ested in the consummation of the work, these are considerations more important than the dividends that may be anticipated.

I have endeavored to submit these considerations for your reflection, in the belief that you will have confidence enough in the enterprise to carry it through, and gain to your respective companies and the public the benefits of the advantages which it holds out.

For further explanations and calculations respecting the construction and equilibrium of such bridges, I must refer you to the printed documents accompanying this paper, in which I have entered into all necessary detail.

Finally, in reply to the inquiry as to the ability of the bridge to sustain the weight of a locomotive engine drawing a train of 200 tons, at high velocity, I have to say that I am prepared to construct the work for the sum at which I estimate its cost—to complete it within the year 1846—and to test its strength by running a locomotive engine drawing 200 tons as often over it as may be desired, and at the highest speed that the engine can attain.

Submitting these remarks for your consideration,

I am, Gentlemen,

Respectfully your obedient servant,

CHARLES ELLET, Jr., Civil Engineer.

P. S. Since closing this communication I have received a letter from a gentleman who takes much interest in the enterprise, desiring to know for how much less the bridge might be built if it were made with a view to pass Rail Road cars drawn over by horses, or carried over by the velocity which the Engine had previously communicated to the train, without subjecting it to the concentrated weight of the Locomotive.

This modification of the plan might be adopted, if it were thought advisable, with a saving in the first cost of about $30,000—reducing the whole expense to $190,000.

This change would not interfere with the further additions by which the bridge would be fitted for the use of Locomotives, if it should ever be found desirable to bring the Engine of the Provincial Road upon this side.

CHARLES ELLET, Jr.

At the proposed site of the Suspension Bridge over the Niagara River, about one mile below the Falls, a new and wide carriage road, with easy grades, and protection walls, has been made the last year, on the *American shore*, from the high banks (near Bellevue Mineral Spring) to the river, by the "*Niagara Falls Ferry Association*," at an expense of several thousand dollars, and there is now a large and splendid *Steam* Ferry Boat, being built by this company, with deck room for *twelve carriages and two hundred passengers* at a time, and a double set of Steam Engines of great power, so as to render the boat perfectly *safe* from accident.

This company are about constructing a carriage road of equal extent on the opposite shore, immediately opposite, and intend to have the steamer ply directly *across* the Niagara river—which is, at the foot of these roads, only *one thousand feet* in width, and as low down as this, is *never* obstructed by ice, so as to prevent navigation—although at the *foot* of the cataract, the ice frequently piles up in large masses, and remains lodged for some time, interfering at times with the row boat ferry at that point. But at this point the river is quite narrow, and the *under* current is rapid, and takes off the ice, (which becomes heavy and sinks after laying some time at the foot of the falls, in the large basin there,) while the *surface* of the water above the rapids will be *entirely* free from ice of any thickness or size. The river at that point has been closed against *row boats* only *twice* in 17 years, as I am informed by those residing there. This ferry, so much and so long needed at Niagara Falls, will doubtless add much to the attraction of the place, as it will enable visitors to