

SESS. II.—1891.  
NEW ZEALAND.

## PROPOSED BULLER RIVER BRIDGE, NEAR LONGFORD

(REPORT BY THE ASSISTANT ENGINEER, WESTPORT, ON THE).

*Laid on the Table by the Hon. Mr. Seddon, with the Leave of the House.*

The ASSISTANT ENGINEER, Westport, to the ENGINEER-IN-CHIEF, Wellington.

(Memorandum.)

Public Works Office, Westport, 16th June, 1891.

PURSUANT to your telegraphic directions I have the honour to report as under:—

The necessity for a bridge arises in the fact that there is only one crossing of the Buller in this vicinity, at Longford, and this, being a fordway, becomes unsafe when the river rises 2ft. or over, as is very frequently the case; so that the population at the Mangles and both sides of the Matakiki Rivers are liable to complete isolation.

Two crossings for a bridge are suggested—one at the Mangles, about one mile and a half above Longford, and one about three-quarters of a mile below the same place. The first mentioned is too high up the river to serve the best interests of the people of the district, and it would necessitate a detour of four miles, which would be very inconvenient; the other is in this respect suitable. The descriptions of each site are noted below.

### MANGLES.

Site, 4 or 5 chains below the junction of the Mangles and the Buller; entirely rock-bound, and comparatively narrow, although wider than it appears to be, owing to the boldness and roughness of the features. The best of several similar places in the immediate vicinity, because it opens out below into a pool, whereas all the other places are pinched in below. Flood-rise of 30ft., with high velocity, violent swirl, and liability to heavy surge. Large trees are said to be borne along by the current in a violent and eccentric manner. It is necessary to cross the main channel in one span, and main piers should be of strong concrete or real ashlar, and somewhat massive. The sketch shows lattice-girder spans, continuous 110ft. and 60ft., and 10ft. additional; main piers, 20ft. high; and concrete abutments, road, &c.

I estimate the cost at £5,000 in iron. If strict economy desirable, a timber or composite structure could be made for £3,500; but I do not recommend it.

### EELPOND (TELEGRAPH).

Site, about three-quarters of a mile below Longford. Gentle slopes both sides, with rock at water's edge. The site is in all respects but length particularly favourable. Flood-rise 8ft., with not much acceleration; very even and quiet. What current there is runs between the rock and cylinder-pier. The site of the cylinder-pier is usually perfectly calm, and the foundations for sinking cylinders are favourable. The pier on rock should be of strong concrete; abutments of ordinary strength. The sketch shows two spans 90ft. lattice continuous girder, with 60ft. additional at one end, and 15ft. at the other. One concrete pier 10ft. high, one cylinder 18ft. above low-water line, concrete abutments, road, &c.

I estimate the cost at £5,000 in iron. If strict economy desirable, a timber or composite structure could be made for £3,800; but I do not recommend it.

Before designs are made a very accurate survey of either site would be necessary, and foundations would require testing.

The Engineer-in-Chief, Wellington.

GERALD FITZGERALD,  
Assistant Engineer.

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