening Point, °F (°C) (ASTM D36)	Min	140°F(60°C)
Elastic Recovery @ 77 ° F (25 ° C), 20 cm elongation, 5 cm / min., % recovery @ 2 hrs.	Min	55
Resilience, % rebound (ASTM D5329)	Min	20
Dynamic Shear (AASHTO T315)	Min	76

The percentage of Reclaimed Tire Rubber CRM shall be 7 – 12 percent by weight of the total RAB mixture, the exact CRM content shall be determined by the binder design submitted by the RAB supplier. The SBS Polymer shall be 2 – 4 percent by weight of the total RAB mixture. During RAB binder manufacture the CRM percentage shall not fluctuate by more than 1 (one) percent by weight of total RAB mixture, as determined by the original laboratory binder design.

RAB Formulation

The RAB supplier shall furnish to the Engineer within 15 days of the notice to proceed, the RAB formulations which shall contain the following information:

PG Asphalt Cement

- Source of PG Asphalt
- Grade of PG Asphalt
- Percentage of PG Asphalt by total weight of the PMAR and RAB mixture

Reclaimed Tire Rubber (CRM)

- Source of CRM
- Grade of CRM
- Percentage of CRM by total weight of the PMAR and RAB mixture

SBS Polymer

- Source of SBS Polymer
- Grade of SBS Polymer
- Percentage of SBS Polymer by total weight of the PMAR and RAB mixture

The 1/8-inch screenings shall be applied at a rate of 8 to 12 pounds per square yard, as directed by the Engineer.

SCREENINGS GRADING REQUIREMENT	
1/8 inch maximum	
Sieve Size	**Percentage Passing**
3/8	100
No. 4	95 - 100
No. 8	20 – 40
No. 16	0 – 5
No. 30	0 – 2
No. 200	0 – 1

The 1/8-inch screenings shall be porphyritic olivine basalt with a specific gravity (coarse bulk SSD) ranging from 2.6 to 2.8 California Test Method 206 as supplied by George Ried, Table Mountain Plant, Sonora California, or equal. The use of gray or light colored aggregate as part of the 1/8 inch chip seal surface course shall not be allowed.

B. "**SCREENINGS QUALITY REQUIREMENTS TABLE"** page SP – 66 of the Special Provisions is replaced with the following Table:

SCREENINGS QUALITY REQUIREMENTS		
Test Parameters	California Test	Requirements
Los Angeles Rattler Loss (100 revolutions) 1/2 Inch Screenings 1/8 Inch Screenings (Schedule D)	211	 10% max 7% max
Los Angeles Rattler Loss (500 revolutions) 1/2 Inch Screenings 1/8 Inch Screenings (Schedule D)	211	 40% max 30% max
Film Stripping	302	25 max
Cleanness Value 1/2 Inch Screening 1/8 Inch Screening	227	80 min. 88 min
Durability 1/2 Inch Screening 1/8 Inch Screening	229	52 min 76 min

Please fill out the Addendum Acknowledgement sheet on page BB-8 of the Bidder's Book verifying your receipt of this Addendum and submit with your bid.

Original Signed

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Stephen B. Urbanek, P.E.