



**PUBLIC WORKS DEPARTMENT**

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BAKERSFIELD, CALIFORNIA 93301  
(661) 326-3724

RAUL M. ROJAS, DIRECTOR • CITY ENGINEER

January 6, 2003

Engineers and Contractors

Subject: Asphalt Concrete Specification

Dear Sir:

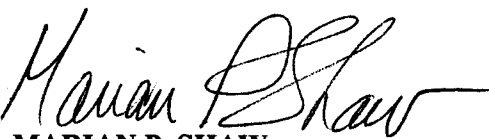
In July of this year, you were sent a copy of the City's updated asphalt paving specifications, to be used on all permits issued after September 1, 2002 and all subdivision construction in developments that have vested as of September 1, 2002.

Subsequent to this, City staff has revised this specification slightly in response to comments received from a few of the engineers and contractors. This revised specification is attached and replaces the previous specification. It shall be considered to be effective immediately.

If you have any questions concerning this, please contact me at (661) 326-3579.

Very truly yours,

**RAUL ROJAS**  
Public Works Director

By:   
**MARIAN P. SHAW**  
Civil Engineer IV - Subdivisions

Attachment

cc: Subdivision Staff  
Construction Staff  
Reading File  
Engineering and Design Manual

**7-1. ASPHALT CONCRETE (TYPE 'B').** Asphalt concrete shall be Type A (modified) for all arterial and collector streets and Type B (modified) for local streets and shall conform to the provisions in Section 39, "Asphalt Concrete," of the Standard Specifications and these special provisions.

Prior to the addition of asphalt binder, the combined mineral aggregate for Type A (modified) or Type B (modified) asphalt concrete shall conform to the requirements of Section 39-2.02, "Aggregate," of the Standard Specifications for 3/4" maximum, medium grading.

**Instruction: Delete A if project has no dikes.**

**BEGIN A.**

Aggregate for asphalt concrete dikes shall conform to the requirements for 3/8" maximum grading as specified in Section 39-2.02, "Aggregate," of the Standard Specifications.

**END A.**

Asphalt binder for Type A (modified) asphalt concrete shall be AR-8000 viscosity graded asphalt, unless otherwise directed by the Engineer. Asphalt binder for Type B (modified) asphalt concrete shall be AR-4000 viscosity graded asphalt, unless otherwise directed by the Engineer. The asphalt binder shall conform to the requirements in the table for "Steam-Refined Paving Asphalts," in Section 92-1.02, "Grades," of the Standard Specifications.

The amount of asphalt binder to be mixed with the mineral aggregate shall be determined by the Contractor in accordance with California Test Method 367 using samples of materials proposed for use in the work. The amount of asphalt binder shall be approved by the Engineer.

At least 14 days prior to the start of work, the Contractor shall submit the following for the Engineer's review and approval:

- a. A list of aggregate and asphalt sources.
- b. Documentation verifying that the aggregates to be incorporated in the work conform to the requirements of Section 39-2.02, "Aggregate," of the Standard Specifications and these special provisions. Material sieve analysis and sand equivalent test results should not be older than six (6) months. All other test results should not be older than one (1) year.
- c. An asphalt concrete mix design determined in accordance with California Test 367. Laboratory test results on which the design is based shall be submitted with the mix design along with the theoretical maximum density of the design mixture as determined by ASTM D-2041. The asphalt concrete mix shall meet the requirements of Section 39-2.02, "Aggregate," of the Standard Specifications and these special provisions. If the data submitted shows that the materials are substantially the same as when the design was prepared, the design may be up to three (3) years old. The Developer shall bear all costs associated with the asphalt concrete mix design.

Where new asphalt concrete pavement is to conform to existing paved surfaces, the existing pavement shall be saw cut.

A prime coat will not be required on non-paved areas to be surfaced prior to the placement of asphalt concrete; however, all other requirements of Section 39-4.01, "Subgrade," of the Standard Specifications shall be met.

The area to which paint binder has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto the existing pavement surface beyond the limits of construction.

Paving joints shall match stripe locations unless otherwise permitted by the Engineer.

Intersections and tapered shoulders shall be surfaced as directed by the Engineer. Additional asphalt concrete shall be placed at road connections and private drives, where shown on the plans and as directed by the Engineer, and hand raked, if necessary, and compacted to form smooth, tapered connections.

Where the compacted thickness of a layer of asphalt concrete is 0.15 foot or less, paving operations shall be conducted in such a manner that, at the end of each work shift, the length of pavement along the longitudinal drop-off between adjacent lanes is not greater than that which can be surfaced during the following shift of normal paving operations. Additional asphalt concrete shall be placed along the transverse drop-offs on each lane. Such additional asphalt concrete shall be hand raked and compacted to form temporary conforms before the lanes are opened to public traffic. Kraft paper, or other approved bond breaker, may be placed under the conforms to facilitate the removal of the conforms when paving operations resume.

Where the compacted thickness of a layer of asphalt concrete is more than 0.15 foot, paving operations shall be conducted in such a manner that the layer of asphalt concrete is placed on all contiguous lanes of the traveled way before the lanes are opened to public traffic. At the end of each work shift, the distance between the ends of a layer of asphalt concrete on adjacent lanes shall not be greater than 10 feet. Additional asphalt concrete shall be placed along the transverse drop-offs on each lane and along the longitudinal drop-off between adjacent lanes. Such additional asphalt concrete shall be hand raked and compacted to form temporary conforms before the lanes are opened to public traffic. Kraft paper, or other approved bond breaker, may be placed under the conforms to facilitate the removal of the conforms when paving operations resume.

Asphalt concrete shall be compacted to a minimum 92 percent of the maximum theoretical density as determined by ASTM D-2041. In-place density shall be determined in accordance with California Test 375.

If the in-place density of any lot of asphalt concrete is less than 92 percent or greater than 94 percent of the maximum theoretical density, the contractor will be advised that the required relative compaction is not being attained and that the materials or procedures or both, if needed, need adjustment. Asphalt concrete spreading operations shall not continue until the Contractor has notified the City Engineer of the adjustment that will be made in order to meet the required compaction. If any successive test after notice is given does not meet the specified range, the asphalt concrete represented by that lot shall be removed and replaced with material that meets the in-place density requirements.

If the test results for any lot of asphalt concrete indicate that the relative compaction is either less than 90% or more than 96%, the asphalt concrete represented by that lot shall be removed and replaced with material that does meet the in-place density requirement. The corrective work shall be at the Developer's expense.

If the finished surface of the asphalt concrete does not meet the specified surface tolerances, it shall be brought within tolerance by either: (1) abrasive grinding with equipment utilizing diamond blades, (2) removal and replacement, or (3) placement of an asphalt concrete overlay. The method will be selected by the Engineer. The corrective work shall be at the Developer's expense.

If abrasive grinding is used to bring the finished surface to specified surface tolerances, additional grinding shall be performed, as necessary, to enlarge the grinding area so that the longitudinal limits of grinding are at a constant offset from, and are parallel to, the nearest lane line or pavement edge, and the transverse limits of grinding are normal to the pavement centerline. All ground areas shall be neat rectangular areas of uniform surface appearance. Abrasive grinding shall conform to the requirements in the first paragraph and the last four paragraphs of Section 42-2.02, "Construction," of the Standard Specifications. A fog seal coat shall be applied to all finished asphalt surfaces at the Developer's expense. The fog seal coat shall be either asphalt rejuvenating agent or asphaltic emulsion as directed by the Engineer.

**Instruction: Delete C if your project does not have ac in medians.**

**BEGIN C.**

The subgrade beneath surfacing for median islands shall be chemically treated for weed control. The chemical shall be 2, 6-dichlorobenzonitrile and shall be applied in accordance with the manufacturer's recommendations and these special provisions. The rate of application shall be four (4) ounces of active chemical per one hundred (100) square yards of subgrade surface area to be chemically treated for weed control. Asphalt concrete shall be placed over the treated subgrade within two (2) hours of chemical application when the air temperature is higher than 50° F. At air temperatures lower than 50° F, asphalt concrete shall be placed on treated subgrade within ten (10) hours of chemical application. Should a "wetable powder" type chemical be used, a suitable fugitive dye shall be incorporated in the mixture so that coverage and spread rate may be verified.

Full compensation for chemically treating soil as specified in this section will be considered as included in the contract price paid per square yard for Place Asphalt Concrete (Miscellaneous Areas).

**END C.**