

Earthwork Hauls*

In diagramming earthwork hauls, care must be taken to specify only usable materials, which are available for use in the same stage of construction, and not materials, which will be needed in a different phase of work.

Usable excavation should be hauled the shortest distance possible to make fills. Balance points should be established and locations that require additional material (Borrow or Embankment) should be held to a minimum.

Haul material shown in grading diagram is C.Y. of non-compacted material.

EARTHWORK COMPUTATIONS (PAY ITEM FOR BORROW)

Example Roadway #1: Compaction Factor of 20% Shrinkage

Fill (Measured) =	5,000 C.Y.
Cut (Measured) =	5,000 C.Y.
Cut (Adjusted) = (5,000 C.Y. x 80%) =	- 4,000 C.Y.
*Borrow (Measured) =	1,000 C.Y.

* To comply with the plan note for borrow material this quantity must be converted to measured cut to meet borrow requirements. The compaction factor as furnished by the Material Division must be applied to determine the computed borrow as follows:

Sample Borrow Site: Compaction Factor of 20% Shrinkage

Borrow (Measured) = 1,000 C.Y.

Borrow (Computed) = (1,000 C.Y. ÷ 80%) = 1,250 C.Y.**

-or-

Sample Borrow Site: Compaction Factor of 20% Swell

Borrow (Measured) = 1,000 C.Y.

Borrow (Computed) = (1,000 C.Y. ÷ 120%) = 833 C.Y.**

** This is the measured cut required to meet borrow requirements.

Example Roadway #2: Compaction Factor of 20% Swell

Fill (Measured) =	5,000 C.Y.
Cut (Measured) =	5,000 C.Y.
Cut (Adjusted) = (5,000 C.Y. x 120%) =	- 6,000 C.Y.
Surplus (Adjusted) =	1,000 C.Y.

* Added 7/14