

on piles, they will be erected according to the following, drawing No. 19, or special drawing. Each bent will be composed of piles, as shown in the drawings. The piles shall be of tamarac, Douglas fir or other approved timber and of sufficient size at the butt or larger end to square not less than 12 inches, and for long piles 14 inches. They must be perfectly sound and straight, sawed or hewed to these dimensions, and be of such lengths as circumstances may require. The piles must be driven by a hammer weighing 1,500 lbs. or upwards, until they reach perfectly firm ground. They will generally be tested by the hammer falling 24 feet at the last blow under which they should not yield more than two inches. Care must be taken to have them driven truly, so that the caps and braces may be properly framed and bolted to them. The spur piles must be curve-pointed, so that as they are driven they will gradually come to the proper inclination. Before being driven the piles must be sawed or chopped off square at the butt, and tapered to a blunt point at the smaller end. Should there appear to be any danger of splitting, the heads must be bound with iron hoops, and if necessary the points be properly shod. The stringers, which will be of Douglas fir or other approved timber, must be bolted together and to the corbels and caps. The stringers must be of sufficient length to reach over two spans, and break joints alternately inside and out. The bank stringers will be 12 inches by 12 inches. The whole to be covered by special ties 9 inches by 8 inches.

TRESTLE BRIDGES.

Trestle
bridges.

38. The structures for the passage of small streams, or for crossing dry ravines, will generally be trestle work built in accordance with the general drawings Nos. 14, 15, 16, 17, and 18. The timber used in these bents may be Douglas fir, pino, tamarac, or other suitable timber, in proportions approved by the Engineer, and of the dimensions shown on the drawings. They will be set on mud sills placed in trenches of sufficient depth to insure a foundation that will not be affected by frost or the wash of the streams, and when properly levelled as to the grade height, &c., earth and stones shall be firmly packed round them. The bents will be spanned by stringers as described above for pile bridges. In marshy or springy ground, a single or double row of piles shall be driven for each bent. The piles will average not less than 12 inches diameter, of suitable timber approved by the Engineer and driven home so as to afford a secure foundation.

Log culverts.

39. In some cases log culverts will be adopted according to the general drawings, No. 25.

MASONRY.

When to be
commenced.

40. The masonry shall not be started at any point before the foundation has been properly prepared, nor until it has been examined and approved by the Engineer, nor until the Contractor has provided a sufficient quantity of proper materials and plant to enable the work to be proceeded with regularly and systematically.

Stone.

41. The stone used in all masonry on the line of Railway must be of a durable

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