

SECTION 62- EXCAVATION OF CUTTINGS

1313. Design of cutting is dealt with in Section 26.
1314. Through cuts. The normal construction method is:
- a. Remove and transport away from the site undesirable soil.
 - b. Excavate down to formation level.
 - c. Haul suitable excavated material to areas where fill is needed.
1315. Side-hill cut:
- a. Road partly on cut, partly on hill. Balance quantities so that spoil from cut will form the fill. For methods of anchoring fill see para 124. Retaining walls are dealt with in Section 131.
 - b. Road on full cut. It usually pays to side cast spoil to waste, even if this involves borrowing material for fill areas.
1316. General rules:
- a. Ensure that cuts are made to full width, allowing for side drains and for berms at foot of banks.
 - b. Provide for drainage during construction.
 - (1) In through cuts keep the centre high.
 - (2) In side-hill cuts keep the inside edge low.
 - (3) Before stopping work, eg, at nightfall, check the condition of temporary drainage.
 - c. When using plant, start cutting at the top slope stake (batter peg). Work deep cutting in steps conforming to the required slope and finally trim the stepped slope.
 - d. Establish downgrades so that plant can work down-hill while cutting, but never cut below the required formation level unless poor sub-grade material has to be replaced.

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1317. Use of earth-moving plant. -Normal applications in forming cuttings are:

a. Dozers. Can deal with most soils and are efficient for hauls up to about 300 ft. Ideal for side-hill cut in form normal ground.

b. Scrapers. Very effective for making cuts and are suitable for longer hauls than dozers.

c. Excavators. Particularly useful for hard material. With dragline equipment, they can be used for soft material unsuitable for mobile plant.

(1) In through cut, efficiency depends upon the transport available to remove spoil.

(2) In side-hill cut they can sidecast spoil over the outer edge.

d. Rooters. Invaluable for breaking and loosening hard material for removal by dozers or scrapers.

e. Graders. Should only be used for light cuts if other equipment is not available.

1318. Excavation by hand. To simplify control when excavating shallow cuttings by hand, set out work as follows:

a. Spitlock the edges of the cut, between shape stakes.

b. Dig transverse trenches at intervals of about 50 ft across the site, giving the correct bank slope and formation level.

It is usually uneconomical to load vehicles by hand, and spill is normally run to waste. Mark out the tipping area, leaving at least 10 ft between the edge of the cutting and the waste tip. Slope the surface of the tip so that its surface water will not drain back towards the cutting.