

The present dams have failed because the ground on which they were seated was not firm enough to remain in its place when the counterpoise of the water and of some ten feet of earth under it was removed so near to the base of the dams.

We are therefore convinced that new dams entirely outside of the old ones and far enough from the excavation limits not to be exposed to the fate of their predecessors must be constructed of the largest and strongest piles which can reasonably be obtained and driven. To diminish the weight on bottom we think they should be as narrow as ten feet outside to outside, and depend for stability upon the length and strength of pile rather than upon width of base, and also upon shoring between opposite sides of dam to the fullest extent practicable consistent with the efficient prosecution of the work.

We are aware that the space for an outer line of dam on the east or north sides is limited, but we think it will prove sufficient, in view of the very great protection which the old dams will afford against inward movement of the new.

The piles we propose to use would be hewed oak, 45 feet in length, 14 inches in depth, driven close and so as to stand 6 feet above water, and to go 12 feet below bottom of excavation, and secured against spreading in the most efficient manner.

In view of the unexpected delays and difficulties we have encountered in our efforts to carry out the plans and instructions of the engineers of the Department, and in view of the increased expense involved in the excavation of the plans now proposed to overcome those difficulties, we shall expect a favorable consideration of all the circumstances of this particular work in our progress estimates.

We have the honor to be, Sir,

Your very obedient servants,

HUNTER, MURRAY & CLEVELAND.

The Honorable Minister of Railways and Canals.

OTTAWA, June 3rd, 1880.

SIR,—Referring to our communication of the 31st ult., we beg to say that it has been represented to us that the hindrance and delays in the completion of our contract for the Aqueduct are attributable in a large degree to the employment of unskilled persons and insufficient means to unwater the foundations. Without admitting the correctness of that statement, we beg to assure the Minister that we are ready and willing to employ the most experienced and skilful workmen that can be found in the country.

We have already secured the professional advice and assistance of the most experienced hydraulic engineer in the country, outside of the Department, and the plan proposed in our letter is in accordance with that advice.

We have the honor to be, Sir, your most obedient servants,

HUNTER, MURRAY & CLEVELAND.

F. BRAUN, Esq., Secretary, Department Railways and Canals, Ottawa.

OTTAWA, 11th June, 1880.

SIR,—I have carefully read over letters, Nos. 88,025 and 88,060, from Messrs. Hunter, Murray and Cleveland, Contractors, relative to matters connected with their works at the proposed new Aqueduct through Chippewa River, at Welland.

Shortly after receiving them they were sent to the resident officer at Welland for his report, which is herewith appended, and will be found to give a fair representation of the various matters to which the contractors have seen fit to draw attention, when replying to the letter of the 13th ultimo from the Department, requesting them "to submit a practical scheme for the immediate resumption of the work" (at the Aqueduct) "now in abeyance, in a manner agreeable to the tenor of the contract, &c."