

Prior Claims.

97. All adjacent or included prior claims and surveys and their boundaries shall be investigated, and, if necessary, redefined in accordance with the titles and original plans. These claims shall be surveyed as held by established or indicated marks on the ground, and shall be shown on the map by black lines if the boundaries disagree with recorded measurements based on original plans and descriptions. If owners of prior claims cannot be found, and if the marks of their claims are obliterated, then it will be competent for the surveyor to re-establish the boundaries by actual survey. A general rule is, not to interfere with original boundaries; but, the surveyor being in doubt, the matter must be referred to the Chief Surveyor for decision.

Isolated Sections.

98. In surveying an isolated section or claim the surveyor shall proceed to the nearest geodesical or trigonometrical station, or to other properly established survey point, and connect his section-work by well-conditioned triangles or by traverse with such other station or point.

ROADS.

Grades, Curves.

99. Main roads, where practicable, should not have a steeper grade than 1 in 20 or a sharper curve than 66 ft. radius when formed. District roads should be laid off with grades not exceeding 1 in 15, and having no curve less than 33 ft. radius when formed. The grades in cross-roads should not exceed 1 in 12. Under certain conditions steeper grades may be permitted with the consent of the Chief Surveyor.

Widths.

100. All roads, as far as practicable, must be on the sunny sides of hills and spurs, graded on the best lines obtainable, and be reserved to a width of not less than 66 ft. In broken country, and where heavy cuttings and banks occur, the width of a road must be increased where necessary.

Widening at Watercourses.

101. At crossings of watercourses where it may be desirable to increase the width of a road it is better to make the road boundaries approaching the crossing diverge to attain the required width than to mark rectangular reserves on the banks of the watercourse.

Grading.

102. In grading roads along sideling ground, when the difference in level between the terminal points will permit, it is advisable while running round sharp curves and gullies either to keep the line level, or to ease the grade where required, to allow for through cuttings and banks being made at some future time to straighten and shorten the road without unduly increasing the grade, and, where necessary, sufficient land should be reserved to allow of this being done. In fact, wherever practicable, the grade on the finished road should be eased at sharp turns. In certain cases longitudinal and cross sections will be necessary, for which special instructions will be given. All gradients steeper than 1 in 20 should be written on the plan, with arrows indicating the direction of fall. Grade-lines should be marked with stakes not less than 2 in. diameter at intervals of a chain, more or less, according to the ground.

Pegging and Width.

103. In level or undulating country the opposite road-angles shall all be pegged; but in rough hilly country, where land is of little value and the traverse-lines short and intricate, the outside pegs at each angle may be dispensed with, and the road shown by straight lines, the ends of which shall be pegged and connected with conveniently situated traverse pegs. The lines bounding the road in such cases need not be parallel, but must not approach nearer than 50 links to the centre of the road, nor be distant therefrom more than 150 links without permission of the Chief Surveyor.

Delineation.

104. In whatsoever manner the side lines of the road are laid off, the bearings and lengths thereof must be computed and shown on the map, and also their positions in relation to the traverse-stations, especially as regards section-corners.

Reference-tubes.

105. At distances of about a mile apart a group of three iron reference-tubes of standard pattern are to be inserted in positions not likely to be disturbed, and be visible from each other, and, where possible, from a trig station.