

The mortar used throughout the masonry was made of the best Canadian cement mixed with clean sharp sand, in the proportion of two of sand and one of cement, except in the coping joints where the mixture was one of sand and one of cement.

During the progress of the masonry, puddling in rear of the walls and counterforts, 3-ft. deep, was carried up to a height of 18-ft. A 2-inch pine flooring was also laid, breaking joints both lengthwise and transversally with the 3 in. flooring underneath.

At each end of the north wing wall, a rock face wall of random coursed masonry was built in the shape of a reverse curve. The portion connecting the lock was a continuation of the curve of the wing wall for a length of 13 ft. 9 ins., and from thence a reverse curve was carried on for a length of 86 ft. 6 ins.

The thickness of the retaining wall at the base was 8 ft. 9 ins., with a face batter starting at $\frac{1}{2}$ in. and ending at $1\frac{1}{2}$ in. to the foot. The back of it was built plumb up to 18 ft. high, and from thence a frost batter was formed up to 23 ft. high, varying in width from 3 to 5 feet. The top of the coping was 3 feet wide.

At the end of the above, a cross wall with steps 16 ins. high was built on an inclination corresponding to the adjoining slope of the bank of the channel way. The thickness of the wall was 8 ft. 9 ins. at the base, with a face batter of $1\frac{1}{2}$ ins. to the foot, and in rear a frost batter was also carried up to the top of the step coping.

The foundations of both retaining and cross walls were built in a manner similar to that of the lock, with the exception that the timbers were placed 1 foot apart.

From the end of the South-East semi-circular wall, a rock face wall of random coursed masonry was also built to make connection with that of the old lock. Its foundation was similar to that of the retaining walls. It was built in two portions, the former, 16 ft. long, stepping up 6 feet above the lock foundation, and the latter portion, 49 feet long, stepping up 2 ft., being on the same level of the old lock walls.

For the erection of the latter, a pile dam had previously been built.

At the upper end of the South-West wing of new lock, a square face return wall was carried up plumb to the same height as lock walls. Its thickness at the base is 9 ft., and it has a frost batter similar to the adjoining walls. Its length is 32 feet. To ensure the erection of this wall, a pile dam had also been built.

From the end of that upper return wall will commence the abutment of the proposed supply-weir.

The construction of the supply-weir, as well as that of the lock-gates and cross-dams, will form a subject which it is proposed to describe at some future date.