PART 1 - GENERAL

1.1 Related Work

.1 Refer to other Specification Sections for related information.

1.2 Reference Standards

.1 ASTM D698-91 (or latest edition) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft) - Method C.

1.3 Measurement for Payment

.1 Granular sub-base will be measured in accordance with **Section 01 29 00**.

.2 Rock fill will be measured in accordance with **Section 01 29 00.**

PART 2 - PRODUCTS

2.1 Materials

.1 Type 2 granular sub-base and rock fill material to **Section 31 05 17** and following requirements:

.1 Crushed stone or gravel consisting of hard durable angular particles free from clay lumps, cementation, organic material, frozen material and other deleterious materials.

.2 Type 2 granular sub base material gradation will be within the following limits:

ASTM SIEVE SIZE	% PASSING BY MASS
56 mm	100
28 mm	60 - 80
5 mm	25 - 45
0.160 mm	0 - 10

.3 Rock fill shall be well graded 300 mm maximum size, free from fines and suitable for placement of granular sub base on top.

PART 3 - EXECUTION

3.1 Inspection of Existing Sub-Base Surface

.1 Do not place new granular sub-base until underlying rock fill material is compacted, inspected and approved by the *Departmental Representative*.

3.2 Placing

.1 Place material only on a clean unfrozen surface, properly shaped and compacted and free from snow or ice.

.2 Place Type 2 and rock fill material to full width in uniform layers not exceeding 100 mm compacted thickness. *Departmental Representative* may authorize thicker lifts (layers) if specified compaction can be achieved.

.3 Shape each layer to a smooth contour and compact to specified density before the succeeding layer is placed.

.4 Remove and replace portion of a layer in which material has become segregated during spreading.

3.3 Compacting

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

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

.3 Apply water as necessary during compaction to obtain specified density. If sub-base is excessively moist, aerate by scarifying with suitable equipment until moisture content is corrected.

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

3.4 Finish Tolerances

.1 Granular sub-base and rock fill material will be compacted to the thickness as required to attain the grades indicated on the drawings.

.2 Finish compacted surface to within plus or minus 25 mm of established grade but not uniformly high or low.

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

3.5 Maintenance

.1 Maintain finished sub-base in condition conforming to this section until succeeding base is constructed, or until granular sub-base is accepted by *Departmental Representative*.

.2 *Departmental Representative* will pay costs for inspection and testing. Refer to **Section 01 45 00.**