

**ADDENDUM 1**  
**2023 TECHNICAL SPECIFICATIONS**  
**UPDATES**  
**Summary of Changes**

**S-300 ASPHALTIC CONCRETE**

1. Revised the Asphalt Placement Temperature Limitations table to the following.

<b>Asphalt Placement Temperature Limitations</b>			
<b>Paving Course</b>	<b>Compacted Thickness (inches)</b>	<b>Air Temperature (°F)</b>	<b>Road Surface Temp. (°F)</b>
Surface	All	55	60
Subsurface	2	50	55
Subsurface	3	40	45
Subsurface	4	30	35

**S-300 ASPHALTIC CONCRETE:** This specification sets forth requirements for all KCMMB asphalt mixtures which include KCMMB A1, KCMMB A2, and KCMMB A3. Unless specified otherwise in the Contract Documents, KCMMB asphaltic concrete shall meet the requirements of this specification. KDOT’s 2015 Standard Specifications for State Road and Bridge Construction, Sections 109, 601, 611 (Class A), 1201, 1202, and 1203 shall govern the asphaltic concrete work except as otherwise modified herein. All testing required by this specification including mix design and field verification of the mix shall be the responsibility of the Contractor. The mix design shall be modified/redesigned and resubmitted to the Owner’s engineer whenever a material source changes, a quarry starts producing from a different geological unit, or a major change is made to the asphalt plant.

**A. MATERIALS**

1. Asphalt Cement shall conform to the requirements of the Performance Graded Asphalt Binder as listed in the table below. The grade of the asphaltic binder shall comply with Sections 1201 and 1202 of KDOT’s Standard Specifications. With approval by the Owner’s Engineer, the grade of the asphaltic binder may be changed without a laboratory redesign. Each shipment of asphalt to the asphalt plant shall have a bill of lading stating the asphalt cement meets the specifications referenced above. Copies of the bill of lading shall be submitted to the Owner’s Engineer.

Table 1: Asphalt Binder Grade Requirements			
	KCMMB A1	KCMMB A2	KCMMB A3
Performance Grade	PG 64-28	PG 58-28	PG 58-28

- a. Asphalt Mix Type Use Guidance
  - i. KCMMB A1: Surface and Intermediate asphalt on Arterials and Major Collectors.
  - ii. KCMMB A2: Surface and Intermediate asphalt on Minor Collectors and Local/Residential Streets.
  - iii. KCMMB A3: Base pavement below the top four inches of pavement. This mix type is not recommended for use as surface pavement on Arterials or Collectors.

*\*Intermediate asphalt shall be the last lift of asphalt between the Base pavement and the Surface pavement.*
- b. Asphalt Content for KCMMB asphalt mixes shall be tested in accordance with AASHTO T 164, AASHTO T 287, or AASHTO T 308. Asphalt Content for field produced asphalt shall not deviate more than  $\pm 0.3\%$  from the design asphalt content.

2. Fractionated Reclaimed Asphalt Pavement (FRAP) shall be used as an aggregate source. FRAP is Recycled Asphalt Pavement which is processed into coarse and fine fractions. The fine FRAP stockpile shall contain only material passing the ¼ inch screen. The coarse FRAP stockpile shall contain milled material retained on the ¼ inch screen and passing the ¾ inch screen. FRAP may be comprised of coarse or fine FRAP or a combination thereof. Utilize a separate cold feed bin for each stockpile of FRAP used. Do not blend coarse and fine FRAP, either in the stockpile or in a cold feed bin. Add FRAP to the mix through the RAP collar. Sources and types of FRAP shall be recorded and submitted to the Owner’s Engineer. The FRAP used in production shall be similar in composition (extracted gradation and asphalt content) to the source used for design. The maximum allowable combined percentage of FRAP by total mix weight for each KCMMB mix design is listed in the following table.

Table 4: Allowable Combined FRAP Percentage			
	KCMMB A1	KCMMB A2	KCMMB A3
Minimum FRAP by Total Mix Weight (%)	15	21	31
Maximum FRAP by Total Mix Weight (%)	20	30	40

3. Recycled Asphalt Shingles (RAS) or Reclaimed Asphalt Pavement (RAP) that contains RAS is not allowed.
4. Aggregates: The total aggregate (coarse aggregate, fine aggregate, and the material passing the No. 200 sieve) shall contain not less than 85 percent crushed material. Coarse aggregate shall be tested in accordance with KT-31, ASTM D5821, or AASHTO TP 61. Aggregate shall contain not more than 8% of flat and elongated particles by weight (5:1) as tested in accordance with ASTM D4791.
  - a. Aggregate Requirements for KCMMB Asphalt Mixes:

Table 3: Gradation Requirements for KCMMB Asphalt Mixes				
Sieve Size	KCMMB A1 KCMMB A2		KCMMB A3	
	Percent Passing 12.5 mm Nominal Size Control Points		Percent Passing 19 mm Nominal Size Control Points	
25 mm (1 in.)	-	-	-	100
19 mm (3/4 in.)	-	100	90	100
12.5 mm (1/2 in.)	90	100	84	100
9.5 mm (3/8 in.)	75	90	70	80
4.75 mm (No. 4)	-	-	44	65
2.36 mm (No. 8)	34	48	27	52
1.18 mm (No. 16)	-	-	15	40
600 µm (No. 30)	-	-	8	27
300 µm (No. 50)	-	-	3	16
150 µm (No. 100)	-	-	2	10
75 µm (No. 200)	2	8	2	10

- i. The exact gradation shall be determined by the Contractor's laboratory.
- ii. KCMMB A1 mixes shall meet the following minimum requirement. Fifteen percent of the minus No. 4 sieve material and 15 percent of the total aggregate shall be chat, crushed sandstone, crushed gravel, crushed steel slag, or crushed porphyry (rhyolite, basalt, granite, and Iron Mountain Trap Rock are examples of crushed porphyry).

5. Superpave Asphaltic Concrete Mix Design Method:

Table 5: Superpave Design and Testing Properties			
	KCMMB A1	KCMMB A2	KCMMB A3
$N_{initial}$ (gyrations)	6	6	6
$N_{design}$ (gyrations)	60	60	60
$G_{mm}$ at $N_{ini}$ (%)	85 – 91	85 – 91	85 – 91
Design Air Voids (%)	3.7	3.4	3.2
Allowable Air Voids (%)	3.2 - 4.5	2.9 - 4.2	2.7 – 4.0
<sup>1</sup> VEA (%)	10.3	10.6	10.8
Dust to Binder Ratio (%)	0.5 - 1.4	0.5 - 1.5	0.5 - 1.6
Maximum Temperature of the Mixture (°F)	315	315	315
<sup>2</sup> Tensile Strength Ratio (min %)	80	80	80

**f<sup>1</sup>** VEA% = Volume of Effective Asphalt (%) which is the numerical difference between VMA and Air Voids.

**f<sup>2</sup>** Refer to paragraph “Resistance of Compacted Bituminous Mixture to Moisture Induced Damage”.

- a. The job mix formula (JMF) shall meet the control points as displayed in Table 5. It shall be noted that when the gradation of extracted plant produced mix varies appreciably from the JMF, the test properties of the mix will be out of specifications. The Contractor shall submit a complete mix design report annually to the Owner’s Engineer, prior to asphalt placement at the start of the KCMMB year (April 1<sup>st</sup>). This report shall contain the calculations as described in the following sections and shall contain material certifications for all materials used in the asphaltic concrete. All aggregate quality tests must have been run within 12 months of the submission date of a mix design or a volumetric test report.
  - b. Mixing plants shall meet the requirements of KDOT’s latest specification in effect when this project’s bids are received by the Owner, except the mixture discharged from the plant shall not exceed 157.2°C (315°F).
  - c. The finished mixture shall meet the requirements described below when prepared in accordance with AASHTO T 312 (using 6 inch nominal size molds) and the volumetric properties of compacted paving mixtures as calculated using Chapter 4 of Superpave Mix Design, Superpave Series No. 2 (SP-2), Third Edition 2001 Printing, Published by the Asphalt Institute referred hereafter as “SP-2”, unless otherwise specified. The procedure shall be as specified in Chapter 5 and 6 of the SP-2.
  - d. Theoretical Specific Gravity ( $G_{mm}$ ) shall be determined in accordance with AASHTO T 209, and the Bulk Specific Gravity of the Compacted Asphalt Mixture ( $G_{mb}$ ) shall be determined in accordance with AASHTO T 166. Refer to the current [KCMMB Asphalt Material Submittal Requirements](#) for additional testing requirements.
6. Resistance of Compacted Bituminous Mixture to Moisture Induced Damage: The index of retained strength must be greater than 80 percent as determined by AASHTO T 283 (using a 6 inch nominal size mold). Specimens shall be conditioned by freezing and thawing.

- a. Anti-Stripping Agent: All bituminous mixtures shall contain an anti-stripping agent. Anti-stripping agents shall be used within the manufacturer's recommended dosage. Anti-stripping agents approved for use are limited to those products listed on MoDOT's PAL: Bituminous Liquid Anti-Strip Agent. Copies of the bill of lading shall be submitted to the Owner's Engineer.
  - b. When the index of retained strength is less than 80, the amount of anti-stripping agent may have to be adjusted. No additional payment will be made to the Contractor for addition of anti-stripping agent required.
  - c. Refer to the current [KCMMB Asphalt Material Submittal Requirements](#) for testing requirements and testing frequency for determining the retained strength of plant-produced mixtures.
7. Pavement Density Requirements: Samples of finished pavement shall be obtained by the Contractor or the Contractor's laboratory. A minimum of one test (three cores) shall be taken for each tonnage lot represented by a Superpave Asphaltic Concrete test. Lots larger than 1,200 tons shall have one set of (three cores) for each 1,000 tons placed or as directed by the Engineer. The core samples shall be taken at random locations throughout the tonnage lot. The locations shall not be previously marked. The core locations shall be marked by the Owner's Engineer after each tonnage lot placement is completed. Cores shall be at least 4 inches in diameter. The average density the of the three cores shall be 93% to 96% of max theoretical specific gravity of the Superpave Asphaltic Concrete test. When the average density of the compacted course is not between 93% and 96%, the layer may be removed at the discretion of the Engineer. No core shall be less than 90%.

**B. CONSTRUCTION REQUIREMENTS**

- 1. Asphalt mixtures having temperatures less than 113°C (235°F), when dumped into the mechanical spreader will be rejected.
  - a. All bituminous mixtures shall be delivered to the paver at a temperature sufficient to allow the material to be placed and compacted to the specified density and surface tolerance.
  - b. All delivery trucks shall be totally covered with a waterproof tarpaulin at the asphalt plant and shall not be uncovered until they are next in line to unload.
- 2. Asphaltic Concrete Pavement Lift Placement Requirements: Unless approved by the Owner's Engineer, KCMMB asphaltic concrete mixes shall be placed in compacted lifts meeting the requirements as listed in the following table:

Table 6: Lift Placement Requirements				
		KCMMB A1	KCMMB A2	KCMMB A3
Surface Pavement	Min. / Max. Single Lift Placement Depth (in.)	2	2	-
Intermediate Pavement	Min. / Max. Single Lift Placement Depth (in.)	2 / 3*	2 / 3*	-
Base Pavement	Minimum Single Lift Placement Depth (in.)	-	-	3
	Maximum Single Lift Placement Depth (in.)	-	4	4

*\*Only permitted on Industrial, Commercial, and Collector.*

3. Placing Asphaltic concrete intermediate course shall not be placed in compacted lifts greater than 4” inches deep, asphaltic concrete surface courses shall not be placed in compacted lifts greater than 2 inches deep; except when otherwise indicated on maintenance project plans. Asphaltic concrete surface course shall not be placed thinner than 2 inches deep. Asphaltic concrete intermediate course used as surface shall not be placed thinner than 2 inches. Interim layers of intermediate course shall not be left uncovered by the subsequent course for more than 5 days, weather permitting. Material trucks hauling materials other than asphaltic concrete or tack coat shall not travel on previously constructed layers of asphaltic intermediate course until the final course of the intermediate is constructed.
  - a. The Contractor shall schedule and route his hauling operation to minimize hauling over a final course as much as feasible.
  - b. Material Transfer Devices: A material transfer device (MTD) shall be used for the placement of asphalt during surface paving operations. An MTD, however, is not required for paving in parking lots, on driveways, and on side streets. The MTD equipment shall be approved by the Engineer prior to its use. Remix pavers will NOT be allowed. Refer to KDOT Standard Specifications, latest edition, for more information.
  - c. Bituminous-Materials Spreaders shall be the self-propelled type equipped with hoppers, tamping, or vibrating devices, distributing screws (augers), adjustable screeds operated either manually or automatically, equipment for heating the screeds and equalizing devices. The spreader shall be capable of spreading hot bituminous mixtures without leaving indented areas, tearing, shoving, or gouging and capable of confining edge of strips to true lines without use of stationary side forms and capable of placing the course to the required thickness. It shall also be capable of producing a finished surface conforming to the smoothness requirements specified. Spreaders shall be designed to operate forward at variable speeds and in reverse at traveling speeds of not less than 100 feet per minute. If an automatic grade control device is used on the spreader for two-lane paving operations, it shall consist of sensing device for control of one end of the screed and a slope-control mechanism for control of the other end of the screed, or a sensing device on each side of the paving machine. Where the paver is used on multiple paving lanes (more than two paving lanes), sensing devices shall be used on each side of the spreader for control of the screed. The slope-control mechanism shall not be used for grade control in multiple paving lane operations.
    1. When the contractor chooses to pave lanes through the project wider than 12 ft. the spreader (paver) shall be equipped with auger extensions.
    2. Through lanes shall be paved before left turn lanes and side street intersections. Through lane pavers shall not stop for other areas to be paved.
  - d. Special Procedures to Prevent Segregation The wings of the spreader hopper shall not be emptied (flipped) between truck loads. The depth of the material in the screed auger chamfer shall be kept approximately three-fourths (3/4) full - all the way out to the end gate. The augers should be running automatically and the vibrating screed turned on. The hopper conveyor shall always have

approximately 6 inches of material covering it and not be allowed to run out of material. Whenever the paver is run empty (conveyor exposed) the area behind the paver should be checked for a segregated spot. If a spot exists the paver should be stopped and the segregated spot repaired before it is rolled.

- e. Joints between old and new pavements or between successive day's work shall be cut back vertical with a saw. Other joints shall be sawed vertical as directed by the City Engineer. All joints shall be tacked and shall be made carefully to insure continuous bond between old and new sections of the course. All joints shall have the same texture, density, and smoothness as other sections of the course. The tack shall be overlapped onto the previous pavement 1 inch to 2 inches. Contact surfaces of previously constructed pavements, curbs, gutters, manholes, etc., shall be tacked. Surfaces that have become coated with dust, sand, or other objectionable material shall be cleaned by brushing or cut back with an approved power saw, as directed. The surface against which new material is to be placed shall be sprayed with a thin, uniform coat of bituminous material conforming to the requirements of paragraph TACK COAT stated hereinafter. The material shall be applied far enough in advance of placement of the fresh mixture to insure adequate curing. Care shall be taken to prevent damage or contamination of the sprayed surface.
  1. Edges of previously placed pavement that have cooled and are irregular, honeycombed, poorly compacted, damaged, or otherwise defective unsatisfactory sections shall be cut back to expose a clean, sound surface for the full thickness of the course as directed by the City Engineer.
  2. Transverse Joints - The roller shall pass over the unprotected end of freshly placed mixture only when placing of the course is discontinued or when delivery of mixture is interrupted to the extent that unrolled material may become cold. In all cases, the edge of the previously placed course shall be cut back to expose an even, vertical surface the full thickness of the course. In continuing placement of the strip, the mechanical spreader shall be positioned on the transverse joint so that sufficient hot mixture will be spread to obtain a joint after rolling which conforms to the required density and smoothness specified herein. A string line shall be used to set pavement elevations twenty-five feet after a beginning at a transverse joint or twenty-five feet before an ending at a transverse joint.
  3. Offsetting Joints in Intermediate and Surface Courses - The surface course shall be placed so that longitudinal joints of the surface course will not coincide with joints in the intermediate course by approximately 9 inches. Care shall be taken when possible to offset longitudinal joints in a manner that the final surface course joint is in the center of the pavement or at the location shown on the plans. Transverse joints in the surface course shall be offset by at least two feet from transverse joints in the intermediate course.
  4. Special Requirements for Placing Paving Lanes Succeeding Initial Lanes - In placing each succeeding lane after the initial lane has been placed and compacted as specified hereafter, the screed end gate of the mechanical paver shall overlap the previously placed lane slightly and shall be

approximately 1.25 times thicker than the existing compacted lane to allow for compaction roll down and produce a smooth compacted joint with the specified density. Mixture placed on the edge of the previously placed lane by the mechanical paver shall be pushed back (tucked) to the edge of the lane being placed by use of a lute (rake). The pushed back material shall form a ridge on the uncompacted lane along the edge of the previously placed lane. The height of the ridge above the uncompacted lane should be approximately equal to the thickness being allowed for roll down during compaction. These procedures shall be used to facilitate getting a smooth joint with density. Excess mixture shall be removed and wasted. Excess material shall not be spread over the uncompacted mat.

- f. Steel-drum rollers shall be self-propelled, tandem (two-axle) with both drums the same size, powered by both drums, vibratory types, weighing not less than 20,000 pounds static weight and not less than 150 lbs/in of drum. Drums shall be equipped with adjustable scrapers, water tanks, and sprinkling apparatus for keeping the drums wet, thereby preventing the bituminous mixture from sticking to the wheels. Rollers shall be capable of reversing without backlash and free from worn parts. Roller drums with flat and pitted areas or projections that leave marks in the pavement will not be permitted.
- g. Heavy pneumatic-tired rollers shall be self-propelled and shall consist of two axles on which are mounted an odd number of pneumatic-tired wheels. The roller shall have at least nine pneumatic-tired wheels in such manner that the rear group of wheels will not follow in the tracks of the forward group but spaced to give essentially uniform coverage with each pass. Axles shall be mounted in a rigid frame provided with a loading platform or body suitable for ballast loading. Tires shall be smooth, inflated to 90 p.s.i.. Construction of the roller shall be such that each wheel can be loaded to a minimum of 2,300 pounds. Combination rollers are not allowed.
- h. Blowers and brooms shall be power type and suitable for cleaning the surface to be paved. Open faced brooms may only be used when approved by the City Engineer. If the roadway is too contaminated with mud patties or other debris, the area to be paved must be cleaned by pressure washing or compressed air to sufficiently clean the pavement. If pressure washing is performed, the roadway must dry sufficiently prior to placing cure and the next lift of asphalt.

4. The contractor is responsible for the development of a compaction procedure that will obtain the required density. The following paragraphs describe a procedure that generally obtains density. The contractor shall determine the exact amount of rolling (coverages needed) to obtain a density meeting paragraph: "Density and Density Test". The ideal density is an average density between 93% and 96%.

- a. The surface of the placed material shall be corrected if necessary before compaction begins. Compaction of the mixture shall be accomplished using a minimum of two steel-drum rollers and a pneumatic-tired roller as specified above. Breakdown rolling shall be as close behind the paver as possible. The break down roller shall be a steel-drum and operated in the vibratory mode on the first forward pass and may be operated in vibratory mode on subsequent passes either forward or back. Delays in rolling freshly spread mixture will not



be permitted. The pneumatic-tired roller shall be used as an intermediate roller; however, it shall also roll closely behind the break down roller. The pneumatic-tired roller shall always be kept moving in order to keep its tires warm. The second steel-drum roller shall be used as a final finish roller. Rollers shall not travel faster than 3 mph. Steel-drum rollers shall not be used in the vibratory mode except for initial breakdown rolling. When steel-drum rollers are used in the vibratory mode they shall be operated at maximum frequency and minimum amplitude. Rolling shall be continued until density is obtained in all portions of each course.

- b. The speed of rollers shall be slow enough at all times to avoid displacement of the hot mixture. Displacement of the mixture resulting from reversing the direction of the roller or from any other cause shall be corrected at once by raking or removing and replacing fresh mixture when necessary. Alternate passes of the roller shall be varied slightly in length. During rolling, the wheels of steel-drum rollers and plates of vibro plate compactors shall be moistened to prevent adhesion of the mixture to the drums or plates, but excess water will not be permitted. Tires of heavy pneumatic roller shall be moistened with soapy water when required to prevent mixture from sticking to tires during rolling. Rollers shall not be permitted to stand on finished courses until the courses have thoroughly cooled. The contractor shall supply ample rollers to obtain the specified density. Places inaccessible to rollers shall be thoroughly compacted with hot hand-tampers or vibro plate compactors.
- c. Break Down Rolling - Rollers shall be operated as specified above. The unconfined edge or low side edge of the paving lane shall be broken down first. The other edge shall be broken down second and the middle broken down last. This is considered one coverage. Steel-drum break down rollers shall not hang over the free edge of the mat or stay back from it even though they are going to back up for the adjoining lane. The entire lane shall be broken down at the same temperature.
  1. Intermediate Rolling - The rubber tired roller shall be close behind the break down roller after the mat has cooled a few degrees. The rubber tired roller shall roll the same pattern making the same coverage as the breakdown. The rubber tired roller should stay the thickness of the lift from the free edge.
  2. The number of coverage's shall be determined by the contractor. This will change with temperature, humidity and thickness of the lift.
  3. Longitudinal Joint Break Down Rolling of Paving Lanes Succeeding Initial Lanes - The break down roller in the vibratory mode shall lap over the tucked joint approximately six inches (6") on to the previously placed compacted lane. As part of the break-down rolling and immediately after the break-down roller completes its first passes, the longitudinal joint shall be pinched to ensure compaction with the pneumatic-tired roller. The rubber tired roller shall make at least one complete pass (forward and backward) operated on the hot lane with the outside tire pinching the joint. After the rubber tired roller rolls the joint, it shall make at least one pass over the rest of the mat and then drop back to its intermediate rolling. The

steel drum roller in static mode shall immediately smooth out the rubber tired marks.

4. Finish rolling should start when the mat has cooled down 20°F to 40°F below the intermediate rolling (This could be approximately 225°F). The steel wheeled roller in static mode shall immediately smooth out the rubber tired marks using the same pattern making the same type coverages as the breakdown roller. Do not roll until cracks appear, let it cool. Finish rolling can continue until the temperature reaches 175°F to 150°F. The finish rolling shall continue until the pavement is smooth and has the density specified above.
- d. Placement of bituminous material shall not be permitted within 24 hours of a rain event. Do not place asphalt mixtures on any wet or frozen surface or when weather conditions otherwise prevent the proper handling and finishing of the mixture.

<b>Asphalt Placement Temperature Limitations</b>			
<b>Paving Course</b>	<b>Compacted Thickness (inches)</b>	<b>Air Temperature (°F)</b>	<b>Road Surface Temp. (°F)</b>
Surface	All	55	60
Subsurface	2	50	55
Subsurface	3	40	45
Subsurface	4	30	35

- e. When the bituminous mixture is placed on an existing bituminous surface, the surface shall be cleaned of all foreign material and broomed as necessary to remove dust. Areas shown on the plans or designated by the City Engineer to be patched shall be excavated to a depth directed by the City Engineer, filled with bituminous mixture and compacted. When the contract does not provide for a patching item, an amount two and one-half times the unit price for the bituminous mixture shall be used. The excavation required will not be paid for directly but will be considered subsidiary. In addition to brooming, a high pressure type water truck, capable of washing all fines, dirt, and debris from the surface, may be required prior to overlaying as directed by the City Engineer. Equipment compliance with this specification shall be visual observation by the City Engineer at the commencement of washing operations with sufficient advanced notice that these operations are being performed. Unless specified, no direct payment shall be made for this item, as it shall be considered subsidiary to other bid items.
- f. Emulsified Asphalt CSS-1h meeting the requirements of Section 1203 of the Standard Specifications shall be used for tack coat. All existing and new asphaltic concrete surfaces shall receive a tack coat not more than six hours prior to placing an asphaltic concrete paving course. Tack shall be placed prior to any lift of asphalt. Surfaces previously tack coated and not covered with new asphaltic concrete for more than six hours shall be retacked. The rate of application shall be 0.05 gal./sy to 0.12 gal./sy, or as otherwise directed by the City Engineer. At locations where asphalt is being placed on top of existing concrete pavement where temperatures warrant, the emulsified asphalt shall be diluted 10 percent with water versus the normal 50 percent dilution with water.

Tack coat shall not be paid for directly but shall be considered subsidiary to other bid items.

- g. The surface course, upon completion of final rolling, shall be smooth and true to grade and cross-section. When a 12-foot straightedge is laid on the surface parallel with the centerline, the surface shall not vary more than 1/8 inch from the straightedge. When the 12-foot straightedge is laid on the surface transverse to the centerline between the crown and edge of pavement, the surface shall not vary more than 1/4 inch from the straightedge. Low or defective areas shall be immediately corrected by cutting out the faulty areas and replacing with fresh hot mixture and compacting the area to conform to the remainder of the pavement. Testing for plan grade conformance and surface smoothness shall be performed by the Contractor in the presence of a representative of the City Engineer. Tests shall be made at intervals as directed by the City Engineer. The City Engineer may direct the contractor to diamond grind areas that are out of tolerance in lieu of above replacement.

C. METHOD OF MEASUREMENT: Asphaltic concrete shall be measured by the square yard of "Asphaltic Concrete Base", "Asphaltic Concrete Intermediate Course", and "Asphaltic Concrete Surface" (of the type and thickness specified) in place as designated on the plans. The Asphaltic Concrete Base which extends under the curb and gutter on Major Streets shall not be measured, but shall be subsidiary to "Curb and Gutter". Removal of an existing pavement shall be subsidiary to "Asphaltic Concrete Base" and shall not be measured separately. Asphalt cement shall be subsidiary to "Asphaltic Concrete Surface" or "Asphaltic Concrete Intermediate Course" or "Asphaltic Concrete Base". Whenever the plans require an existing pavement to be removed to the full depth of the existing pavement, the removal shall be subsidiary to installation of the asphaltic concrete base.

D. BASIS OF PAYMENT: The amount of completed and accepted work, measured as provided above, shall be paid for at the contract unit prices per square yard of "Asphaltic Concrete Base", "Asphaltic Concrete Intermediate Course" and "Asphaltic Concrete Surface" of the type and thickness specified in the plans and Bid Documents.