3510 - SPECIFICATION FOR SAND BASE COURSE

3510 - 1 DESCRIPTION

The work shall consist of a layer of sand placed on a prepared surface at the locations and in conformity with the lines, grades, and dimensions shown on the plans or designated by the Engineer.

3510 - 2 MATERIALS

Sand base aggregate may be in-situ material or material obtained from sources shown on the plans. The sand base aggregate shall be composed of fragments of durable rock free from undesirable quantities of soft or flaky particles, loam, and organic or other deleterious material.

Sand base course shall comply with the following requirements:

Sieve Designation	Percent by Weight Passing Canadian Standard Sieves
	TYPE 40
37.5 mm	100
5.00 mm	82 - 100
71 μm	15 - 22
Plasticity Index	0 - 2

If the lift of sand base course is less than eight centimetres (8 cm), the maximum particle size shall not be greater than one-half (1/2) the depth of the lift.

Limited relaxation of the minimum percentage passing the 71 μm sieve may be permitted if sufficient load bearing capacity can be obtained.

3510 - 3 CONSTRUCTION

Overburden shall be removed from material deposits in accordance with the requirements for Removal of Overburden (Specification 2260).

If in-situ sand base aggregate is used, the subgrade shall be prepared in accordance with the requirements for Special Subgrade Preparation and Compaction (Specification 3005).

If sand base aggregate is imported, the subgrade shall be prepared in accordance with the requirements for Subgrade Preparation and Compaction (Specification 3000).

Materials shall be handled in a manner such that segregation of the coarser and finer fractions will not occur.

If imported sand base aggregate is used, the Contractor shall load the aggregate by pushing the material to a trap. The aggregate shall be screened over a thirty-seven and one half millimetre (37.5 mm) screen.

Imported sand base aggregate shall be hauled in accordance with the requirements for Haul (Specification 2405).

Sand base course shall not be spread and compacted if the atmospheric temperature is two degrees Celsius (2°C) or less.

Oversize material shall not be incorporated into the sand base course.

If excess moisture exists in the sand base course, it shall be dried to the optimum moisture content as determined by Test 9200, at no direct expense to the Department.

The Contractor may spread and compact the full thickness of sand base course provided that the specified density can be obtained.

Sand base aggregate shall be spread by motor graders or other equipment approved by the Engineer, except that if shoulder base course is placed as a separate operation, a mechanical widener or spreader shall be used.

Each lift shall be compacted to not less than one hundred and three (103) percent of the maximum density as determined by Test 9200. The Engineer will determine, from the test results, the section of base course to be considered for evaluation. The density of this section will be considered satisfactory when:

(1) Test results average not less than one hundred and three (103) percent of maximum density, and

(2) All individual test results are greater than one hundred and one (101) percent of maximum density.

If necessary for compacting, water shall be added to the sand base course in accordance with the requirements for Watering (Specification 2500). Watering and rolling shall be controlled to prevent pumping the fines to the surface.

The finished surface of the sand base course shall be true to grade and cross section and free of any ruts or irregularities.

A prime coat shall be placed on the finished final lift of sand base course in accordance with the requirements for Bituminous Prime, Tack, and Flush Coat (Specification 4000). If necessary, the Contractor shall apply a fog coat of water to the surface of the sand base course before the prime coat is placed.

Failures in the subgrade, sub-base course, or base course, which develop on a section of road upon which imported sand base aggregate has been deposited, shall be repaired at no direct expense to the Department.

Failures in the in-situ sand base course, which develop before the prime coat is placed, shall be repaired on an Extra Work basis provided that the moisture content of the material in the failure is below optimum.

If work must be carried over from one construction season to the next and the number of working days allowed has not expired, the following will apply:

(1) **(a)** A prime coat shall be placed, on the full width of all base course, at the time seasonal operations cease.

(b) The Department will bear the cost of prime coat on finished final lift of base course.

(c) The Department will bear the cost of prime coat, up to a total length of three kilometres (3 km), on any lift of base course unfinished at the time seasonal operations cease.

(d) The Contractor shall bear the cost of prime coat on all other sections.

(2) The Department will bear the cost of routine maintenance from the time seasonal operations cease until the Contractor resumes work in the spring, except that the Department will not accept responsibility after May 15 of any year.

(3) When work resumes, the Department will bear the cost of removing the prime coat from unfinished base course.

(4) When work resumes, the Department will bear the cost of repairing damage on all completed base course plus any continuous three kilometre (3 km) length of uncompleted based course. The Contractor shall bear the cost of repairing damage on all other sections of base course. The repairs may include patching, scarifying, relaying and recompacting to restore the base course to the condition which existed at the time seasonal operations ceased. The Department will bear the cost of replacing prime coat on completed base course.

If work must be carried over from one construction season to the next and the number of working days allowed has expired, the following will apply:

(1) **(a)** A prime coat shall be placed, on the full width of all base course, at the time seasonal operations cease.

(b) The Department will bear the cost of prime coat on finished final lift of base course.

(c) The Contractor shall bear the full cost of prime coat on any lift of base course unfinished at the time seasonal operations cease.

(2) The Department will bear the cost of routine maintenance from the time seasonal operations cease until the Contractor resumes work in the spring, except that the Department will not accept responsibility after May 15 of any year.

(3) When work resumes, the Contractor shall bear the cost of removing the prime coat from all unfinished base course.

(4) When work resumes, the Contractor shall bear the cost of repairing damage on all base course, except that the Contractor shall not be required to pay for the asphalt where hot mix material is used for patching. The repairs may include patching, scarifying, relaying, and recompacting to restore the base course to the condition which existed at the time seasonal operations ceased. The Contractor shall bear the full cost of replacing prime coat on completed base course.

3510 - 4 MEASUREMENT

Imported Sand Base Course will be measured in tonnes.

In-situ Sand Base Course will be measured in square metres. The finished, trimmed top surface of the sand base course, as staked by the Engineer, will be the basis of measurement.

3510 - 5 PAYMENT

Payment for IMPORTED SAND BASE COURSE will be at the contract unit price per tonne. The unit price will be full compensation for removing overburden and excavating, screening, loading, dumping, spreading, compacting, and finishing the sand base course.

Payment for HAULING IMPORTED SAND BASE COURSE will be at the contract unit price per tonne kilometre in accordance with the requirements for Haul (Specification 2405).

Payment for IN-SITU SAND BASE COURSE will be at the contract unit price per square metre. The unit price will be full compensation for shaping, compacting, and finishing the sand base course.

Payment for watering on the road will be in accordance with the requirements for Watering (Specification 2500).

Payment for subgrade preparation and compaction for imported sand base course will be in accordance with the requirements for Subgrade Preparation and Compaction (Specification 3000).

Payment for subgrade preparation and compaction for in-situ sand base course will be in accordance with the requirements for Special Subgrade Preparation and Compaction (Specification 3005).

Payment for prime coat will be in accordance with the requirements for Bituminous Prime, Tack, and Flush Coat (Specification 4000).