

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
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*Flex your power!
Be energy efficient!*

November 9, 2010

03-Sac-5-0.0/17.2
03-0F5904
Project ID 0300000094
NH-0056(331)E

Addendum No. 2

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN SACRAMENTO COUNTY IN AND NEAR ELK GROVE FROM THE SAN JOAQUIN COUNTY LINE TO FLORIN ROAD OVERCROSSING.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on Wednesday, December 1, 2010.

This addendum is being issued to revise the Federal Minimum Wages with Modification Number 11 dated 11/05/2010.

This addendum is being issued to revise the Project Plans, the Notice to Bidders and Special Provisions, and the Bid book.

Project Plan Sheets 2, 3, 4, 5, 6, 7, 11, 12, 13, 29, 30, 31, 32, 33, 34, 35, 36, 37, 48, 199, 200, and 204 are revised. Copies of the revised sheets are attached for substitution for the like-numbered sheets.

In the Notice to Bidders the fourteenth paragraph is revised as follows:

"The estimated cost of the project is \$77,000,000."

In the Special Provisions, Section 10-1.35, "HOT MIX ASPHALT," is replaced with "HOT MIX ASPHALT USING WARM MIX ASPHALT TECHNOLOGIES," as attached.

In the Special Provisions, Section 10-1.36, "RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)," is replaced with "RUBBERIZED HOT MIX ASPHALT (OPEN GRADED) USING WARM MIX ASPHALT TECHNOLOGIES," as attached.

In the Special Provisions, Section 10-1.465, "GRIND AND GROOVE EXISTING CONCRETE PAVEMENT," is added as attached.

In the Special Provisions, Section 10-1.62, "MISCELLANEOUS CONCRETE CONSTRUCTION," the following paragraph is added before the third paragraph:

"The color for the minor concrete (textured paving) shall closely conform to Federal Standard Color #21433. Coloring shall be integral, chemically inert, fade resistant mineral oxide or synthetic type. Stamped concrete release agent shall have a color conforming to #16187."

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In the Bid book, in the "Bid Item List," Items 43 and 74 are revised, Items 143 through 147 are added and Items 58, 59, and 142 are deleted as attached.

To Bid book holders:

Replace pages 5, 6, and 10 of the "Bid Item List" in the Bid book with the attached revised pages 5, 6 and 10 of the Bid Item List. The revised Bid Item List is to be used in the bid.

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the Notice to Bidders section of the Notice to Bidders and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the Bid book.

Submit bids in the Bid book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This addendum, federal wage and attachments are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/03/03-0F5904

If you are not a Bid book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,



JODY JONES
District Director

Attachments

10-1.35 HOT MIX ASPHALT USING WARM MIX ASPHALT TECHNOLOGIES

GENERAL

Summary

This work includes producing and placing hot mix asphalt Type A using warm mix asphalt technologies and rubberized hot mix asphalt (gap graded) using warm mix asphalt technologies using the QC/QA process. Warm mix asphalt technologies is defined as additives or processes that allow a reduction in the temperature at which asphalt mixtures are produced and placed.

Comply with Section 39, "Hot Mix Asphalt," of the Standard Specifications.

Use one of the following warm mix asphalt additives:

Product name: Evotherm
Producer name: MeadWest Vaco Corporation
Contact: Scott Dmytrow or Wade Miller
Phone number: (916) 825 – 9415 or (949) 495 – 4822

Product name: Advera
Producer name: PQ Corporation
Contact: Annette Smith
Phone number: (610) 651 – 4469

Product name: Sasobit
Producer name: Sasol Wax Americas, Inc.
Contact: Larry Michael
Phone number: (301) 745 – 3334

Submittals

Submit information from each producer about each warm mix asphalt additive. Submit the method and location for addition of each additive.

Submit samples of loose plant-produced HMA and RHMA-G with warm mix asphalt additives. The Engineer determines the quantity and time for sampling.

Submit a list of names participating in the prepaving conference. Identify each participant's name, employer, title, and role in construction of HMA and RHMA-G with warm mix asphalt additive.

Submit the log of production data on electronic and printed media at the end of each production shift, or when requested by the Engineer. Each set of production data on electronic media must be in line feed carriage return, on one line, on a separate record, and with sufficient fields to satisfy the amount of data specified. The daily log must include:

1. Date of production
2. Time of day the data is captured
3. Data titles at least once per report
4. Aggregate size being treated
5. Flow rate of wet aggregate collected directly from the aggregate weigh belt
6. Aggregate moisture content at the time of treatment expressed as a percent of the dry aggregate
7. Calculated difference between the agreed warm mix asphalt additive ratio and the actual warm mix asphalt additive ratio

Quality Control / Quality Assurance Projects

With the job mix formula (JMF) submittal, submit:

1. California Test 204 plasticity index results for untreated HMA and RHMA-G using warm mix asphalt technologies
2. California Test 371 tensile strength ratio results for untreated HMA using warm mix asphalt technologies
3. AASHTO T 324 (Modified) test results for untreated HMA using warm mix asphalt technologies
 - a. AASHTO T 324 (Modified) is AASHTO T 324 "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)" with the following parameters:-
 - i. Target air voids = 7+/- 1%
 - ii. Number of test specimens = 2
 - iii. Test specimen = 12.5" X 10.25" slab compacted using Linear Kneading Compactor
 - iv. Test temperature = 50 +/- 1 C
 - v. Measurements: Impression at every 100 passes
 - vi. Testing shut off = 20,000 cycles
4. California Test 371 tensile strength ratio results for treated HMA using warm mix asphalt technologies if untreated HMA using warm mix asphalt technologies tensile strength ratio is below 70

With the JMF submittal, submit to the Engineer and the Transportation Laboratory, Attention: Moisture Test, samples for California Test 371 split from your mix design samples of:

1. Aggregate
2. Supplemental fines
3. Asphalt binder
4. Antistrip treatment
5. Warm mix additive

On the first production day, submit samples split from your HMA using warm mix asphalt technologies production sample for California Test 371 to the Engineer and the Transportation Laboratory, Attention: Moisture Test.

Submit the California Test 371 test results and AASHTO T 324 (Modified) for mix design and production to the Engineer and electronically to:

Moisture_Tests@dot.ca.gov

Quality Control and Assurance

For the mix design, determine the plasticity index of the aggregate blend under California Test 204. Choose an antistrip treatment and use the corresponding laboratory procedure for the mix design in compliance with:

Antistrip Treatment Lab Procedures for Mix Design

Antistrip Treatment	Lab Procedure
Plasticity index from 4 to 10^{a, b}	
Dry hydrated lime with marination	LP-6
Lime slurry with marination	LP-7
Plasticity index less than 4	
Liquid	LP-5
Dry hydrated lime without marination	LP-6
Dry hydrated lime with marination	LP-6
Lime slurry with marination	LP-7

Notes:

^a If the plasticity index is greater than 10, do not use that aggregate blend.

^b If the plasticity index is from 4 to 10, use dry hydrated lime with marination or lime slurry with marination.

For the mix design, determine tensile strength ratio under California Test 371 on untreated HMA using warm mix asphalt technologies. If the tensile strength ratio is less than 70:

1. Choose from the antistrip treatments specified based on plasticity index.
2. Test treated HMA using warm mix asphalt technologies under California Test 371.
3. Treat to a minimum tensile strength ratio of 70.

On the first production day and at least every 5,000 tons, sample HMA using warm mix asphalt technologies and test under California Test 371 and AASHTO T 324 (Modified).

The Department does not use California Test 371 or AASHTO T 324 (Modified) test results for JMF verification and production to determine specification compliance.

General

During production, make loose HMA using warm mix asphalt technologies and RHMA-G using warm mix asphalt technologies available at the plant for sampling. The Engineer determines the quantity and time for sampling.

Prepaving conference

Discuss HMA using warm mix asphalt technologies and RHMA-G using warm mix asphalt technologies at the prepaving conference. Discuss the methods for production and placement including contingency planning and standards or workmanship.

Provide the facility for the prepaving conference. Attendees must include:

1. Project Manager
2. Superintendent
3. Technical representatives from each warm mix additive company
4. Paving subcontractors
5. Asphalt rubber binder supplier
6. Plant manager
7. Plant operator

Technical Representatives

A technical representative from the warm mix asphalt additive supplier must be present during production and placement of HMA using warm mix asphalt technologies and RHMA-G using warm mix asphalt technologies. The technical representative must advise you, the Engineer. The technical representative must direct the mix operation as it relates to the warm mix asphalt additive.

The technical representative must advise the producer regarding plant and controller modifications necessary for product delivery and proper mixing. Plant modifications must comply with California MPQP

California MPQP

Review the plant to assure compliance with weights and measures under California MPQP within 30 days before production of HMA using warm mix asphalt technologies.

Data Collection

The device controlling warm mix asphalt additive proportioning must produce a log of production data. The log must be a series of data captured at 1-minute intervals during production. Each 1-minute data set must register the production activity for that minute and not be a summation of the preceding minute. Each 1-minute data set represents an amount of material produced 5 minutes before and 5 minutes after the capture time. Store collected data with the plant control device while the contract is in progress.

MATERIALS

Asphalt Binder

The grade of asphalt binder mixed with aggregate for HMA using warm mix asphalt technologies Type A and RHMA-G using warm mix asphalt technologies must be PG 64-10.

Aggregate

The aggregate for HMA using warm mix asphalt technologies Type A and RHMA-G using warm mix asphalt technologies must comply with the 3/4-inch grading.

CONSTRUCTION

Proportioning Warm Mix Asphalt Additives

General

Proportion warm mix asphalt additives by weight. Use either a continuous or batch type plant.

Continuous Mixing

If continuous proportioning for HMA and RHMA-G with warm mix asphalt additive is used, determine the exact ratio of warm mix asphalt additive to the total HMA and RHMA-G at the production rates to be used. Rate-of-flow indicators and totalizers for like materials must be accurate within 0.5 percent from each other. Comply with the following:

1. Weigh dry warm mix asphalt additives with a belt scale or loss in weight feeder. If operating from 30 to 100 percent of production capacity, the average difference between the indicated weight of material delivered and the actual weight delivered must not exceed 2.0 percent of the actual weight for 3 individual runs. For any of the 3 individual runs, the indicated weight of material delivered must not vary from the actual weight delivered by more than 3.0 percent of the actual weight. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Each test run must be at least 100 pounds of warm mix asphalt additive.

The addition device must rest on either level concrete pads and or level steel plates. The steel plates must be 1.5 inch thick and be no smaller than 20 inches width and height

2. Measure emulsified warm mix asphalt additive with a meter. If operating from 50 to 100 percent of production capacity, the difference between the indicated weight of emulsion delivered and the actual weight delivered must not exceed 1.0 percent of the actual weight for 3 individual runs. Weigh tests on a platform scale located at the proportioning plant. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Run tests for at least 300 lbs of emulsified warm mix asphalt additive.

Batch Mixing

If batch proportioning for HMA and RHMA-G with warm mix asphalt additive is used, comply with the following:

1. Proportion dry warm mix asphalt additives by weight. Weigh the additive at the warm mix asphalt production site with a scale appropriate for the amount of additive weighed. If batches use dry warm mix additive weighing less than 1 ton, use an automatic batch controller. Run tests for at least 100 pounds of dry warm mix asphalt additives.
2. Measure emulsified warm mix asphalt additive with a meter. If operating from 50 to 100 percent of production capacity, the difference between the indicated weight of emulsion delivered and the actual weight delivered must not exceed 1.0 percent of the actual weight for 3 individual runs. Weigh tests on a platform scale located at the proportioning plant. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Run tests for at least 300 gallons of emulsified warm mix asphalt additive.

HMA-W and RHMA-W-G Production, Transporting, Spreading and Compacting

Produce an asphalt mixture within the temperature range of 285°F and 310 °F.

HMA using warm mix asphalt technologies and RHMA-G using warm mix asphalt technologies temperature does not fall below 240 °F in the windrow

PAYMENT

The contract prices paid per ton for hot mix asphalt and rubberized hot mix asphalt (gap graded) using warm mix asphalt technologies as designated in the Engineer's Estimate include full compensation for furnishing all labor, materials, tools, equipment, warm mix additives and technical representation and incidentals for doing all the work involved in constructing hot mix asphalt and rubberized hot mix asphalt (gap graded) using warm mix asphalt technologies complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

10-1.36 RUBBERIZED HOT MIX ASPHALT (OPEN GRADED) USING WARM MIX ASPHALT TECHNOLOGIES GENERAL

Summary

This work includes producing and placing rubberized hot mix asphalt (open graded) (RHMA-O) using warm mix asphalt technologies using the Method process. Warm mix asphalt technologies is defined as additives or processes that allow a reduction in the temperature at which asphalt mixtures are produced and placed.

Comply with Section 39, "Hot Mix Asphalt," of the Standard Specifications.

Use the following warm mix asphalt additives:

Product name: Evotherm
Producer name: MeadWest Vaco Corporation
Contact: Scott Dmytrow or Wade Miller
Phone number: (916) 825 – 9415 or (949) 495 – 4822

Product name: Advera
Producer name: PQ Corporation
Contact: Annette Smith
Phone number: (610) 651 – 4469

Product name: Sasobit
Producer name: Sasol Wax Americas, Inc.
Contact: Larry Michael
Phone number: (301) 745 – 3334

Submittals

Submit information from each producer about each warm mix asphalt additive. Submit the method and location for addition of each additive.

Submit samples of loose plant-produced RHMA- O with warm mix asphalt additives. The Engineer determines the quantity and time for sampling.

Submit a list of names participating in the paving conference. Identify each participant's name, employer, title, and role in construction of RHMA-O with warm mix asphalt additives.

Submit the log of production data on electronic and printed media at the end of each production shift, or when requested by the Engineer. Each set of production data on electronic media must be in line feed carriage return, on one line, on a separate record, and with sufficient fields to satisfy the amount of data specified. The daily log must include:

1. Date of production
2. Time of day the data is captured
3. Data titles at least once per report
4. Aggregate size being treated
5. Flow rate of wet aggregate collected directly from the aggregate weigh belt
6. Aggregate moisture content at the time of treatment expressed as a percent of the dry aggregate
7. Calculated difference between the agreed warm mix asphalt additive ratio and the actual warm mix asphalt additive ratio

Quality Control and Assurance

Do not test RHMA-O using warm mix asphalt technologies aggregate for tensile strength ratio.

MATERIALS

Asphalt binder mixed with asphalt modifier and crumb rubber modifier (CRM) for asphalt rubber binder must be PG 64-10.

The aggregate for RHMA-O using warm mix asphalt technologies must comply with the ½-inch grading.

The Engineer uses the following formula to determine the optimum asphalt binder content for RHMA-O using warm mix asphalt technologies:

$$OBC_2 = (OBC_1) \times (1.3 \text{ to } 1.4)$$

where:

$OBC_1 =$	Optimum bitumen content using the specified PG asphalt binder under California Test 368.
$OBC_2 =$	Optimum bitumen content using asphalt rubber binder.

CONSTRUCTION

General

During production, make loose RHMA-O using warm mix asphalt technologies available at the plant for sampling. The Engineer determines the quantity and time for sampling.

Prepaving conference

Discuss RHMA-O using warm mix asphalt technologies at the prepaving conference. Discuss the methods for production and placement including contingency planning and standards or workmanship.

Provide the facility for the prepaving conference. Attendees must include:

1. Project Manager
2. Superintendent
3. Technical representatives from each warm mix additive company
4. Paving subcontractors
5. Asphalt rubber binder supplier
6. Plant manager
7. Plant operator

Technical Representatives

A technical representative from each warm mix asphalt additive supplier must be present during production and placement of RHMA-O using warm mix asphalt technologies. The technical representative must advise you, the Engineer, and the asphalt rubber binder producer. The technical representative must direct the mix operation as it relates to the warm mix asphalt additive.

The technical representative must advise the producer regarding plant and controller modifications necessary for product delivery and proper mixing. Plant modifications must comply with California Test 109.

California Test 109

Review the plant to assure compliance with weights and measures under California Test 109 within 30 days before production of RHMA-O using warm mix asphalt technologies.

Data Collection

The device controlling warm mix asphalt additive proportioning must produce a log of production data. The log must be a series of data captured at 1-minute intervals during production. Each 1-minute data set must register the production activity for that minute and not be a summation of the preceding minute. Each 1-minute data set represents an amount of material produced 5 minutes before and 5 minutes after the capture time. Store collected data with the plant control device while the contract is in progress.

Proportioning Warm Mix Asphalt Additives

General

Proportion warm mix asphalt additives by weight. Use either a continuous or batch type plant.

Continuous Mixing

If continuous proportioning for RHMA-O with warm mix asphalt additive is used, determine the exact ratio of warm mix asphalt additive to the total RHMA-O at the production rates to be used. Rate-of-flow indicators and totalizers for like materials must be accurate within 0.5 percent from each other. Comply with the following:

1. Weigh dry warm mix asphalt additives with a belt scale or loss in weight feeder. If operating from 30 to 100 percent of production capacity, the average difference between the indicated weight of material delivered and the actual weight delivered must not exceed 1.0 percent of the actual weight for 3 individual runs. For any of the 3 individual runs, the indicated weight of material delivered must not vary from the actual weight delivered by more than 3.0 percent of the actual weight. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Each test run must be at least 100 pounds of warm mix asphalt additive.

The addition device must rest on either concrete pads and or steel plates. The steel plates must be 1.5 inch thick and be no smaller than 20 inches width and height

2. Measure emulsified warm mix asphalt additive with a meter. If operating from 50 to 100 percent of production capacity, the difference between the indicated weight of emulsion delivered and the actual weight delivered must not exceed 1.0 percent of the actual weight for 3 individual runs. Weigh tests on a platform scale located at the proportioning plant. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Run tests for at least 300 lbs of emulsified warm mix asphalt additive.

Batch Mixing

If batch proportioning for RHMA-O with warm mix asphalt additive is used, comply with the following:

1. Proportion dry warm mix asphalt additives by weight. Weigh the additive at the warm mix asphalt production site with a scale appropriate for the amount of additive weighed. If batches use dry warm mix additive weighing less than 1 ton, use an automatic batch controller. Run tests for at least 100 pounds of dry warm mix asphalt additives.
2. Measure emulsified warm mix asphalt additive with a meter. If operating from 50 to 100 percent of production capacity, the difference between the indicated weight of emulsion delivered and the actual weight delivered must not exceed 1.0 percent of the actual weight for 3 individual runs. Weigh tests on a platform scale located at the proportioning plant. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Run tests for at least 300 gallons of emulsified warm mix asphalt additive.
3. Proportioning for pre-blending the asphalt rubber binder and zeolite
 - a) Weigh dry warm mix asphalt additives with a belt scale or loss in weight feeder. If operating from 30 to 100 percent of production capacity, the average difference between the indicated weight of material delivered and the actual weight delivered must not exceed 2.0 percent of the actual weight for 3 individual runs. For any of the 3 individual runs, the indicated weight of material delivered must not vary from the actual weight delivered by more than 3.0 percent of the actual weight. The platform scale's maximum capacity must not exceed 2.5 tons with a maximum graduation size of 0.10 pound. Each test run must be at least 100 pounds of warm mix asphalt additive.

The addition device will rest on (*a smooth level surface*) either concrete pads or steel plates. The steel plates will be 1.5 inch thick and be no smaller than 20 inches width and height.

- b) The asphalt rubber binder will be measured with a mass flow meter (micromotion). The accuracy of the addition device shall be such that, when operating between 30 and 100 percent of production capacity, the average difference between the indicated weight of material delivered and the actual weight of material delivered will not exceed 1.0 percent of the actual weight for 3 individual runs. For any of the 3 individual runs, the indicated weight of material delivered shall not vary from the actual weight delivered by more than 2.0 percent of the actual weight. Test duration will be determined by the size of the flowmeter, following the CT 109 specification.

RHMA-O Production and Placement

Produce an asphalt mixture within the temperature range of 215°F and 325 °F.

For RHMA-O using warm mix asphalt technologies and

1. Only spread and compact if the atmospheric temperature is at least 50 °F and surface temperature is at least 55 °F.
2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 260 °F.
3. Complete compaction before the surface temperature drops below 180°F.
4. If the atmospheric temperature is below 70 °F, cover loads in trucks with tarpaulins. The tarpaulins must completely cover the exposed load until the mixture is transferred to the paver's hopper or to the pavement surface.

Conform Tapers

Place additional RHMA-O using warm mix asphalt technologies along the pavement's edge to conform to road connections and private drives. Hand-rake and compact the additional RHMA-O using warm mix asphalt technologies to form a smooth conform taper.

PAYMENT

The contract price paid per ton for rubberized hot mix asphalt (open graded) using warm mix asphalt technologies as designated in the Engineer's Estimate includes full compensation for furnishing all labor, materials, tools, equipment, warm mix additives and technical representation and incidentals for doing all the work involved in constructing rubberized hot mix asphalt (open graded) using warm mix asphalt technologies, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

10-1.465 GRIND AND GROOVE EXISTING CONCRETE PAVEMENT

GENERAL

Summary

This work includes preliminary grinding, secondary grinding and grooving a texture on existing concrete pavement in separate, sequential operations.

Comply with Section 42, "Groove and Grind Pavement," of the Standard Specifications.

CONSTRUCTION

Equipment

Grinding equipment must weigh a minimum 40,000 lbs, including the grinding head. The grinding head must be at least 4 foot wide.

Grinding equipment must not cause any of the following:

1. Ravels
2. Aggregate fractures
3. Spalls
4. Disturbance to transverse and longitudinal joints

Grooving equipment must have a guide to ensure proper alignment to the pavement centerline.

Test Strip

Grind and groove a single lane at least 500 feet in length to demonstrate the equipment and procedures will produce the specified surface.

After completing the test strip, do not proceed until authorized by the Engineer in writing.

Grinding and Grooving

General

Grinding and grooving must be a sequence of a preliminary grind followed by a secondary grind followed by grooving. Complete all the grinding before beginning the grooving.

Grind and groove surface must be uniform in appearance with a longitudinal grooved texture. The flush ground surface shall appear smooth and shall contain no ridges that exceed 0.03 inches.

Grind and groove in the longitudinal direction of the traveled way. Begin and end grinding and grooving at lines perpendicular to the pavement centerline.

Preliminary Grinding

Preliminary grind shall result in a parallel corduroy texture consisting of grooves 0.08-inch to 0.12-inch wide with 55 grooves to 60 grooves per foot width of grinding. Grooved ridges must not be more than 0.06- inch in height. . Remove the existing surface texture on at least 98 percent of the pavement surface area, except areas the Engineer determines are depressed due to subsidence, edge slump, or other localized causes are excluded.

Secondary Grinding

The secondary grind shall have blades mounted on a head with 0.125 inch blades arranged and separated by spacers of 0.030 inches. After secondary grinding, the surface must be uniform in appearance with no ridges exceeding 0.03 inch in height.

When mounted on the grinding machine, the grinding head must be flat across the blades with no bowing of the head.

Grinding must result in the elimination of joint or crack faults and provide lateral drainage.

After grinding, the cross slope must not deviate from the cross slope shown on the plans by more than 0.125 inch in 12 feet when measured with a 12-foot straightedge placed perpendicular to the centerline, except at longitudinal joints. Correct deviations by regrinding. Do not leave any unground areas between successive passes.

At transverse joints, the ground surface must not deviate more than 0.125 inches from the lower edge of a 12-foot straightedge laid parallel with the pavement centerline.

Grooving

Construct grooves parallel to the centerline. Grooves must be 0.125 inch wide and from 0.125 to 0.187 inch deep. The space between grooves must be 0.50 ± 0.05 inch.

Smoothness

Comply with Section 40-1.10, "Final Finishing," of the Standard Specifications. The pavement Profile Index must not be more than 25 inches per mile

MEASUREMENT

The quantity of grind and groove existing concrete pavement will be paid by multiplying the width and the length of the finished ground and grooved surface.

PAYMENT

The contract price paid per square yard for grind and groove existing concrete pavement shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in the preliminary and secondary grinding and grooving the existing concrete pavement, including removing and disposing of residue, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

BID ITEM LIST
03-0F5904

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41	152390	RELOCATE ROADSIDE SIGN	EA	16		
42	019361	MODIFY SIGN STRUCTURE (SAFETY CABLE RETROFIT)	EA	1		
43	153103	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	216,000		
44	153210	REMOVE CONCRETE	CY	62		
45	153221	REMOVE CONCRETE BARRIER	LF	1,250		
46	153235	CLEAN BRIDGE DECK	SQFT	16,286		
47	155003	CAP INLET	EA	13		
48	160101	CLEARING AND GRUBBING	LS	LUMP SUM	LUMP SUM	
49	190101	ROADWAY EXCAVATION	CY	333,000		
50	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
51	193114	SAND BACKFILL	CY	69		
52	198007	IMPORTED MATERIAL (SHOULDER BACKING)	CY	13,200		
53	203032	EROSION CONTROL (HYDROSEED) (ACRE)	ACRE	6.6		
54	250201	CLASS 2 AGGREGATE SUBBASE	CY	8,790		
55	260201	CLASS 2 AGGREGATE BASE	CY	293,000		
56	260210	AGGREGATE BASE (APPROACH SLAB)	CY	92		
57	280000	LEAN CONCRETE BASE	CY	470		
58	BLANK					
59	BLANK					
60	391007	PAVING ASPHALT (BINDER, GEOSYNTHETIC PAVEMENT INTERLAYER)	TON	410		

BID ITEM LIST
03-0F5904

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61	393003	GEOSYNTHETIC PAVEMENT INTERLAYER	SQYD	378,000		
62	394060	DATA CORE	LS	LUMP SUM	LUMP SUM	
63	394073	PLACE HOT MIX ASPHALT DIKE (TYPE A)	LF	3,930		
64	394074	PLACE HOT MIX ASPHALT DIKE (TYPE C)	LF	75		
65	394075	PLACE HOT MIX ASPHALT DIKE (TYPE D)	LF	25		
66	394076	PLACE HOT MIX ASPHALT DIKE (TYPE E)	LF	430		
67	394077	PLACE HOT MIX ASPHALT DIKE (TYPE F)	LF	25		
68	397005	TACK COAT	TON	130		
69	401050	JOINTED PLAIN CONCRETE PAVEMENT	CY	14,600		
70	401108	REPLACE CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)	CY	7,220		
71	404092	SEAL PAVEMENT JOINT	LF	26,500		
72	406100	DOWEL BAR RETROFIT	EA	20,200		
73	415101	CRACK EXISTING CONCRETE PAVEMENT	SQYD	316,000		
74	420201	GRIND EXISTING CONCRETE PAVEMENT	SQYD	76,000		
75	510087	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	CY	904		
76 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	CY	37		
77	510526	MINOR CONCRETE (BACKFILL)	CY	420		
78	510800	PAVING NOTCH EXTENSION	CF	810		
79	511118	CLEAN EXPANSION JOINT	LF	420		
80	519088	JOINT SEAL (MR 1")	LF	932		

BID ITEM LIST
03-0F5904

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
141	019369	MODIFY TRAFFIC OPERATION SYSTEM	LS	LUMP SUM	LUMP SUM	
142		BLANK				
143	390132A	HOT MIX ASPHALT USING WARM MIX ASPHALT TECHNOLOGIES	TON	272,000		
144	390139A	RUBBERIZED HOT MIX ASPHALT (OPEN GRADED) USING WARM MIX ASPHALT TECHNOLOGIES	TON	27,700		
145	390140A	RUBBERIZED HOT MIX ASPHALT (GAP GRADED) USING WARM MIX ASPHALT TECHNOLOGIES	TON	124,000		
146	420205A	GRIND AND GROOVE EXISTING CONCRETE PAVEMENT	SQYD	25,300		
147	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

TOTAL BID:

\$