OKLAHOMA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
AGGREGATE BASE

These Special Provisions revise, amend, and where in conflict, supersede applicable Sections of the 2009 Standard Specifications for Highway Construction, English and Metric.

(Replace with the following:)

303.01 DESCRIPTION

This work consists of providing and placing one or more layers of aggregates, and specified additives, on a prepared subgrade or subbase using conventional equipment and methods for incorporating water into the aggregate base material and spreading it onto the subgrade.

303.02 MATERIALS

Provide aggregate material for the gradation type shown on the Plans (Type A, Type B or Type C) in accordance with Subsection 703.01, "Aggregate for Aggregate Base."

During aggregate production, do not change the approved gradation type or source, unless the Engineer approves another gradation type or source in writing.

303.03 EQUIPMENT

A. Stationary Plant

Provide a central mixing plant of the pugmill type, rotary drum type, or continuous type of mixer. Establish stationary plant location within reasonable proximity to the project in order to deliver the aggregate base material at the proper moisture and consistency requirements.

B. Traveling Plant

Provide a traveling plant of the type that picks up the material from a windrow or from a blanket of loose material. The mixer may be of the pugmill or auger type, or of the transverse shaft type that mixes the materials by means of revolving paddles that lift all the loose material from the working area.

Ensure the traveling plant has provisions for introducing the water at the time of mixing, through a metering device, or by other approved methods, and can apply the water by means of controls which will supply a uniform ratio of water in the approximate amount required for optimum moisture.

Ensure the device by which the mixing machine picks up the material can be controlled and operated on each pass of the mixer as to pick up all the material to be treated and at the same time avoid cutting into the working area.

C. Compactor

Provide a self propelled, steel wheeled compactor weighing at least 10 ton [9 metric ton].

303.04 CONSTRUCTION METHODS

A. Preparation of Subgrade

Prepare the subgrade in accordance with Subsection 310.04.B, "Subgrade Method B for All Other Subbases, Bases, Pavement, or Surface," or as required by the Contract.

B. Preparation of Existing Base Course

Prepare existing aggregate base course in accordance with Section 311, "Processing Existing Base and Surface," or as required by the Contract.

C. Mixing Aggregate Base

Uniformly mix aggregate base materials and water using a stationary or traveling plant at outside locations, or using on-grade mixing methods to achieve a uniform material near optimum moisture. On-grade mixing methods must not cause instability to the underlying subgrade material due to moisture saturation. If instability is caused, the methods must be suspended and improved to eliminate that condition.

(1) Stationary Plant

Uniformly mix the aggregate and water in an approved central mixing plant (pugmill, rotary drum, or continuous mixer). Add water during the mixing operation to achieve the proper moisture content for compaction in accordance with Subsection 303.04.E, "Shaping and Compaction."

(2) Traveling Plant

Perform the following steps to uniformly mix the aggregate and water using a traveling plant:

- Clean the specified area of vegetation and deleterious materials.
- Overlay the specified area with at least 3 in [75 mm] of base material and compact to achieve a work table for mixing operations.
- If the mixing machine requires a blanket of material, spread the windrow to a uniform depth and width consistent with the machine's capability.
- Add water during the mixing operation to achieve the proper moisture content for compaction in accordance with Subsection 303.04.E, "Shaping and Compaction." Avoid

using excess water during mixing and compaction to prevent undue softening of the subgrade.

- Ensure the device used to pick up the material does not contaminate the mixture by cutting into the work table.
- Continue mixing until the aggregate and water are evenly distributed and a uniform mixture is produced, meeting specification requirements.
- During the mixing process, adjust the mixing equipment to prevent material from moving in a longitudinal direction.

(3) On-Grade Mixing

During the mixing of the aggregate base material and water, moisten the base material as close to optimum moisture content as practical prior to its placement to minimize the amount of water that must be uniformly mixed on the subgrade. Apply additional water as needed accurately and uniformly throughout the length of the section being placed so that no excess wet or dry spots exist in the finished aggregate base. Avoid application of excess water, during both mixing and compaction, so that undue softening of the subgrade will not develop.

D. Spreading

Transport the mixed aggregate base materials to the roadbed and place using equipment and methods that will not damage the underlying subgrade or separator fabric. Spread the aggregate base material so that once compacted, the base will be within acceptable tolerances to the final slope and elevation shown in the plans. Make adjustments to equipment and methods as needed to:

- minimize segregation and degradation of aggregate base material,
- provide sufficient moisture content of aggregate base material (near optimum moisture content) without over saturating the underlying subgrade material, and
- obtain final slope and elevations within acceptable tolerances.

Place aggregate base material in layers of from 4 in to 8 in [100 mm to 200 mm] compacted thickness.

Spread and compact the aggregate base material over the full width of the roadbed before placing a succeeding layer. Finish compacted layers to the grades, elevations, and thicknesses shown on the Plans. Correct segregated areas at no additional cost to the Department. Stagger longitudinal and transverse joints at least 1 ft [0.3 m] in each succeeding layer.

When constructing successive layers of aggregate base, minimize disturbance to the surface of the previously placed layer. Adjust placement procedures or equipment to ensure compliance with the Contract requirements.

E. Compaction

Compact each layer to the proper density: no less than 98 percent of maximum density for Type A Aggregate Base, and 95 percent for Types B and C Aggregate Base. Determine maximum density in

accordance with AASHTO T-180, Method D. Measure the in-place field density in accordance with AASHTO T-310; direct transmission is the preferred method (rod projected into base as opposed to back-scatter mode). Provide sufficient moisture content in the aggregate base material at the time of placement near the optimum moisture content to enable proper compaction. Prevent damage to aggregate particles during compaction. Moisture content will aid in the base compaction and reduce the compactive effort necessary and minimize the breakdown of the gradation of the material.

If during compaction the moisture content drops below optimum moisture such that the required percent compaction cannot be obtained, apply water uniformly over the base materials as needed to ensure a uniform texture, firmly keyed aggregates, and proper consolidation of layers.

Cure the aggregate base material such that there is no free standing water before applying the prime coat or the succeeding layer of aggregate base or pavement section. If the density required by the Contract is achieved, the Department will not consider moisture content as an acceptance criterion.

F. Tolerances

Finish the aggregate base in accordance with Subsection 301.04.A, "Tolerances."

303.05 METHOD OF MEASUREMENT

The Engineer will measure the volume of the compacted in-place *Aggregate Base Type A*, *Type B*, and *Type C* by multiplying the completed length of aggregate base by the area of the typical section shown on the Plans.

303.06 BASIS OF PAYMENT

The Department will pay for each pay item at the contract unit price per the specified pay unit as follows:

Pay Item:	**Pay Unit:**
(A) AGGREGATE BASE TYPE A	Cubic Yard [Cubic Meter]
(B) AGGREGATE BASE TYPE B	Cubic Yard [Cubic Meter]
(C) AGGREGATE BASE TYPE C	Cubic Yard [Cubic Meter]