

**Part 1            General**

<b>1.1    Related Requirements</b>	.1	Section 31 00 00.01 – Earthwork Short Form.
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<b>1.2    References</b>	.1	ASTM International
	.1	ASTM C136-06, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
	.2	ASTM C117-04, Standard Test Method for Material Finer Than 0.075 mm (No. 200) Sieve in Mineral Aggregates by Washing.
	.3	ASTM D4318-05, Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils.
	.4	ASTM D698-07e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft <sup>3</sup> (600 kN-m/m <sup>3</sup> ).
	.2	Canadian General Standards Board (CGSB)
	.1	CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
	.2	CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
<b>1.3    Administrative Requirements</b>	.1	Access: allow access to building at all times.
	.2	Scheduling: co-ordinate paving schedule to minimize interference with normal use of premises.
<b>1.4    Action and Informational Submittals</b>	.1	Submit submittals in accordance with Section 01 33 01 – Shop Drawings, Product Data, and Samples.
<b>1.5    Delivery, Storage and Handling</b>	.1	Deliver, store and handle materials in accordance with Section 016110- Product Requirements and with manufacturer's written instructions.
	.2	Store crushed stone as and where directed by Departmental Representative.
	.3	Packaging Waste Management: remove for reuse and return pallets, crates, padding, packaging materials as specified in Construction Waste Management Plan, Waste Reduction Workplan in accordance with Section 01 74 19 - Waste Management and Disposal.

**Part 2 Products**

**2.1 Materials**

- .1 Granular sub-base: in accordance with the following requirements:
- .1 Crushed, pit run or screened stone, gravel or sand consisting of hard durable particles free from clay lumps, cementation, organic material, frozen material and other deleterious materials.
  - .2 Gradations: within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB-8.1 CAN/CGSB-8.2.
- .2 Table:
- | Sieve Designation | % Passing |
|-------------------|-----------|
| 75 mm             | 100       |
| 4.75 mm           | 25-85     |
| 0.425 mm          | 5-30      |
| 0.075 mm          | 0-10      |
- .3 Granular base: in accordance with the following requirements:
- .1 Crushed stone or gravel: hard, durable, angular particles, free from clay lumps, cementation, organic material, frozen material and other deleterious materials.
  - .2 Gradations: within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB-8.1 and CAN/CGSB-8.2.
  - .3 Table:
- | Sieve Designation | % Passing |
|-------------------|-----------|
| 25 mm             | 100       |
| 19 mm             | 75-100    |
| 9.5 mm            | 50-100    |
| 4.75 mm           | 30-70     |
| 2.00 mm           | 20-45     |
| 0.425 mm          | 10-25     |
| 0.075 mm          | 3-8       |
- .4 Liquid limit: ASTM D4318 maximum 25.
  - .5 Plasticity index: ASTM D4318 maximum 6.
- .4 Granular topping:
- .1 Screenings: hard, durable, crushed stone particles, free from clay lumps, cementation, organic material, frozen material and other deleterious materials.

.2 Gradations: within limits specified when tested to ASTM C136 and ASTM C117.

Sieve Designation	% Passing
9.5 mm	100
4.75 mm	50-100
2.00 mm	30-65
0.425 mm	10-30
0.075 mm	5-10

**Part 3 Execution**

**3.1 Subgrade** .1 Ensure subgrade preparation conforms to levels and compaction required, to allow for installation of granular base.

**3.2 Granular Sub-Base** .1 Granular sub-base material minimum thickness: as indicated.  
 .2 Place material in uniform layers not to exceed 150 mm compacted thickness.  
 .1 Compact layer to 100 % Standard Density in accordance with ASTM D698.

**3.3 Granular Base** .1 Granular base material thickness: as indicated.  
 .2 Spread and compact granular base material in uniform layers not exceeding 100 mm compacted thickness.  
 .3 Compact to a density of not less than 100 % Standard Density in accordance with ASTM D698.

**3.4 Granular Topping** .1 Place granular topping to compacted thickness as indicated.  
 .2 Place material in uniform layers not to exceed 50 mm compacted thickness.  
 .1 Compact layer to 100 % Standard Density in accordance with ASTM D698.

**3.5 Field Quality Control** .1 Inspection and testing of crushed stone paving: carried out by designated testing laboratory.

**3.6 Cleaning** .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.  
 .1 Leave Work area clean at end of each day.

- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
  - .3 Waste Management: separate waste materials in accordance with Section 01 74 19 - Waste Management and Disposal.
    - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- 3.7 Protection**
- .1 Prevent damage to trees and adjacent property.
    - .1 Repair damages incurred.
  - .2 Provide access to building at all times. Co-ordinate paving schedule to minimize interference with normal use of premises.

**END OF SECTION**