

Appendix
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dingly ; which they have great reason to be satisfied with, both in point of appearance and convenience, it being evidently a very great improvement.

The Commissioners believe, that during the ensuing month, the whole excavation from the Regulating Lock upwards, will be completed, and the residue of that now in operation between the second and third Locks, and the embankment through the marshy ground on Mr. Chapman's farm, will be effected in the winter—the loose marshy soil of that marsh has been removed and replaced by an embankment of earth impervious to water.

Thus, when the second and third Locks are finished, with the necessary sluices and overshots, all which are expected to be accomplished before July next—the Canal will then be navigable for the space of about seven miles, being nearly to the St. Joseph Suburb ; when stone and other materials can be conveyed through it for the remaining four Locks, provision for a part whereof will be made during the winter. The remaining excavation to the Locks near the river could easily be executed next season, as also a considerable part, if not all, of the Locks, if there be means. The reason that the whole may not be practicable next season is, that the stone and other materials can only be conveyed through those in succession, as they get completed.

The Commissioners have to state another very important and advantageous alteration which they contemplate making in the line from the place where the Canal will be so navigable to the River above the Port, but without at all changing or interfering with the point of separation of the present branch from that intended when the Canal may be extended to below the current St. Mary. Every part of the present excavation will be available, and no part of any labour or expense already incurred will thereby be lost, the deviation being not more than the present Act sanctions for the convenience of execution.

This alteration, or rather deviation, has been suggested, nay, imposed upon the Commissioners by the extravagant ideas entertained of the value of the grounds in the line through the St. Anne Suburb and Munn's Ship Yard, added to the heavy expense for temporary damages which would be occasioned during the time of the operations by excavation and otherwise, through the inhabited part of that Suburb ; as also the cost of the numerous Bridges which would be required in crossing the Streets thereof ; besides the great inconvenience they would permanently create to the neighbourhood by their necessary elevation above the level of the Houses—and the endless complaints against labourers and workmen, and other vexations with which the Commissioners would be daily assailed, as have been already experienced.

From all these considerations, and especially a saving of expense to the probable amount of many thousand pounds, the Commissioners feel it to be their bounden duty to make such a deviation in the before intended line for that part of the Canal, as will avoid the above said Suburb, by winding through the *Farm of St. Gabriel*, a corner of that of the *Grey Nuns*, if necessary—and the *Common*, whereby it will enter the river somewhat higher up, and in consequence leave more room for the vessels from sea, and river craft, which come to the present Port of Montreal, and also afford a larger extent of beach for erection of wharves to load and unload the Canal Boats.

Should it however be enquired, why these reasons were not anticipated—the answer is—that in all great public works experience points out in the progress of their execution, improvements to be made, and inconveniences and objections to be overcome, which could not be foreseen ; but when they do appear, are not to be disregarded, by reason of any apprehension of blame for not being discovered earlier.

The Commissioners since last Spring, have gone every Saturday to La Chine along the line of the Canal to inspect the works, which has been attended with material benefit, and they meet at the Canal office every Monday for the transaction of business, and at other times when necessary.

Unfortunately the Engineer has been very unwell since the summer, and consequently unable to give that regular attendance to which he was accustomed ; but they have the satisfaction of adding that the works having been previously laid out by him, and partly proceeded in, and reports being daily made to him of the progress, no interruption has thereby arisen, and when he was occasionally able to inspect what was done, the whole were found to be going on in perfect conformity to his wishes, and to the instructions from time to time given by him to the Assistant Superintendent and Overseers.

The former Assistant Superintendent having retired at his own request, for the purpose of entering into a different line of employment, another was last spring appointed in his stead ; and it being found essential to have a confidential and scientific person, to measure the contract work when delivered over, distinct from the person who superintended the execution thereof, and consequently as more impartial between the Commissioners and the Contractors ; Mr. John Adams, of whose capacity and correctness they had previous experience, has been since the beginning of September last, engaged on the like salary as the Assistant Superintendent, in which situation he is meant to be continued, and the services of the other will be dispensed with at the expiration of the twelve months for which he was engaged—both have been fully employed.

The whole expenditure from the commencement to this date, 31st October 1823, as by the several accounts stated, and vouchers rendered therewith, is

£51,750 0 7

And the total of monies received is as follows :—

In virtue of the first Provincial Grant	£25,000 0 0
Do. second do.	10,000 0 0
From His Excellency the Commander of the Forces on behalf of His Majesty's Government	10,000 0 0

Carried forward £45,000 0 0 £51,750 0 7

Brought forward	£45,000 0 0	£51,750 0 7
Received for Materials of a Store and Shop demolished at La Chine	25 0 0	
	45,025 0 0	
Leaving a balance of	£6,725 0 7	

This balance has been supplied by Loans from the Bank of Montreal, on the personal responsibility of the Commissioners, who intend continuing the same course to the extent of the twelve thousand pounds granted by the Act of last Session, whereof circumstances have prevented the reception. The Commissioners seeing that ruin to the undertaking would have attended the stoppage of the works at any period during this year, did not hesitate to lend their pecuniary aid in addition to their personal gratuitous services, in the hope that measures will be adopted for going on and avoiding a like necessity in future.

At the same time they have to state, that in addition to the abovesaid twelve thousand pounds already granted, when available, a further grant of twenty thousand pounds currency will be required to finish the line of the Canal, including the protection of its entrance into the River above the Port, and excavation near the Beach, so as to complete the whole in a substantial manner. This will exceed the amount estimated in their last Report, by the sum of seven thousand pounds currency.

To account for such a difference, they have to state, that the excavation in Rock has continued greatly to exceed what was expected. The excavation of the Lock and Tunnel Pits being of great depth, and in till or hard pen, nearly as difficult as rock, has been very expensive. In many places where no indications thereof were had, either from the surface or from pitting, beds of rock, in some places continuous, and in others interrupted at intervals, have been discovered as they proceeded. The cost of grounds and damages awarded have universally exceeded the estimates thereof, and unavoidable extra expenses in various ways have been incurred.

The undertaking in this Country being new, no previous criterion existed for ascertainment of the expense of Masonry proper for Locks, and other charges connected therewith. The Commissioners had the choice of two courses to pursue—one of apparent economy by a superficial execution of work—another of eventual saving by solidity in the first instance.

In all public works intended to descend to posterity, durability ought to be the primary consideration, regardless of that parsimonious deception, which under the mask of present appearances, leaves the future to chance.

The Commissioners can say with truth that they have in many instances been more scrupulous about the expenditure than if the matter had personally regarded themselves ; and they trust that they will have to boast, if the means be afforded them, that when the whole is finished, no work of the like kind in America, or elsewhere, will be found superior in substantial execution and durability. This climate is most trying for Masonry, and therefore great depth of foundation, and other precautions in its execution, become the more imperious as a duty in those who direct it.

The Locks and Basins have on each side, walls of solid masonry six feet thick, faced with large masses of cut stone laid in ranges, headers and stretchers alternately, and braced throughout with counterforts or buttresses at every thirteen feet—the joints are pointed with Roman cement—the mortar used is made of lime slacked immediately as wanted, and sharp sand—cleared of earthy particles ; after every layer is finished, the whole of the internal part thereof is grouted—that is, filled up by pouring into the interstices a mortar made of quick lime, sand, and gravel intermixed. Behind this solid mass of Masonry a bed of puddle is laid, whereby the whole is rendered impervious to water, both before and behind.

The bottoms of all the Locks are, or will be composed of inverted arches of masonry, (the regulating Lock excepted, because of its being founded on rock) a modern precaution, as a support to the side walls, and an effectual prevention of the floors being raised, or blown up, as is technically expressed, if water by any means should get introduced below them.

The Commissioners cannot close this Report, without earnestly and respectfully submitting to the Legislature the propriety and necessity of granting the additional sum still needful for the proper completion of the work ; otherwise, if now abandoned or postponed, it could not at a future time be resumed, but under great disadvantages, and the character of the Country would in the mean time suffer.

It may be proper to add, that whosoever goes along the banks of the Canal, will be surprised at the great extent of human labour which has been expended, and which is rendered conspicuous by the general mass of rock and earth that has been removed. The time employed therein will not appear unnecessarily great, when it is considered that the first spade was put into the ground, on the seventeenth of July one thousand eight hundred and twenty one, about two years and a quarter since.

Two Gentlemen are employed in making an Estimate of the value of the Ground through which the Canal would pass if the same were continued to the Current of Saint Mary ; but being a work requiring a considerable time, and they not being aware of the early meeting of the Legislature, they have not been able yet to finish it, but it will be sent as early as practicable.

All which is respectfully submitted.

Montreal, 31st October 1823.

JOHN RICHARDSON, Chairman,
C. W. GRANT,
D^{vd}. ROSS,
T. PORTEOUS,
FRANS. DESRIVIERES,
GEORGE GARDEN.

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