

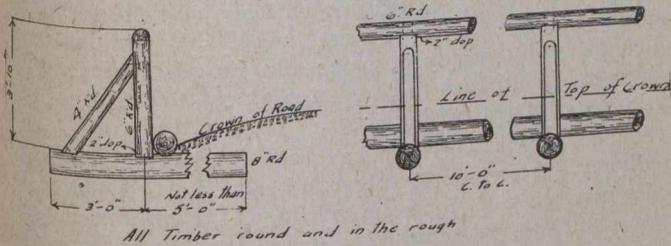
May 24, 1917.

topography and what routes are available. Blazed lines are then run along the most promising routes,—the clinometer being used to keep within grade limits,—and the scenic possibilities and objective points are noted. A comparison of the probable costs of construction along the different lines is also made. If the information obtained is not sufficient to determine the best route, a rough line of levels is run or a rapid preliminary survey made, and sufficient data collected for the purpose.

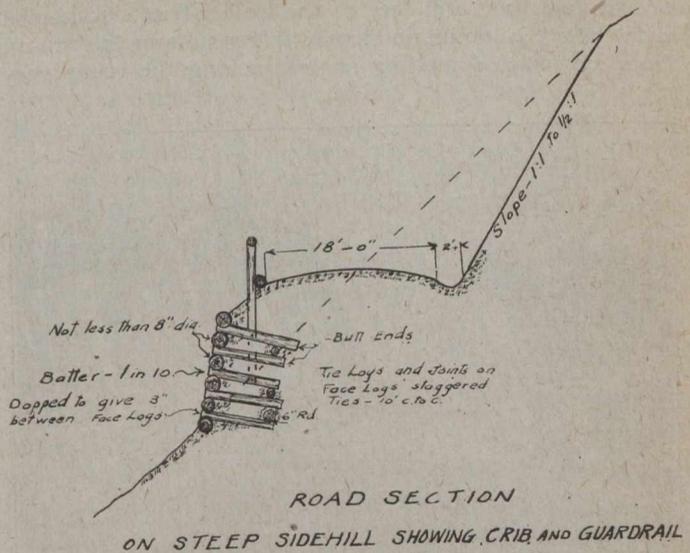
On the line as finally located, curves are staked when the intersection angle exceeds seven degrees, and are run in by the tangent off-set method. When the numerical sum of the intersection angle and the proposed degree of curvature do not exceed 80 degrees, the length of the curve is computed by the standard railroad formula. When this sum is over 80, the formula of circular measure is employed.

Location field work is undertaken with a party of from 6 to 10 men, depending upon the character of the

STANDARD GUARDRAIL AND WHEELGUARD



will have to carry, finished roadbeds varying in width from 15 to 18 feet. An additional width of from 4 to 10 feet is allowed at all sharp and dangerous turns. A super-elevation of the outer edge of the road is also provided



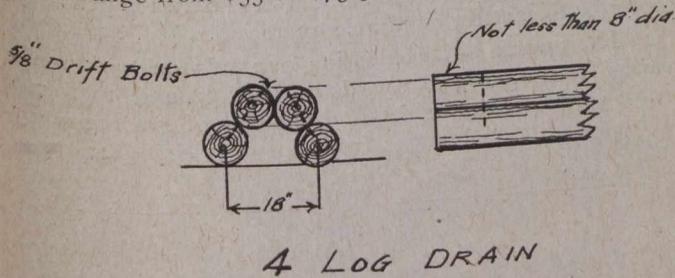
for at such points. The super-elevation for any curve is obtained from the formula:

$$\frac{\text{width of roadbed} \times \text{degree of curvature}}{100}$$

the result being taken in inches.

Drainage.—In order to ensure rapid drainage of the road surface the degree of crowning adopted is one inch per foot,—the total crown for any road being one-half its width in inches.

Ordinary surface drainage is carried across the road when necessary by means of 4-log drains placed in the subgrade. In wet ground where there is no defined water course, these drains are placed from 150 to 250 feet apart and give very satisfactory results. While their capacity is sufficient for such conditions, they cost 80 per cent. less



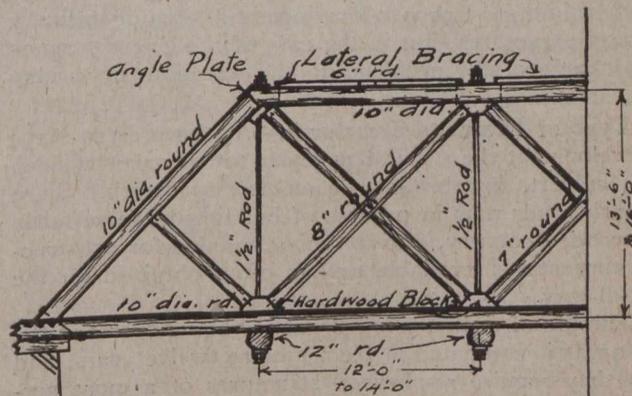
upon the nature of the country and the distance of the work from the source of supplies. These costs cover all lines, such as reconnaissance, preliminary or alternate lines, that may be run in connection with the location survey of the road.

Construction.—In view of the present requirements of the Canadian Parks, the work of construction is being confined to the building of good earth or gravel roads.

For uniformity of construction the roads in each park are built in accordance with standard plans and sections, modified if necessary to meet local conditions.

Clearing of the right-of-way is done to a width of 40 feet, and grubbing to 25 or 30 feet, depending upon the width required for grading. In order to prevent too rapid drying of the road surface where the ground is level and the soil very porous or sandy, clearing may be occasionally reduced to a width of 30 feet. Attractive clumps of fine trees are spared as much as possible during clearing operations.

The width to which a park road is constructed depends upon its importance and the amount of traffic it



than the ordinary wooden box culverts and are very easily constructed.

For defined water courses and streams, box culverts of suitable sizes are provided, and are constructed to the full width of the roadway.

Owing to the singular conditions affecting the drainage of park roads, there is often considerable difficulty in