SECTION 107

COARSE AGGREGATE FOR USE IN PORTLAND CEMENT CONCRETE

107.1 GENERAL REQUIREMENTS

A. Coarse Aggregate for Concrete Pavement:

The coarse aggregate shall consist of crushed limestone rock or other crushed quarry rock from a source that is approved by SDDOT and meets City of Rapid City and SDDOT specifications for coarse aggregate for use in Portland Cement Concrete.

B. Coarse Aggregate for Class A and M Concrete:

The coarse aggregate shall consist of crushed limestone rock or other crushed quarry rock from a source that is approved by SDDOT and meets City of Rapid City and SDDOT specifications for coarse aggregate for use in Portland Cement Concrete.
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C. Coarse Aggregate for Bridge Deck Resurfacing:

The coarse aggregate shall be produced from crushed quarry stone from sources approved by the Engineer.

D. Related Work:

Section 40 - Portland Cement Concrete Pavement
Section 55 - Concrete Masonry
Section 56 - Concrete for Incidental Construction (Class M)
Section 60 - Concrete Curb and Gutter
Section 61 - Concrete Sidewalk and Handicap Ramps
Section 62 - Drop Inlets
Section 67 - Fabric Formed Concrete Mat

107.2 SPECIFIC REQUIREMENTS

A. Deleterious Substances:

The amount of deleterious substances shall not exceed the following limits by dry weight:

Clay lumps.....0.25%

Coal and lignite	0.25%
Shale and other materials having a specific gravity less than l.95%	1.00%
Soft fragments	2.00%
Other deleterious substances (such as alkali, mica, coated grains, flaky particles, and chocolate rock)	2.00%

The maximum amount of ~~all~~ deleterious substances listed above ~~material~~ shall not exceed two percent (2.00%) by dry weight.

The ~~combined~~ deleterious substances in the ~~total mixture of fine and~~ coarse aggregate for Class M concrete shall not exceed the following limits:

Clay lumps	0.50%
Coal Lignite	0.25%
Shale and other material of less than 1.95 specific gravity	1.00%
Soft fragments	2.00%
Other deleterious materials (such as alkali, mica, coated grains, flaky particles and chocolate rock)	3.00%

The maximum amount of ~~all~~ deleterious material shall not exceed three percent (3.00%) by dry weight.

B. Percentage of Wear:

The percentage of wear, Los Angeles abrasion test, shall not be more than forty percent (40%) by weight.

C. Soundness:

When the coarse aggregate is subjected to five (5) alternations of the sodium sulfate soundness test, the weighted loss shall not exceed ten percent (10%) by weight.

When Class M coarse aggregate is subjected to five (5) alternations of Sodium Soundness test, the weighted loss shall not exceed twelve percent (12%) by weight.

A satisfactory soundness record for deposits from which material has been used in concrete for five (5) years or more, may be considered as a substitute for performing the sodium sulfate soundness test.

D. Gradation:

Each size of coarse aggregate shall conform to the gradation requirements specified in the following table:

PERCENTAGE BY DRY WEIGHT PASSING SIEVE

Size	Nominal Size	1ø in.	1 in.	¾ in.	½ in.	3/8 in.	#4	#8

No.	Sq. Openings							
1	1 inch-No. 8	100	95-100		25-60		0-10	0-5*
3	3/4 inch-No. 8			100	97-100	40-90	5-20	0-5*
5	1/2 inch-No. 8			100	90-100	40-70	0-20	0-5*

*The combined mixture of fine and coarse aggregate shall be such that not more than 1.5 percent passes the No. 200 sieve. This limit shall not be more than 2.5% for Class M Concrete.

E. Sampling and Testing:

Sampling ..... SD 201
Gradation ..... SD 202
Clay Lumps ..... AASHTO T 112
~~Shale~~Lightweight Particles ..... SD 214
Soft Fragments ..... SD 218
Chocolate Rock ..... SD 216
LA Abrasion ..... AASHTO T 96
Soundness Test ..... ~~AASHTO T 104~~ SD 220
Material Finer than No. 200 Sieve ..... SD 206

107.3 METHOD OF MEASUREMENT &
107.4 BASIS OF PAYMENT

Coarse aggregate for use in Portland Cement Concrete and similar uses will be considered incidental to the various bid items. There will be no separate measurement and payment for coarse aggregate used in Portland Cement Concrete and similar uses.

END OF SECTION