OKLAHOMA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
JOB-MIX FORMULATION OF ASPHALT CONCRETE

These Special Provisions amend and where in conflict, supersede applicable sections of the 1999 Standard Specifications for Highway Construction, English and Metric. Units of measurement are provided in the subsections in both English and Metric equivalents. The units for this project will be those specified in the project plans.

708.02. MINERAL AGGREGATE. *(Add to Table 1 as follows:)*

TABLE 1
PHYSICAL PROPERTIES OF AGGREGATES

Test	Asphalt Concrete	Open Graded Friction Course	Open Graded Bituminous Base	Hot Mix Cold Lay	NMS Superpave
Micro-Deval[a,b] , % wear, maximum	25	25	NA	NA	25

708.04. COMPOSITION OF MIXTURES. *(substitute the following):*

(a)Asphalt Mix Design and Final Job-Mix Formula. The asphalt mix design and initial job-mix formula are the responsibility of the Contractor and shall be submitted to the Materials Division for review. The review of the proposed mix design will be to determine that the mix meets the design criteria. The mix design criterion limits for rut, permeability, and indirect tensile strength on laboratory prepared materials are shown in tables 6E, 6F, and 6G respectively.

The Contractor shall furnish one mix design for each specific asphalt concrete mixture listed on the plans or in the Contract. The mix design shall be prepared in an approved laboratory of the Contractor's choice. A request for laboratory approval may be made either by a Contractor or a Laboratory. Approval will be according to the Materials Division Policy for Asphalt Mix Design Laboratories. Mix designs will not be approved for use until the Contractor submits an acceptance letter stating acceptance status, project number and mix design designation, or signs and returns the mix design to the Materials Engineer.

Mix designs for shoulders may be designed at one compaction ESAL level less than the designated 20 year Flex ESAL level. Lifts below Portland Cement Concrete (pcc) pavements may be designed at the designated 20 year Flex ESAL level or any lower compaction ESAL level. Mix designs for temporary construction, such as crossovers and detours, may be designed within two compaction ESAL levels of the designated 20 year Flex ESAL level. All S2 mixtures shall be designated at compaction level 3 unless the designated 20 year Flex ESAL level is less than 0.3 million. In that case, S2 mixtures at compaction level 4.

The initial job-mix formula shall meet the requirement of Tables 5A, 5B, or 5C and Tables 6A and 6B or 6C and 6D for the type mix specified on the Plans or in the Proposal. The Contractor shall prepare a trial mixture.

If the trial mixture, prepared at the initial job-mix formula proportions, fails to meet the requirements of Tables 6A and 6B or 6C and 6D, the Contractor may propose changes to the job-mix formula. If these changes do not result in a mixture meeting the requirements of Tables 5A, 5B, or 5C and Tables 6A and 6B or 6C and 6D, the Engineer will require a new mix design. If the changes do result in a mixture meeting these Specifications, the job-mix formula will be adjusted accordingly.

The job-mix formula shall establish a single percentage of aggregate passing each required sieve, a single percentage of asphalt to be contained in the mixture, and a single temperature of the mixture at point of discharge from the plant.

The job-mix formula with the allowable tolerances shown in Table 7 shall establish the Specification limits for each mixture. These limits may be outside the broad range in Tables 5A or 5B except for the following conditions:

1. Absolute maximum sieve size. Example, ½ inch (12.5 mm) sieve for Type 'C'.
2. Open graded friction surface course. The job-mix formula with allowable tolerances shall be within the broad range given in Table 5A.
3. No tolerances are shown. The broad ranges in Table 5A, 5B, or 5C are the Specification limits.

(Add the following: Tables 6E, 6F, 6G)

TABLE 6E - PROPERTIES OF LABORATORY MOLDED SPECIMENS

Asphalt Concrete Types (A, AH, B, BH, C, D and E) and NMS Types (S2-S6)					
Max Rut mm	**ESALs × 10^6**	**Compaction Level**	**Nini**	**Ndes**	**NMax**
3	≥ 30	1	9	125	205
4	≥ 10 and <30	2	8	100	160
5	≥ 3 and < 10	2	8	100	160
6	≥ 0.3 and <3	3	7	75	115
8	<0.3	4	6	50	75

TABLE 6F - PROPERTIES OF LABORATORY MOLDED SPECIMENS

Asphalt Concrete Types (A, AH, B, BH, C, D and E) and NMS Types (S2-S6)
Permeability Coefficient, $k < 12.5 \times 10^{-5}$ cm/s

TABLE 6G - PROPERTIES OF LABORATORY MOLDED SPECIMENS

NMS Types (S2-S6)
Indirect Tensile Strength, Preconditioned Specimens, T 283, average, ≥ 75 psi

708.07. SAMPLING AND TESTING FOR NMS.

(a) Methods. Sampling and testing shall be done in accordance with AASHTO methods, except as noted below:

1. Sampling and Testing Aggregates: *(Add the following)*

Micro-Deval Abrasion (e)	TP 58

2. Sampling and Testing Bituminous Mixtures: *(Add the following)*

Rutting Susceptibility	OHD L-43
Water Permeability	OHD L-44