Part 1 General

1.1 MEASUREMENT FOR PAYMENT CLASS "A" & CLASS "B"

.1 Measure granular base supply and placement in cubic metres (m^3) to the limits shown on the drawings. Include as incidental any cost associated with scarifying, reshaping and compaction to achieve finished grades as noted on the drawings.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM), latest edition

- .1 ASTM C117, Standard Test Methods for Material Finer Than 0.075 mm Sieve in Mineral Aggregates by Washing.
- .2 ASTM C131, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
- .3 ASTM C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- .4 ASTM D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft^3) (600kN-m/m^3).
- .5 ASTM D1557, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000ft-lbf/ft^3) (2,700kN-m/m^3).
- .6 ASTM D1883, Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.
- .7 ASTM D4318, Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils.

.2 Canadian General Standards Board (CGSB), latest edition

- .1 CAN/CGSB-8.1, Sieves, Testing, Woven Wire, Inch Series.
- .2 CAN/CGSB-8.2, Sieves, Testing, Woven Wire, Metric.

1.3 WASTE MANAGEMENT AND DISPOSAL

.1 Separate and recycle waste materials.

Part 2 Products

2.1 MATERIALS

.1 Granular base: material in accordance with the following requirements:

- .1 Crushed stone or gravel.
- .2 Aggregate quality: Sound, hard, durable material free from soft, thin elongated or laminated particles, organic material, or other substances that would act in deleterious manner for use intended.
- .3 Flat and elongated particles of coarse aggregate: to ASTM D 4791.
- .4 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB-8.1.

Class "A" Granular Base

Sieve Designation	% Passing
19 mm	100
9.51 mm	55-80
4.75 mm	35-60
1.20 mm	17-35
0.300 mm	7-20
0.075 mm	3-6 (pit source)
0.075 mm	3-8 (rock source)

Class "B" Granular Sub-Base

Sieve Designation	% Passing
50.8 mm	100
25.4 mm	50-100
4.75 mm	20-55
1.2 mm	10-35
0.300 mm	5-20
0.075 mm	2-6 (pit source)
0.075 mm	2-8 (rock source)

.1 Liquid limit: to ASTM D4318, maximum 25

.2 Plasticity index: to ASTM D4318, maximum 0

.3 Los Angeles degradation: to ASTM C131. Max. % loss by weight: 35

.4 Crushed particles: at least 50% of particles by mass retained on the 4.75mm sieve to have at least 1 freshly fractured face.

.5 Soaked CBR: to ASTM D1883, min 100, when compacted to 100% of AASHTO T180-74.

Part 3 Execution

3.1 SEQUENCE OF OPERATION

.1 Place granular base after sub-base surface is inspected and approved by Departmental Representative.

.2 Placing

.1 Construct granular base to depth and grade in areas indicated.

.2 Ensure no frozen material is placed.

.3 Place material only on clean unfrozen surface, free from snow and ice.

.4 Begin spreading base material on crown line or on high side of one-way slope.

.5 Place material using methods which do not lead to segregation or degradation of aggregate.

.6 For spreading and shaping material, use spreader boxes having adjustable templates or screeds which will place material in uniform layers of required thickness.

.7 Place material to full width in uniform layers not exceeding 150 mm compacted thickness. Departmental Representative may authorize thicker lifts (layers) if specified compaction can be achieved.

.8 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.

.9 Remove and replace that portion of layer in which material becomes segregated during spreading.

.3 Compaction Equipment

.1 Compaction equipment to be capable of obtaining required material densities.

.2 Efficiency of equipment not specified to be proved at least as efficient as specified equipment at no extra cost and written approval must be received from Departmental Representative before use.

.3 Equipped with device that records hours of actual work, not motor running hours.

.4 Compacting

.1 Compact to density not less than 98% corrected maximum dry density in accordance with ASTM D698.

.2 Shape and roll alternately to obtain smooth, even and uniformly compacted base.

.3 Apply water as necessary during compacting to obtain specified density.

.4 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Departmental Representative.

.5 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.2 SITE TOLERANCES

.1 Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low.

3.3 PROTECTION

.1 Maintain finished base in condition conforming to this Section until succeeding material is applied or until acceptance by Departmental Representative.

END OF SECTION