

is to say, the top of the coping on the south-west side immediately over the abutment of the present Aqueduct.

In order to give as much space as possible for the flow of the river at the time when the works are in progress, the channel above and adjoining the new structure is to be widened out and made of such a depth as may be considered necessary by the Department of Railways and Canals.

The material removed by dredging for the foundation of the Aqueduct, the deepening and widening of the channel to the extent above described, or for such other extent as may be required, must be taken up the Chippawa River by the contractor and deposited on ground acquired, at his own cost and expense, at such place or places on the banks as may be approved of by an officer entrusted with that duty.

It will not, however, under any circumstances, be allowed to be deposited in the river, and the place selected on the banks for placing it must be sufficiently solid to carry the additional weight without any risk of sliding or settlement, or in any way having a tendency to diminish the width or depth of the river at or near the place where the spoil bank is formed.

The contractor's arrangements must be such that the material, after it has been taken to the place where it is to be spoiled, can be lifted and thrown back or be otherwise placed at such a distance back from the water line as to leave no doubt whatever but that the river, for its full width and depth, shall continue to be free and uninterrupted.

The material excavated from the pit (below the level of 41 feet under the top of the coping of the present aqueduct) after the pit shall have been laid dry, must, of course, be taken out chiefly over the sides of the coffer dams; the cost of which, together with that of finding the necessary spoil ground on which to place it, must be embraced in the price tendered for that item of work.

Parties tendering for the execution and completion of the works are requested to examine the dams in the vicinity of the aqueduct, as the greater part, if not the whole of them, must be removed before the construction of suitable coffer dams can be commenced. Attention is specially invited to this fact, as contractors are expected to base their calculations on removing the whole of the wreck of the present dams, at the same time bearing in mind that the piles which are driven below the bottom line are not to be pulled or drawn out, but must be sawn or cut off at a height corresponding to either the bottom or top line (as may be subsequently determined) of the lower stratum of concrete in the foundation. To enable this to be done on that part of the dam parallel with the stream, as well as that part next the old aqueduct, the clay must be taken out first and transported to such a place as may be approved for spoil ground for material removed from the foundation for the structure. The whole to be removed under similar conditions as subsequently provided for in this specification for the removal of the new coffer dams. The piles, timber and irons taken out of the old dams to be the property of the contractors. For clearing out and removing the clay between the ranges of piles, cutting off the piles and doing all the work necessary to enable new coffer dams to be formed, the contractor must state a bulk sum in the tender submitted.

*Coffer Dams.*—May be constructed by means of two ranges or more of square piles, closely and carefully driven, with a space between them of suitable width for puddled clay. The piles should be of white oak not less than 13 inches square, sawn or dressed parallel throughout the entire length, driven close together, from 8 to 10 feet below bottom, by a suitable ram, between horizontal ranges of guide or wale pieces fastened with heavy screw bolts to gauge piles driven not more than 10 feet apart in line of dam. The wale pieces in the puddle chamber should be removed before the puddle opposite them is put in place. The inside ranges of sheeting piles, where the space admits, must, of course, be supported by means of buttresses or counterforts formed of piles driven close at right angles to the dam, or they may be of strong skeleton framework, the intermediate spaces in either case being strengthened by means of raking and horizontal braces. That part of it ranging with the stream