Differences between USCS and AASHTO System

According to AASHTO system, a soil is termed as fine-grained if more than 35% passes No. 200 (0.075mm) sieve, whereas in the USC system, if more than 50% passes that sieve. In this respect, the AASHTO system is somewhat better because the soil behaves as fine-grained when the percentage of fines is 35%, and the limit of 50% in USC system is somewhat higher.

In AASHTO system, sieve No. 10 (2.0mm size) is used to divide the soil into gravel and sand, whereas in USC system, sieve No. 4 (4.75mm size) is used.

In USC system, the gravelly and sandy soils are clearly separated, whereas in AASHTO system, clear demarcation is not done. The soil A-2 in the latter system contains a large variety of soils.

Symbols used in USC system are more descriptive and are more easily remembered than those in AASHTO system.

Organic soils are also classified as OL and OH and as peat (P_t) if highly organic in USCS. In AASHTO, there is no place for organic soils.

USCS is more convenient to use than the AASHTO system. In the latter, the process of elimination is required which is time-consuming.

Table 5.4. Approximate Equivalence Between AASHTO and USC System

AASHTO System	*USC system (most probable)*
A-1-a	GW, GP
A-1-b	SW, SM, GM, SP
A-2-4	GM, SM
A-2-5	GM, SM
A-2-6	GC, SC
A-2-7	GM, GC, SM, SC
A-3	SP
A-4	ML, OL, MH, OH
A-5	MH, OH, ML, OH
A-6	CL
A-7-5	OH, MH, CL, OL
A-7-6	CH, CL, OH