

300 BASES

ITEM 304 - AGGREGATE BASE

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304.01 Description. This work shall consist of furnishing, placing and compacting one or more courses of aggregate including furnishing and incorporating all water required for proper compaction, and additives if required, on a prepared surface in accordance with these specifications, in reasonably close conformity with the lines, grades, thicknesses and typical cross-sections shown on the plans or established by the Engineer.

304.02 Aggregates. The aggregate shall be the following size and shall meet the requirements of Section 703.04.

Sieve	Total Percentage Passing
2 inch (50 mm)	100
1 inch (25 mm)	70 - 100
3/4 inch (19 mm)	50 - 90
No. 4 (4.75 mm)	30 - 60
No. 40 (425 μm)	7 - 30
No. 200 (75μm)	0 - 13

Aggregate acceptance shall be determined prior to incorporation into the work based on samples taken from stockpiles.

304.03 *Prior to Spreading.* *The aggregate material shall have reasonably uniform gradation and moisture, and at a moisture content not to exceed less than minus 4 percent of optimum moisture prior to the spreading operation. The material shall be handled in a manner to minimize segregation. The stockpile shall be thoroughly mixed or regarded if the aggregate material is segregated. The contractor shall make the necessary modifications to the moisture content as directed by the Engineer at the time of loading to the project site.*

304.04 *Spreading.* *The aggregate material shall be spread upon the prepared surface. The compacted thickness of a single layer shall not exceed 6 inches (150 mm) when vibratory equipment is used in conjunction with other methods of compaction. The aggregate material shall be constructed in two or more approximately equal layers when the specified compacted thickness exceeds 6 inches (150 mm). The maximum compacted thickness of one layer shall not*

exceed 3 inches (75 mm) when vibratory compaction equipment is not used. A maximum compacted thickness of 8 inches (200 mm) is allowed when a variable depth is specified under the pavement or in the shoulder adjacent to the pavement.

The material shall be placed with self-propelled spreading machines capable of placing the aggregate true to line and grade.

Approved hand placing methods may be used when the total area of the aggregate material is 2,000 square yards (1,700 square meters) or less, or in small areas where machine spreading is impractical. In these areas, the compaction requirements shall be in accordance with City of Columbus Supplemental Specification 1501.

Water shall be added to the aggregate material or the aggregate material shall be dried to bring it to within minus four percent of the optimum to plus two percent of the optimum moisture prior to the compaction operation. This moisture range shall be maintained during all compaction operations. If water is required, it shall be applied in a manner that will not soften the lower courses.

304.05 Compaction. The compaction of the aggregate material shall immediately follow the spreading operation. The minimum roller weight shall be 10 tons (9 metric tons). The weight of the rollers for the test section and production rolling shall be the same. Light rollers may be used in small areas or when heavier rollers are not practical. Approved compaction equipment may consist of vibratory or static rollers and vibratory equipment and rollers.

The material shall have sufficient stability to support the weight of the rollers without excessive rutting or deflection. When the material falling within a grading permitted by the specifications is used and surface stability cannot be obtained, a sufficient quantity of crushed angular material shall be added to secure the stated stability.

Vibratory equipment alone may be permitted only in small areas or areas where rollers are impractical. In areas where normal production rollers cannot be used, the compaction requirements shall be in accordance with City of Columbus Supplemental Specification 1501.

At the beginning of the compaction operation, the density requirement shall be determined by compacting a short test section. The compaction of the test section shall continue until no further increase in density can be achieved or when the difference in density between two consecutive coverages is less than 2 pounds per cubic foot (32 kg/m³). The remainder of the material shall be compacted to a density of not less than 98 percent of the test section density.

The production density may be checked before or after the finishing operation.

A new test section density may be required if the aggregate material characteristics or the supporting materials change appreciably. The surface of each layer shall be maintained during the compaction operations in such a manner that a uniform texture is produced and the aggregate material is firmly keyed.

Water shall be uniformly applied over the aggregate materials during the compaction operation in the amount necessary to maintain the specified moisture content.

During the test section or the production rolling, if the aggregate material is unstable due to excess moisture, the moisture shall be decreased to secure stability.

The finished surface of this course shall have sufficient stability to support loaded construction equipment used in the construction of this and subsequent courses without rutting or deflection in excess of the surface tolerances permitted herein.

304.06 Finished Surface. The finished surface shall not vary more than 3/8 inch (10 mm) from a 10 foot (3.0 m) straightedge parallel to the centerline nor more than 1/2 inch (13 mm) from a template conforming to the required cross section. The Contractor shall furnish straightedges, templates or other devices satisfactory to the Engineer and check the surface for conformance with these requirements.

Any irregularities or depressions that develop in the finished surface of the aggregate material shall be corrected by loosening the surface and adding or removing material until the surface presents a smooth regular appearance.

304.07 Method of Measurement. Aggregate base course will be measured by the number of compacted cubic yards (cubic meters) computed from plan lines, compacted in place.

Water added to the materials during compaction shall be included in the price bid per cubic yard (cubic meter) of aggregate base.

Where variable depth is specified, the number of cubic yards (cubic meters) of aggregate will be measured by conversion from weight on the following basis:

Crushed stone4000 lb. per C.Y. (2373 kg/m³)
Crushed gravel4000 lb. per C.Y. (2373 kg/m³)

304.08 Basis of Payment. Payment for accepted quantities, complete in place, will be made at the contract prices for:

Item	Unit	Description
304	Cubic Yard (Cubic Meter),	Aggregate Base
304	Square Yard (Square Meter)	_____” (mm) Aggregate Base