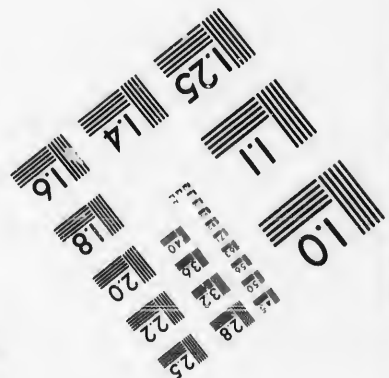
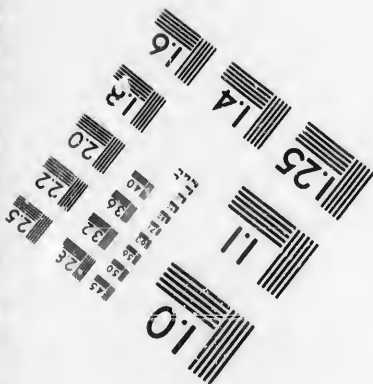
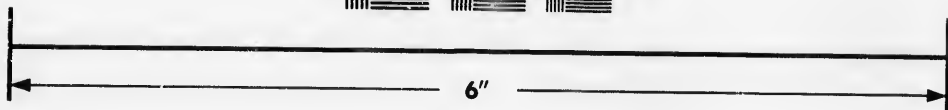
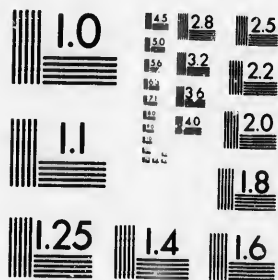


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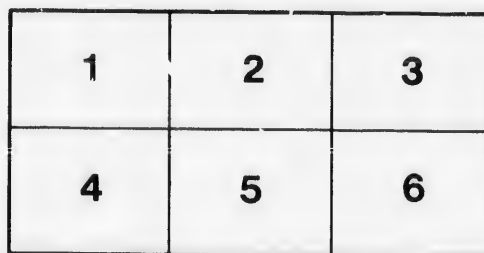
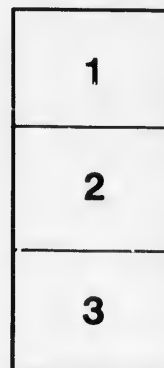
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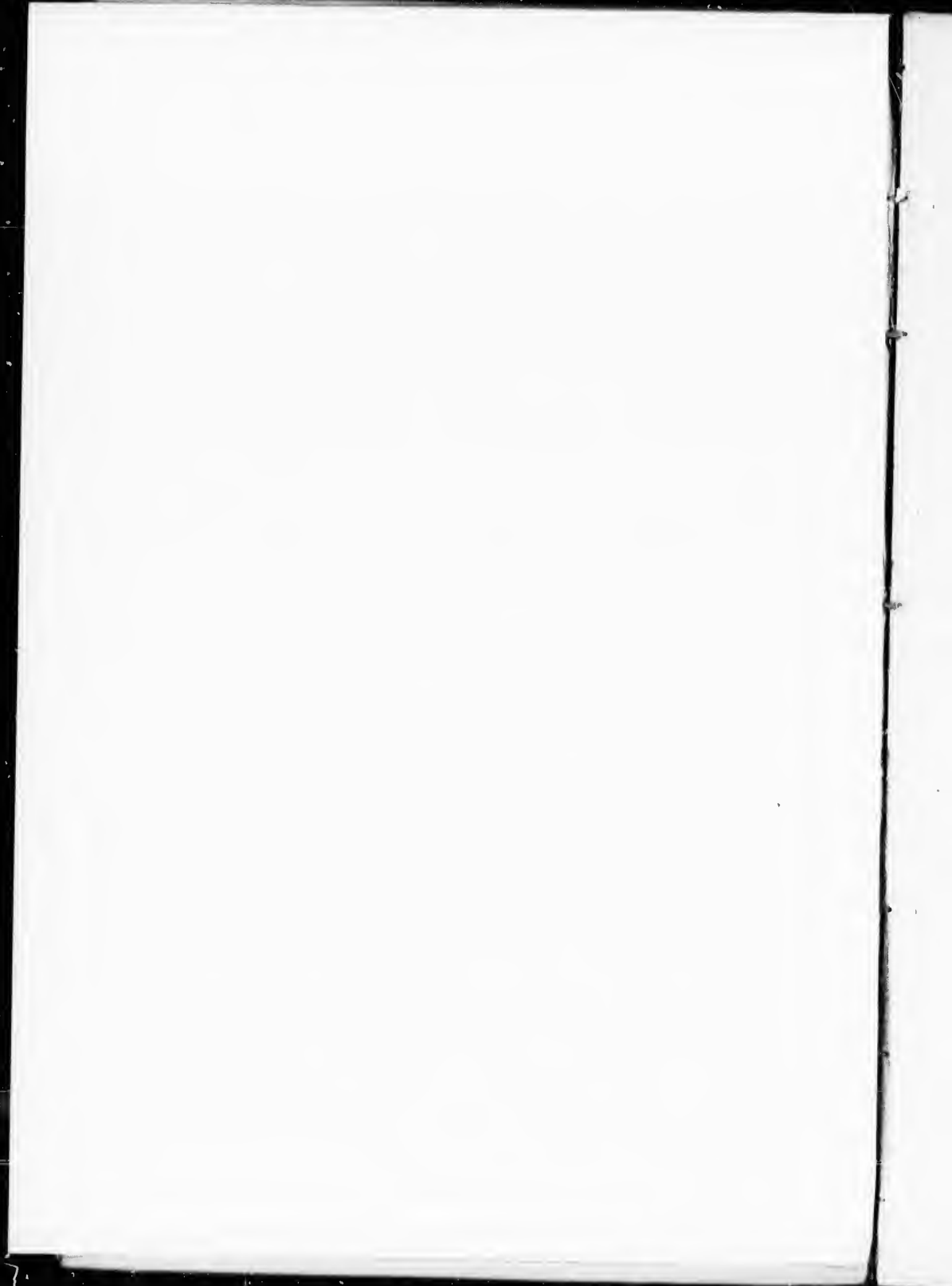
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R E P O R T

FROM THE

SELECT COMMITTEE

APPOINTED TO TAKE INTO CONSIDERATION

THE ACCOUNTS AND PAPERS

RELATING TO THE

CANAL COMMUNICATIONS IN CANADA.

—
1832.

*Ordered, by The House of Commons, to be Printed,
29 June 1832.*

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R E P O R T.

THE SELECT COMMITTEE appointed to take into consideration the ACCOUNTS and PAPERS relating to the CANAL COMMUNICATIONS in CANADA, and to report their Observations thereupon to The House, together with the MINUTES of EVIDENCE taken before them, and an APPENDIX:—HAVE examined the Matters to them referred, and agreed to the following REPORT:

YOUR COMMITTEE have examined the Papers referred to them, and some Witnesses, whose Evidence they thought would be of importance.

With respect to the RIDEAU CANAL, The House will recollect, that, according to the Papers presented to Parliament in 1831, the Estimate for that Work amounted to £ 693,448, exclusively of a sum of £. 69,230 for Fortifications, and the purchase of Land. The Money already voted amounts to £. 692,666, leaving a balance of £. 782 to complete the Estimate of 1831.

Parl. Paper,
10 Feb. 1831,
No. 135, p. 133,
109, 127 & 128.

By a Memorandum from the Office of Ordnance, dated May 18th, 1832, it appears that the total expenditure on the Canal, up to December 31st 1831, was £. 715,408. 15. 6., being an excess of £. 22,742. 15. 6. beyond the Votes of Parliament; and of £. 21,060. 15. 6. beyond the Estimate for the whole Work made in 1831. The present Estimate, as given in the Memorandum just referred to, in the Abstract annexed to it, amounts to £. 776,024. 5. 6., being £. 83,358. 5. 6. more than the Votes of Parliament, and £. 82,576. 5. 6. beyond the Estimate of last year. If, however, to last year's Estimate be added a sum of £. 69,230, which in the Papers then presented to Parliament was stated to be likely to be required for Defences and Bridges, and the purchase of Land, and if £. 27,750 for nearly the same purposes be added to the Estimate of this year, the two sums will then be, for the Estimate of 1831, £. 762,693, and for that of this year, £. 803,774. 5. 6.; being an excess in the Estimate of this year, as compared with that of the last, of £. 41,076. 5. 6.

Vide Appendix

Vide Abstract,
18 May 1832.

Ordnance Paper,
18 May 1832.

It is, however, to be observed, that last year, with respect to the sum of £. 69,230 it was stated, that, with the exception of £. 8,230 for Bridges, it would not be necessary to apply that sum immediately: how far the postponement then recommended has been attended to, your Committee, from the manner in which the accounts are made up, have been unable to determine.

Report, 1831, p. 6.

The present Accounts, therefore, show an Expenditure of £. 22,742. 15. 6. beyond the Votes of Parliament; and an Estimate of £. 111,108. 5. 6. beyond the same Votes for the completion of the Canal, and for Expenses and Works stated to be in necessary connection with it. Of this sum, what portion may have been already spent, or even what part of it may be involved in existing contracts, Your Committee have no means of ascertaining with accuracy: they presume, however, that, under the arrangements which still subsist, the Public must be ultimately liable for the payment of the whole; this, of course, supposes that the Contracts shall have been faithfully performed; of their nature and character Your Committee have inserted an explanatory Note from the Office of Ordnance:

what periods, and after what examination, the payments should be made, must be left to the discretion and judgment of the Government; but whenever the Canal shall be finished, Your Committee think that it would be most desirable to close the Accounts with the least possible delay.

Vide Appendix.

An Estimate, dated 21st June 1832, has been prepared by the Office of Ordnance for the annual maintenance and repair of the Canal, and for the management of the Locks. This amounts to £.18,799. 1. 6. for the present year, and Your Committee presume that a sum must be proposed for this service on account; as, however, this threatens to be an annual expense, they recommend that immediate steps should be taken to place this charge on a regular and economical footing; and they agree with the Treasury and Colonial Office in thinking, that the Provinces of Canada, to whom the whole of these Works must be most valuable, may be reasonably expected to bear this expense. Those Provinces, they hope, will not be indisposed, for such an object, to come to the assistance of the Mother Country, by whom so large an expenditure has hitherto been exclusively incurred. It appears to be still quite uncertain, and it must be so until the Water Communication from Montreal to Kingston shall be completed, how far any tolls to be collected on the different Canals may or may not be sufficient to keep them in repair, and to support the necessary establishment.

Report 1831, p. 8;
Parl. Papers, Feb.
1831, No. 135,
p. 110, 114, 117.
Vide Appendix.

With respect to the three Canals on the Ottawa, Your Committee observe, that in 1831 the Estimate for these Works, including £.54,245 for the enlargement of the Grenville Canal, amounted to £.285,367. The Votes of Parliament amount to £.209,099, leaving by the Estimate of 1831 a sum of £.76,268, still to be provided for. By a Memorandum from the Office of Ordnance, dated June 16th, 1832, it appears, that up to the 31st December 1831, there had been expended upon the Grenville Canal, £.137,244; on the Carillon Rapids, £.23,721; and on the Châte-la-Blondeau, £.9,872; making a total sum of £.170,837, being £.114,530 within the Estimate of 1831, and £.38,262 within the Votes of Parliament. It is now stated in the Memorandum from the Office of Ordnance before referred to, that £.18,411 will be sufficient to complete these Canals, exclusively of £.54,245 for the enlargement of a part of the Grenville Canal. There is also an Estimate from the Ordnance Office of £.23,761 for the expense of the Superintendence and Establishment connected with the Canals on the Ottawa: on this point Your Committee must refer The House to the observations made in the Report of the Committee of 1831.

Ibid.

Report of 1831, p. 8.

Your Committee think it due to the Office of Ordnance, under whose directions the Works on the Ottawa have been placed exclusively, to call the attention of The House to the care and economy with which they appear to have been recently conducted, the expenditure of the year having been far within the annual Vote, and various savings appearing in the present Estimates; they therefore do not hesitate to recommend the completion of these Works, with the exception of the enlargement of the Grenville Canal, to which they will presently advert. The Estimate for this purpose has been already stated to be £.18,411, which, with the money expended up to the 31st December 1831, makes a total of £.189,248, being a saving on the Estimate of 1831 of £.96,119, or, if we exclude from the Estimate of 1831 £.54,245 for the Grenville Canal, a saving of £.41,822.

	£	s.	d.
Rideau	803,774	5	6
Ottawa	170,837	--	--
Establishment	23,761	--	--
	£.993,022	5	6
	23,761	--	--
	£.1,016,783	5	6

It results from this statement, that the Votes for the whole of this Water Communication amount to £.901,765, and that the present Estimates, including the money already spent, amount to £.993,022. 5. 6. for the completion of the Rideau Canal, and the Canals on the Ottawa, on the scale now existing; this calculation excludes the £.54,245 at different times proposed for the enlargement of the Grenville Canal, and the expense of Superintendence and Establishment on the Ottawa.

From the evidence of Colonel Durnford, and from past experience, Your Committee fear that the present Estimates will be found insufficient for the Rideau Canal. They are therefore of opinion, that it would be imprudent not to calculate on some excess, though they have no means of estimating its amount; and they doubt whether the expectation held out by Colonel By, of opening the Canal on the 1st of May 1832, has been realized.

With

With regard to the enlargement of the Grenville Canal, and the contemplated Works, either at St. Ann's and La Chine, or in the rear of the Island of Montreal, the Committee do not think that any immediate decision need be taken. The Grenville Canal, if it remain at its present size, will not absolutely interrupt the communication, and in the mean time some experience will have been obtained of the sufficiency and durability of the Works already completed. The same observations apply to the proposed Works on the Island of Montreal, with this additional reason for suspending the decision of Parliament, that the Estimates appear, from Colonel Durnford's Evidence, to have been altogether framed by Colonel By; and the Committee, after what has passed with regard to the Rideau Canal, do not think that it would be prudent to rely on their accuracy. They observe, that in the Miscellaneous Estimates on the Table of The House, it is proposed to ask for a Vote of £.62,500 for the Water Communication in Canada, and they cannot advise the proposal of a larger sum until more full and accurate explanation of the expenditure on the Rideau shall have been obtained. They recommend that the money shall be employed in satisfying existing Contracts wherever they have been faithfully performed; and that in the present state of information and experience on the subject, no Fortifications should be undertaken on the Rideau, nor any further Works proceeded with, either on the Ottawa or the Island of Montreal.

Having now called the attention of The House to various details of Expense, Your Committee are anxious to describe shortly the extent of the Works in question. The distance from Kingston, on Lake Ontario, to By Town, where the Rideau River joins the Ottawa, is stated to be 150 miles; from By Town to the Grenville Canal, 64 miles; making together 213 miles, throughout the whole of which line the Locks and Cuttings are of a size to admit Steam Boats 134 feet long, 33 feet wide, and drawing 5 feet water.

Col. Durnford's Evidence.

From the Grenville Canal to Montreal is 64 miles: all the Locks on the Carillon and on the Châte-à-Blondeau are of the same size as on the Rideau; but on a part of the Grenville Canal, commenced before the larger scale was adopted, some Locks and a part of the Cuttings will only admit Boats 20 feet wide; the Locks on La Chine Canal (a provincial Work near Montreal) are also calculated for Boats of 20 feet; and the imperfect Work at St. Ann's, described by Colonel Durnford, will not allow the passage of larger Boats. Until, therefore, the Locks on the Grenville Canal and the Works on the Island of Montreal shall be made on the same scale as those on the Rideau, the navigation for Boats above 20 feet wide will be interrupted where the smaller Locks begin; and if larger Boats are used on the Rideau, and on the higher part of the Ottawa, all goods must be unshipped on arriving at the Grenville Canal, and be either conveyed by portage, or removed to smaller Boats. The Estimate for enlarging the Grenville Canal being £.54,245, and that for making a communication between the Islands of Montreal and Jesus being stated to be £.117,270, the whole expense of completing this part of the Water Communication would be £.171,515, if it were probable that the Estimates were accurate. Colonel Durnford states, that though the expense of making a Canal at St. Ann's might be from £.23,000 to £.46,000, according to the particular line which was determined upon, yet, that as in that case La Chine Canal must also be enlarged, the passage that way would be nearly, if not quite as expensive, and in all other respects much less eligible, than by the rear of the Island of Montreal. If at any future time the further prosecution of these Works should be thought desirable, The House will have to determine in what way the expense should be provided for; but Your Committee cannot recommend that any Money should now be voted for that purpose.

Your Committee cannot conclude their Report without a strong expression of their regret, that the irregularity, hitherto so much complained of in the conduct of the Works on the Rideau, should have prevailed to a great extent in the course of the last year. The expenditure has much exceeded both the Estimates and the Votes of Parliament; and a considerable delay, not very perfectly explained, seems to have taken place in making this excess known to the Treasury. Your Committee are the more surprised that this should have occurred, as the Treasury Minutes of the 10th of June and 8th July 1831, called the attention of the several departments of Government to the subject, and gave positive directions, which appear calculated

Vide Appendix.

Appendix.

to remedy the inconveniences complained of. By a Treasury Minute of May 11th, 1832, some restraint is imposed on the application of Money by the Commissary General of Canada. Your Committee have observed this with pleasure, being of opinion, that in Works of this description there is no security against extravagance; and the amount of expense can never be accurately known, unless the annual expenditure be confined within the limits of the annual Votes. In those cases, of rare occurrence, in which a deviation from this principle may be unavoidable, Your Committee believe that the directions contained in the Treasury Minutes above referred to, would secure the Public Service from interruption and inconvenience; they trust, therefore, that the Treasury will not allow the Orders contained in these Minutes to be neglected by any Department, and that they will take care that they are carried into strict and immediate execution; and in conclusion, with a view to place Works of this description under the undivided responsibility of one Department, they suggest the expediency of inserting the Votes for Money in the Ordnance Estimates, and not in the Miscellaneous Estimates.

29 June 1832.

MINUTES OF EVIDENCE.

WITNESSES.

Colonel <i>Elias Walker Durnford</i>	- - - - -	P. 7
<i>William Sargent</i>	- - - - -	11
Colonel <i>Ellicombe</i>	- - - - -	12

Veneris, 15^o die Junii, 1832.

J. N. FAZAKERLEY, ESQUIRE,
IN THE CHAIR.

Colonel *Elias Walker Durnford*, called in; and Examined.

WHAT situation do you hold at present?—Colonel of the corps of Royal Engineers.

What situation did you hold in Canada?—I was the Commanding Engineer.
How long were you there?—Fifteen or sixteen years.

Were you there when the works on the Rideau Canal were first ordered?—When the works on the Rideau Canal were first ordered, Lieutenant-Colonel John By was sent out as having the command of that work, totally independent of the command I hold in the country.

In what year was that?—1826.

Did you receive any authority to superintend the executions of the works?—I never was considered the executive officer, for my station was between 300 or 400 miles from Colonel By; I only went up occasionally to inspect and give opinions; I had nothing to do with the formation of the plan; I have reported frequently upon it.

When did you leave Canada?—I left Canada last November.

When did you last see the Rideau Canal?—In September last.

That was nearly at the conclusion of the works of that year?—They went on during the winter partly, and the works were very near closing.

Up to what date have you any account on which you can rely of the state of the works of the Rideau Canal?—I have nothing official since I left Quebec in November last.

What do you understand to be the present state of the works?—I understand they are very nearly completed.

State a little more precisely when you expect them to be completed?—I expect they will be completed this summer.

Do you think they are likely to have been completed on the 1st of last May?—I have every reason to think they were.

Have you any knowledge yourself of the sums that have been already expended on the Rideau Canal?—To the best of my recollection upwards of 600,000*l.* had been expended when the last Reports went through my office.

It has been stated, that since December last a further sum of upwards of 60,000*l.* will be required to complete the Canal; have you examined the accounts upon which that sum has been calculated, and have you any opinion as to how far it will be sufficient to complete the works?—I have not yet examined every item, I have examined a few this morning.

Can you give the Committee any opinion which would justify them in coming to any conclusion as to that sum being probably sufficient?—I think from my own opinion,

Colonel
E. W. Durnford.
15 June,
1832.

8 MINUTES OF EVIDENCE BEFORE SELECT COMMITTEE

Colonel
E. W. Durnford.

15 June,
1832.

opinion, and from what I have always reported, that there must inevitably be an excess upon the Estimate.

Will you read a memorandum of Sir Alexander Bryce's, dated 1832, in which you will see that a sum of 60,000*l.* is stated as likely to be required to complete the Rideau Canal, and say whether you have any information to lead you to suppose that that will be sufficient or insufficient?—(After reading the above Letter)—I have no information; the Reports up to the 31st of December last have not been through my hands.

Can you state to what date the accounts of the expenditures of the Rideau Canal passed through your hands?—I cannot speak to the dates.

What is your opinion upon the works of the Rideau Canal?—I consider they are very magnificent works, and done in a most substantial manner.

Do you think it likely that a great annual expenditure will be required to keep them in repair?—There certainly must be a considerable expense in keeping them in repair.

Have you formed any notion of what the extent of that expense will be?—No, sir, I have not at present; I believe Reports have passed through my office, detailing in some measure what would be likely to be the expense; but in a work of that description it is impossible to say, where so much depends on contingency, and floods to which that country is subject.

Do you think it possible, in consequence of the greatness of the floods, and of the nature of the climate, that the works are likely to be exposed to any considerable injury?—I should hope not; from what I have seen I think they are built in so substantial a way, that they are very likely to resist any thing but what is an extreme unforeseen casualty.

Have not some parts been already exposed to the trials of several winters?—Yes, and they have stood remarkably well.

Do you think the great work at the Hog's-back is effectually secured against the recurrence of similar accidents?—To the best of my judgment it is secure now.

Can you give the Committee any notion of what would be the probable expense of keeping the works of the Canal in repair, independent of any extraordinary casualty?—I think very little will be required for repairs for the next two or three years.

Do you think 5,000*l.* a year would cover it?—To the best of my judgment it would.

Has it ever occurred to you that it would be necessary, this being intended as a military communication, that fortifications and works of defence should be erected on the Canal?—Yes, there should certainly be some defence; and I have been instructed to aid in forming some Plans both for the entrance at the Rideau Canal and at Kingston.

Are there any intermediate points in which you would think places of defence necessary?—That has not been taken into consideration yet.

I ask your opinion, as a military man, do you think, in the event of a war with the United States, parts of this Canal would be exposed to sudden injury, unless works of defence were erected at points intermediate between Kingston and By Town?—A provision has been proposed for erecting block-houses at several of the locks; and as there is a considerable extent of country between the Rideau and the St. Lawrence, the population, assisted by a small military force, could keep an enemy at bay in the other parts of the line.

What is the nature of the country generally between the Rideau and the St. Lawrence?—It is a fine country, thickly wooded.

Is it a level country?—You may call it rather a level country.

Are there roads?—There are a few.

Are they easy of access from the American frontiers?—Not very easy at present; as the settlement extends, more roads will probably be made, and the access will then be easier; but at the same time population will increase, and in that respect the means of defence will be better.

But at present, and for some time to come, is not the state of the country, such as in itself to oppose obstacles to incursions from the frontiers?—It is.

Would a small force in a short space of time be able to do such serious injury to any one point as to destroy the whole communication on the Canal?—They might certainly blow up a single lock or ruin the gate; but in that case a portage would be sufficient to keep up the communication for the time.

Colonel
E. W. Durnford,15 June,
1832.

If the upper gate was to be blown up, might not the pressure be very materially increased on the next gate?—It would derange that nest of locks.

From whom did you receive instructions to prepare any scheme of works for the defence of this Canal?—I received instructions from the present Master General, then Governor of Canada, to prepare a Plan of Defence near the Ottawa River.

When did you receive those instructions?—These last two years.

In consequence of those instructions, what did you do?—Plans have been making, which are not yet submitted.

To what do those Plans apply?—To what is called the eight locks at By Town.

Did you also lay any Plan of Defence near Kingston?—Yes.

Did you project any scheme of defence for any of the intermediate points?—None, except the block-houses.

How many block-houses did you propose?—I do not recollect; nearly where every nest of locks were, 18 or 20.

About how many block-houses are already erected?—About one or two.

Where were they executed?—I know one was under execution at Merrick's Mills, and another at a place called Burritts.

Was it proposed in projecting the erection of these block-houses that the block-houses should be devoted exclusively to military purposes, or that they should answer the purpose of a residence for persons having the charge of the locks?—They were intended for both purposes.

Then at all events it would be necessary to erect some buildings in each nest of locks?—Yes, where there are none at present.

Do you imagine there would be a considerable difference in the expense of erecting those block-houses for purposes of defence and residency conjointly, or only for the purpose of residency?—I believe it has been stated by Colonel By that there would be a difference of about 300*l.* at each block house.

Have you formed any opinion as to what would be the amount of establishment necessary for working the Rideau Canal?—I am hardly prepared to say that, because it would require some calculation.

Do you expect considerable traffic to arise on this Canal from the nature of the country through which it passes?—I certainly do; it will increase every year.

Do you expect considerable traffic from the country through which it passes, as well as from serving as a means of communication between the Ottawa and Lake Ontario?—I anticipate there will be a great traffic.

Is not the country through which it passes fit for cultivation, and abounding with timber?—It is.

Do you think it will ever supersede the St. Lawrence as a means of communication between the upper and lower country?—As far as I can judge at present it will.

What is the difference between the tonnage of the vessels likely to traffic on the Rideau Canal, and those which alone can traffic on ordinary occasions down the St. Lawrence?—Double or treble.

What is the size of the steam boats?—The lock is intended to take a boat of 134 feet by 33.

Are you acquainted with the Canals at the Ottawa?—I have occasionally visited them for inspection, as I did those at Rideau.

Are you acquainted with the Grenville Canal?—Yes.

What is the state of the Grenville Canal?—The locks are now completed; but one set of locks are of a different size to the other; those that were first built are of the size of the La Chine Canal, only 20 feet wide; the others that have lately been constructed are of the same dimensions as the Rideau Canal, which are 33 feet.

How many are there of a smaller construction?—Three or four.

Do you consider it to be necessary, in order to continue this navigation profitably, that all the locks should be made of the larger size?—Most undoubtedly.

Are you aware that a sum of 54,000 odd hundred pounds has been given as the Estimate for this work?—I believe it has.

Are you acquainted with the Châte-à-Blondeau Canal?—I am.

What is the state of the Châte-à-Blondeau Canal?—It is nearly finished, I believe.

Upon what scale are the locks of the Châte-à-Blondeau Canal?—The large size; the same size as the locks on the Rideau Canal.

Do you know the Carillon Canal?—I do.

Colonel
E. W. Durnford.

15 June,
1832.

Are you aware of the state of the Carillon Canal?—Yes, it is in considerable forwardness, and will, I apprehend, be finished this year.

How long do you think it would take to finish the two other Canals at the Ottawa to which you have just referred, the Grenville and the Châte-à-Blondeau?—They will be completed this year, I should think, except the enlargement of the locks on the Grenville.

What is the state of the St. Ann's Canal?—It is not yet begun, but small steam boats can pass through a minor channel, where there is a small temporary wooden lock, which is private property.

It being desirable to complete the communication between Montreal and the Ottawa upon a scale large enough to carry the steam boats that are intended to navigate through the Canal, in what way should you think it most desirable to accomplish that object?—I have reported, to the best of my opinion; the navigation should go at the back of the Isle of Montreal, between the Isle of Montreal and the Isle of Jesus.

Do you think it would be more advisable to make the communication in that way, rather than by cutting a Canal to St. Ann's?—Yes.

For what reasons do you think it would be more advisable to do it?—In a military point of view it would be safer in every respect.

But only considering traffic, what should you say?—Even considering traffic by the Rideau and Ottawa, I think it would be best; I think the navigation would be better; there are only four obstructions.

If, on the other hand, you were to propose to conduct the navigation through a Canal to be cut at St. Ann's for steam boats of the size alluded to, would it not also be necessary to enlarge the locks in the La Chine Canal?—Certainly.

There appears to be a letter from you, dated the 2d November 1831, transmitting Estimates for turning the St. Ann's Rapids, which vary in amount from 23,000*l.* to 46,000*l.*; be so good as to account for that variation?—One was keeping on the side of the village of St. Ann's, and the other was conducting it on the opposite side of the river.

Which would be the best mode of executing that work?—I should think on the opposite side; there would be a difficulty even in getting depth of water either way for the large communication.

You also at the same time transmitted an Estimate of 117,000*l.* odd hundred pounds for making the water communication in the rear of the Isle of Montreal; do you believe that sum would be sufficient for that purpose?—I should think it would.

Have you examined it?—I directed the officer who made the Estimate to calculate fully upon it.

Have you reason to rely on the judgment of the officer who made that Estimate?—Certainly. It was Colonel By who made it.

Have you ever examined the river yourself?—I have been at it, and seen it in a cursory way.

Your reason for supposing that sum would be sufficient arises from the reliance you place on Colonel By's judgment?—Yes, and I instructed him to estimate fully upon it.

And notwithstanding the difference in expense as an engineer, you would advise that the Government should order the execution of the water communication by the rear of the Island of Montreal?—In forming that judgment I took into contemplation the alteration of the La Chine Canal.

What would be the expense of altering the locks on the La Chine Canal?—It appears to me it would cost almost as much to alter the La Chine Canal, and to construct locks through St. Ann's, as to carry the communication by the back of the Island of Montreal, and there would be conflicting interests to consider into the bargain.

Could you state the positive advantages that would be derived by going through the River De Prairies?—It would be more shelter in case of war from an enemy, and that you could make one shipment from Lake Ontario all the way down to Quebec.

Have you considered the possibility of executing the whole of the communication between Montreal and By Town, upon the scale of the smaller Grenville Locks?—No; I have always supposed Government intended to make them on the larger scale.

Suppose

Suppose the Government were to entertain the idea of executing the communication between Montreal and By Town upon the smaller scale, would it be possible now, consistently with the state in which the works are at present?—I should think not; because the large locks are nearly finished at every point of the line, except those contiguous to the top of the Grenville Canal.

Could you say what would be the difference of expense in constructing the communication by the De Prairies River for the smaller boats and for the larger boats?—The difference in the expense would be very inconsiderable, because you must have the same dams for a very material part of your work, viz. the dams, and you must raise them to the same height.

Is the only considerable saving which could accrue by constructing the remainder of this communication on the small scale in place of the large scale of the Rideau Canal, the saving in the alteration of the small locks on the Grenville Canal?—There would be a small saving to the extent of the difference in the expense of constructing the locks on the small scale, instead of the large scale.

Having transmitted an Estimate of 117,000*l.* for completing the water communication to the rear of Montreal Island on the large scale, what saving would there be, constructing it on a small scale?—I apprehend the saving would be inconsiderable.

You transmitted Estimates for making a Canal at St. Ann's and a water communication by the rear of Montreal; do you consider yourself to be responsible for the accuracy of those Estimates?—I think I ought to be; going through my office, they are all examined regularly at my office; if I had any doubts of their accuracy, it would be my duty to inquire into and investigate them.

Have you any doubts of the accuracy?—I have not.

Then, in point of fact, you, as the responsible officer, sent these Estimates to the Government, as sums on which they might confidently rely?—Yes, to the best of my judgment.

That responsibility applied not only to the accuracy of the sums, but as to the eligibility of the proposed plan?—Yes.

Whether it should be the one side of St. Ann's or the other side of St. Ann's, that was all equally done on the responsibility of the Commanding Officer of the district?—Yes.

From what period of those works do you consider your responsibility to have commenced?—I do not know whether I am actually considered responsible for the execution; the executive officer is the person who is responsible for that.

How do you consider the responsibility as between Colonel By and yourself, for the general recommendation of parts of this work?—I had little to do with the Rideau Canal; Colonel By was sent out especially to form Plans and Estimates respecting that work, independent of me.

What parts of the work have been under your immediate responsibility?—The whole of those works since handed over to the Ordnance, consisting of Carillon, Châte-à-Blondeau, and the Grenville Works.

When all those works were placed under the control of the chief officer of the Ordnance, was the control of them practically taken away from Colonel By?—They were not.

William Sargent, called in; and Examined.

WHAT situation do you hold?—I have the superintendence of the Commissary Department.

William Sargent.

Are you aware of the manner in which money has been issued to the officers conducting the water communication in Canada?—As far as comes within my knowledge, I have reason to believe that it has been issued in the same way as at the other stations, and at all other Ordnance Boards.

State the way in which that money is issued?—By drafts drawn by the respective officers of the Ordnance at the station, upon the Commissary in charge of the military chest, if the sum is above 5*l.*

By whom are those drafts cashed?—By the Commissary. The drafts are drawn by the respective officers of the Ordnance, in favour of the individuals to whom the money is due, and presented by those individuals to the officers in charge of the military chest, from whom he receives payment.

Does the Commissary, as a matter of course, pay drafts from the officer of the Ordnance to any amount?—I conceive so.

*William Sargent.*15 June,
1832.

Is there no control to any sums so drawn for on the part of the Commissary?—I am not aware of there being any control, as far as regards any positive regulation.

Are the annual Votes of Parliament not communicated to the Commissary, as any control or guidance for his paying those drafts?—I believe not. At the commencement of each year, it is the duty of the Commissary to collect estimates from the heads of the Public Departments, of the expense likely to be incurred throughout the year in such department, and he transmits those to the Treasury.

But if the drafts very much exceed this estimate, the Commissary still honours the drafts?—There is no instance within my knowledge of any such occurrence.

Do you mean that no instance has ever occurred within your knowledge of drafts being drawn exceeding the estimates?—At the beginning of each month, or oftener if necessary, it is the duty of the Commissary to ascertain what are likely to be the demands upon him during the ensuing month, and to provide the funds to meet those demands.

Are the Votes of Parliament, then, no control upon the Commissary?—I conceive not, unless he had special instructions from the Treasury not to exceed that Vote.

Has it been the practice of the Treasury to give such instructions?—I am not aware of it.

In the instance of the drafts drawn by Colonel By upon the Commissary in Canada, his drafts exceeded the sum voted last year by upwards of 22,000*l.* and the Commissary gave money for those drafts; do you consider that he transacted the business in the ordinary manner?—Certainly.

If, besides the sum of 22,000*l.* by the Votes in Parliament, and beyond any estimate which has been submitted, a further sum of upwards of 60,000*l.*, making in the whole a sum of more than 83,000*l.* beyond what had been voted by Parliament, and beyond any estimate which had been received here, had been drawn for by Colonel By on the Commissary in Canada; do you, in these circumstances and in the case of so large a sum, consider the Commissary justified in paying that money?—It depends upon the period within which you confine your question.

Within one year?—At the end of the year I conceive it would have been the duty of the Commissary to have reported that circumstance.

Do you think he should, notwithstanding that, have honoured the drafts?—Yes.

Has the Commissary on foreign stations any discretion in answering or refusing drafts from the officer acting under the orders of the Ordnance Department?—I conceive he has not.

Colonel Ellicombe, called in; and Examined.

*Colonel
Ellicombe.*

CAN you give the Committee a statement up to the last period to which you have received reports of the money expended on the different Canals on the Ottawa?—For the Grenville Canal, the Carillon Rapids, and the Châte-à-Blondeau, I can, from the documents received from Canada to the 31st December 1831.

Be good enough to do that with regard to each Canal separately?—It appears by a report received to that date relative to the Grenville, that 137,244*l.* had been expended, which, with 775*l.* then in hand, it is understood will complete this Canal, with the exception of widening the locks and banks, for which it is shown by the same papers that 54,245*l.* is necessary. No part of the enlargement has been commenced.

Now the Carillon Rapids?—The Estimate for this work amounts to 45,464*l.*

Is that the Estimate of what remains still to be spent, in order to complete it?—No, of this there had been expended, on the 31st December 1831, 23,721*l.*, which would leave a balance of 21,000*l.*; but in point of fact the work would be executed for 36,244*l.*, which gives a saving of 9,226*l.* on the amount of the original Estimate.

Are you of opinion that, according to the last reports received by the Board of Ordnance, that the Ottawa Canals will be completed on their present scale for the sum now given in as an Estimate?—I have no reason to doubt it.

Now, with regard to the Châte-à-Blondeau?—The approved estimate for this work was 20,785*l.*; of that had been expended, to the 31st December 1831, 9,872*l.*, which leaves a balance of 10,913*l.*; but by the same papers it appears there will be a saving of 5,800*l.* on the approved Estimate.

What

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What is the balance then remaining to complete it, including that saving?—Five thousand one hundred and thirteen pounds.

Is there any other expense connected with the completion of the works in the Ottawa?—Yes, the establishment, the expense of which was estimated at 23,761.; it forms a part of the total already estimated for these works, and must be added to the sums that I have before mentioned.

In what way do you consider the Commissary to be restricted in answering the drafts of an officer under the Ordnance Department on a foreign station?—When the Votes for the Ordnance Estimates are granted, a communication is made by the Ordnance Department to the Respective Officers at each station, acquainting them in the fullest detail the actual amount granted under each head of service, and which they are ordered not to exceed; and this would form the ground of the estimates given to the Commissary Department for the probable wants of the Ordnance Service, if called for by the Commissariat Department.

Colonel
Ellicombe.

15 June,
1832.

APPENDIX.

LIST.

Appendix.

- 1.—COPIES of EXTRACTS of Correspondence between the Board of Ordnance and Officers under their orders in Canada; and of any Reports from them since the date of the last Papers presented to The House, respecting the Progress of the Canal Communications in that Country, and the past and prospective Expenditure thereon; and any Correspondence with the Treasury and Colonial Office on the same subject - p. 15
- 2.—COPY of LETTER from the Secretary of the Ordnance, dated 21st May 1832, respecting the Expenditure upon the Works of the Rideau Canal in Canada; together with a Copy of the Treasury Minute thereon - - - - - p. 32
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APPENDIX.

Appendix, No. 1.

COPIES or EXTRACTS of CORRESPONDENCE between the BOARD of ORDNANCE and OFFICERS under their orders in *Canada*; and of any REPORTS from them since the date of the last Papers presented to The House, respecting the Progress of the CANAL COMMUNICATIONS in that Country, and the past and prospective Expenditure thereon; and any Correspondence with the TREASURY and COLONIAL OFFICE on the same subject.

Copy of a LETTER from the Right honourable *T. Spring Rice*,
to Viscount *Hovick*, &c. &c. &c.

MY LORD,

Treasury Chambers, 12th September 1831.

I HEREWITH transmit to you, by command of the Lords Commissioners of His Majesty's Treasury, for the information of Secretary Lord Goderich, Copy of a Letter from the Secretary to the Board of Ordnance, on the subject of the Instructions which have been given to their Officers at Quebec, in consequence of the decision of this Board, that the Lands, Canal and Works of the Rideau Navigation shall be placed in the charge of the Ordnance Department; and My Lords request that Lord Goderich will give Instructions to the Governors of Upper and Lower Canada, and the other proper Authorities in those Colonies, to afford the Officers of the Ordnance all necessary assistance for carrying the intended arrangement into effect. With reference to the last paragraph of the Letter of the Secretary to the Ordnance, in which he submits the expediency of forming some arrangement to prevent that Department from being burthened with the expense of the Rideau Canal, until the Revenues arising from Tolls be more productive, I have it in command to state to your Lordship, that this Board are desirous of having the opinion of Lord Goderich with respect to the practicability of obtaining aid from the Colony for the purposes alluded to. When the vast sums expended on this undertaking from the public purse are considered, it may be fairly expected that till the Tolls of the Canal become productive, the maintenance of a Work of such importance to the Colony should be made a matter of Colonial Charge.

I have the honour, &c. &c.

(signed)

T. Spring Rice.

Copy of a LETTER from *R. Byham*, Esq. to the Honourable *J. Stewart*,
&c. &c. &c.

SIR,

Office of Ordnance, 29th June 1831.

ADVERTING to your Letter of the 23d November last, communicating the sentiments of the Lords Commissioners of His Majesty's Treasury in regard to certain Lands purchased for the service of the Rideau Canal, referred to in a Correspondence between the Department and that of the Colonial Secretary of State, and notifying their Lordships' decision, that the Lands, Canal and Works of the Rideau Navigation shall be placed in the charge of the Ordnance Department;—

I have the honour to transmit to you herewith, for the information of the Lords of the Treasury, a Copy of the Instructions which the Master General and Board of Ordnance have given to their Officers at Quebec in consequence of this decision; and I am to request you will be pleased to move their Lordships to issue

their directions to the Governors of Upper and Lower Canada, and the other proper Authorities in those Provinces, to afford the above Officers all necessary assistance in carrying the intended arrangement into effect.

The Master General and Board beg leave at the same time to submit to their Lordships' consideration the expediency of some arrangement being formed to prevent the Ordnance Department from being burthened with the maintenance of the Rideau Canal, until the Revenues arising from the Tolls, &c. shall become sufficient to cover the expense.

I have the honour, &c. &c.

(signed)

R. Byham.

LETTER from R. Byham, Esq. to the respective Officers, Quebec.

GENTLEMEN,

Office of Ordnance, 29th June 1831.

THE Master General and Board having had under their consideration various Reports which have been received from Lieut.-Colonel By, (through the Inspector General of Fortifications) relative to purchases of land made by him for the service of the Rideau Canal, and having been pleased, on a communication from the Lords Commissioners of His Majesty's Treasury, to sanction Lieut.-Colonel By's proceedings in regard to those purchases, I have it in command to signify the same for your information.

2. I am also directed to acquaint you, that it having been decided by the Lords of the Treasury, that the Lands, Canal and Works of the Rideau Navigation shall be placed in the charge of the Ordnance Department, the Master General and Board desire you will take the necessary steps, in conjunction with the commanding Royal Engineer in Canada, to effect, in a legal manner, the conveyance to the Ordnance of the lands which may have been obtained, conformably with the Act of Legislature of Upper Canada, for the use of the Rideau Canal; and I am to inform you that directions are given to the latter officer to report what further purchases, if any, of land are absolutely necessary to complete this Navigation, and for its defences, according to the provisions of the Act, that orders may in like manner be given for the conveyances still required.

3. The Master General and Board further desire you will investigate and report if any claims are likely to be brought forward by individuals, for remuneration for injury sustained to their lands in the execution of the Canal, to which the Ordnance are liable by the terms of the above Act.

4. And also, that you will report, after communicating with the Crown Surveyor of Upper Canada, whether Government are liable to the execution of any work or any expense not provided for in Lieutenant Colonel By's Estimate of £. 576,757 under the 11th Article of the Rideau Act; and whether the repair of the Bridges and Communications therein contemplated, is from time to time to be executed at the expense of Government; or whether the Bridges and Communications traversing the Canal, after being erected, may not be permanently transferred to the local Authorities, and all further expenses in their maintenance be incurred by them.

5. I am commanded at the same time to desire you will communicate with the Commander of the Forces and the Lieutenant Governor of Upper Canada, and such other local Authorities as may be necessary, as to the several Rates and Dues to be established for Boats, Barges, Steamers and other Vessels or Rafts navigating the Canal, and for the use of any Wharfs or Quays the property of Government. And I am to desire you will report fully on this point; stating your opinion whether these Dues should be farmed out in portions or collected by the Ordnance, or in what manner the whole of the Revenues of the Canal and adjoining Government Lands will be most advantageously collected for the Ordnance, stating my preliminary steps that may be necessary, and when the measure can be brought into operation.

6. The Commanding Royal Engineer in Canada will be instructed to consider and report what mode he would propose for performing, from time to time, in the most efficient and economical manner, and with the least possible delay, all repairs that may

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may be required to the Works of the Canal; and the Master General and Board desire you will report, in conjunction with that Officer, and with the concurrence of the Commander of the Forces, what Establishment will be necessary, as well for the collection of the rent and revenues as for the execution of repairs, and the expenses consequent thereon.

7. A communication on this subject has been made to the Lords of the Treasury, accompanied by the Master General's and Board's request, that their Lordships would be pleased to issue their Instructions to the Governors of Upper and Lower Canada, and to the other proper Authorities in those Provinces, to afford you all necessary assistance in carrying the intended arrangement into effect.

8. And I am to add, that Lieutenant-Colonel By will be directed to furnish you with every information you may require in regard to the Lands referred to in the first paragraph of this Letter, and also in respect to all matters relating to the Rideau Navigation.

I am, Gentlemen, &c.

(signed) R. Byham.

LETTER from R. W. Hay, Esq., to the Right honourable T. Spring Rice, &c. &c. &c.

SIR,

Downing-street, 24th September 1831.

I HAVE laid before Viscount Goderich your Letter of the 12th instant, enclosing a copy of a Letter from the Secretary to the Board of Ordnance, relative to the instructions which have been given to the Ordnance Officers at Quebec, in consequence of the Rideau Navigation being placed under the charge of that Department.

I am directed to acquaint you in reply, for the information of the Lords Commissioners of His Majesty's Treasury, that, in compliance with their request, necessary Instructions will be given to the Governor of Lower Canada, and to the Lieutenant-Governor of Upper Canada, to afford every assistance which may be required by the Officers of the Ordnance, to enable them to take upon themselves the charge of the different Works connected with the Rideau Canal. You will also please to acquaint their Lordships, that Lord Goderich concurs with them in opinion, that until the toils upon the Canal may become productive, it is reasonable to expect that the Province should come forward in bearing the burthen of keeping up a work which has cost so large a sum to the Mother Country. His Lordship will accordingly instruct Lord Aylmer, without loss of time, to send down a message to the House of Assembly of Lower Canada, when the Legislature next meets, recommending them to make provision for this purpose; and as Lord Goderich is of opinion that this expense should be equally borne by the two Provinces, similar Instructions will be transmitted to the Lieutenant-Governor of Upper Canada.

This message will necessarily be unaccompanied by any estimate of the expense of these repairs. His Lordship cannot therefore but anticipate some difficulty in inducing the Legislatures of Upper and Lower Canada to enter into an engagement, of the extent of which they have no means of judging; and it would, perhaps, materially conduce to the success of this application, if the Board of Ordnance could supply as accurate a statement as may be possible of the probable amount of these expenses.

Lord Goderich would not have considered it necessary that this application should be made to the Legislatures of the two Provinces, had there been any means of meeting the expense out of the revenues at the disposal of the Crown; but the charges upon that fund are already considerable, and it is proposed to increase them still further by defraying from it a portion of the expense occasioned by the Church Establishment in the Province, which (as their Lordships are doubtless aware) is at present provided in a different manner.

I am, Sir, &c.

(signed) R. W. Hay.

LETTER from Viscount *Goderich* to Major-General Sir *John Colborne*,
&c. &c. &c.

SIR,

Downing-street, 1st November 1831.

I HAVE the honour to transmit to you the Copy of a Letter from the Secretary to the Treasury, inclosing Copy of the Instructions which have been given by the Ordnance Department to their Officers at Quebec, in consequence of the decision of the Treasury, that the Lands, Canal and Works of the Rideau Navigation shall be placed in charge of the Ordnance Department; and in compliance with their Lordships' request, I beg to recommend the Officers of the Ordnance for your support and assistance in carrying the intended arrangement into effect.

With reference to the last paragraph of the Letter of the Secretary of the Ordnance, in which he submits the expediency of forming some arrangement to prevent that Department from being burthened with the expense of the Rideau Canal, until the Revenue arising from the Tolls, &c. shall become sufficient to cover the expense, I am to request that you will recommend to the Assembly of Upper Canada, when the Legislature next meets, to make provision for the expense which, you will perceive by the inclosed Letter addressed by my direction to the Secretary to the Treasury, I am of opinion ought to be equally borne by the Provinces of Upper and Lower Canada.

I am, &c. &c.

(signed)

Goderich.

Copy of TREASURY MINUTE, dated 7th February 1832.

MY LORDS have read with much concern a Memorandum received from the Board of Ordnance, dated the 3d February, from which it appears that, in addition to the very large sums already voted for the Rideau Canal, a further sum of £.25,624. 13. 4. is reported by Lieut.-Colonel By to be required for the completion of the Canal. My Lords observe, that no portion of this proposed expenditure has ever received their sanction or been submitted to them. Considering that in the sums voted last year there were included £.116,691 for errors in the original Estimate, for excess of expenditure beyond that Estimate, and for Works not contemplated or proposed in that Estimate, it is a matter no less of regret than of surpris that this further sum is required.

My Lords observe also, that in the Memorandum laid before the Select Committee in 1831, it was stated that the Rideau Canal would have been opened in that year; it now, however, appears, that the termination of the Works cannot be expected till some period in 1832.

From Colonel Durnford's Letter of 15th July 1831, it also appears that even the additional Sum now required may yet be found inadequate for this service.

Under these circumstances, My Lords are not prepared to sanction any Estimate whatever for Works on the Rideau Canal not submitted to Parliament and the Board, unless the actual and indispensable necessity of such Works is more completely made out than at present: neither could they, under any circumstances, propose to Parliament to grant money upon the Estimate of Lieutenant-Colonel By, whilst Colonel Durnford states that it will be probably found inadequate for the purpose for which it is intended.

My Lords are desirous of knowing when the account of the necessity of this further grant was first received by the Board of Ordnance.

They also request to be informed, whether any expenditure has been incurred, or any contract or liability entered into in Canada for Works on these Canals beyond the amount sanctioned, and if such should have been the case, who are the parties

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parties responsible, as My Lords would feel it their duty to take, or recommend instant steps to be taken, should any parties have so far abandoned the principles which My Lords have in a former Minute communicated to the Departments, and on which they are determined invariably to act.

My Lords will not, however, object to proposing a vote for £.50,000 for any portion of the Works already submitted to Parliament, and which are in progress, during the present year, and they desire particularly to be understood as lending no countenance to the additional Works suggested, either for the Canal passing in rear of Montreal, at an expense of £.117,270 never before submitted to the Treasury or to Parliament, or for the other Plans of Communication with Montreal, suggested in the Memorandum from the Ordnance.

Transmit a Copy of this Minute to the Ordnance, for their early consideration, report and government.

MEMORANDUM, 3d February 1832.

THE total of the Estimate for the Rideau Canal, including errors, excesses and extra Works, upon the Estimate of £.576,756 submitted to the Committee in Canada, as referred to in a Memorandum from this Office, dated 17th January 1831, amounted to - - - - - £.693,448 - -

and this is the total in the Report of the Committee of

The House of Commons :

Of this Amount there has been voted, including the Grant of } £.256,000 in 1831 - - - - -	692,666 - -
Remains to be voted - - - - -	£. 782 - -

It is however proper to notice, that since the Estimate for 1831 was submitted to Parliament, and in consequence of the explanation required by the Board's Order of 17th August 1830 ^{F.T.} on the Extra Services above referred to, a further sum of £.25,624. 13. 4. is reported by Lieut.-Colonel By to be required for the completion of the Rideau, thus making a total of £.26,406. 13. 4. to be yet voted for this Canal, which it is recommended should be taken in the present year.

For the Canals on the Ottawa, the total required to complete them, as per Memorandum above quoted, was then, inclusive of }
St. Ann's Rapids - - - - - £.163,029 - -

Of this Sum there was voted in 1830 and 1831 - - - - -	63,000 - -
Leaving to be yet voted - - - - -	£.100,029 - -

Of which it is considered there will be required in the present year £.50,000.

RECAPITULATION.

Proposed Vote for 1832, for the Rideau - - - - -	£.26,406 - -
Ditto - - - - for Ottawa Canals - - - - -	50,000 - -
Total - - - - -	£.76,406 - -

(signed) C. G. Ellicombe.

PRECIS of CORRESPONDENCE which has passed relative to the Progress of the RIDEAU CANAL and other WATER COMMUNICATIONS in Canada, since the subject was before the Committee of The House of Commons in February 1831.

RIDEAU CANAL.

- 8 January 1831. LETTER from Lieut.-Colonel By to the Inspector General of Fortifications, transmitting a Plan of the route of the Rideau Canal, with a section, showing the various lifts of the Locks, the distance between the lifts, and the Sum expended on each Work; from the commencement on the 21st September 1826 to 31st December 1830, reporting the sum that had been expended, and the sum remaining to be expended on the Estimate given to the Committee in Canada in June 1828;—also, reporting the probable time of completion.
- 18 May 1831. Minute on the above, from the office of the Inspector General of Fortifications, to the Master General and Board.
- 21 May 1831. Minute of the Master-General's and Board's Orders on the above.
- 15 July 1831. Letter from Colonel Durnford, the Commanding Engineer in Canada, to the Inspector General of Fortifications, containing a full report upon correspondence which had previously passed on the subject of errors in the original Estimate of £,576,757, upon the causes of the excess on that Estimate, and upon the nature of the extra Works. Also transmitting a descriptive and progress Report of the Works on each section of the Canal, with an account of Expenditure; Abstract of Lands purchased, the probable sums required to complete each section of the Work; with other details of information, in consequence of the Master-General's and Board's Order of 17th August 1830; and further reporting, that the various works necessary to complete the Canal as ordered, a further increase to the Estimate of the Rideau, of about £,26,426 beyond the sum before reported by Colonel Durnford (£,693,448.) will be required, with an intimation that this amount may be found inadequate.
- 9 November 1831. Report of the Inspector-General of Fortifications to the Master-General and Board on the above; upon which no orders have been received in this Office. Besides the Correspondence here referred to, there have been many Reports received and transmitted to the Board since January 1831; but as they are all chiefly connected with details of accounts, they are not quoted in this Memorandum.

OTTAWA CANALS.

- 2 November 1831. LETTER from Colonel Durnford, Commanding Engineer in Canada, to the Inspector General of Fortifications, transmitting Estimates for turning St. Ann's Rapids, averaging in amount from 23 to £,46,000; also, an Estimate amounting to £,117,270 for completing this part of the Water Communication by another line; viz. in rear of the Montreal Island.
- These Estimates are now under examination in this office, and will be shortly forwarded for the Master-General's and Board's order.

(signed) C. G. Ellicombe.

MEM. 3 February 1832.

THE progress of the Rideau Canal appears, by the latest information received in the Office, to be as follows:

The Locks at the Entrance Valley, Hog's Back, Black Rapids and Long Island, in number 15, have been completed, thus opening more than 40 miles of the intended Water Communication from the Ottawa.

The remaining part of the navigation to Kingston will, it is expected, be opened in the course of the present year, when that part called the Rideau Canal, connecting the Ottawa with Lake Ontario, will be completed; and then there will be a continuous steam-boat navigation in Upper Canada of 460 miles, from the Grenville Canal on the Ottawa to Niagara.

On

On the Grenville Canal the three upper Locks were originally constructed upon a small scale, not calculated for steam boats, for which the Rideau is intended; the enlargement of these three Locks is necessary, in order to connect the same scale of navigation. The Estimate for the enlargement of these Locks is £.54,245; but this has not yet been specifically authorized, although the amount is included in the total of the Report of the Committee of The House of Commons in 1831, pages 109 & 110.

The remaining part of the Canals on the Ottawa, viz. Clûte-à-Blondeau and Carillon, will probably be completed in another year, without any expense beyond the Estimates already submitted to Parliament; and when these are finished, with the enlargement of the three Locks on the Grenville, before quoted, the intended navigation will be complete from Niagara to Lake-of-two-Mountains, at the western extremity of Montreal Island.

It will then remain to connect the scale of navigation with the St. Lawrence, either by the proposed works at St. Ann's Rapids, and an arrangement for enlarging the Locks on the existing La Chine Canal, or by obtaining this Water Communication by passing in rear of Montreal by Rivière des Prairies.

This part of the intended Water Communication requires still to be considered, and will shortly be brought under the Master-General's notice, in consequence of a Report and Estimate which has recently been received in this office. The Estimate for passing in rear of Montreal amounts to £.117,270, on the same scale as the Rideau; but if this is not acceded to, the proposed cut at St. Ann's Rapids will be necessary for this work. Estimates have been received, varying in amount from £.23,000 to £.46,000, according to the line which may be adopted.

A Sketch is annexed, explanatory of the points referred to in this Memorandum.

C. G. Ellicombe.

I TRANSMIT for the information and orders of the Master-General and Board the projects which the Commanding Engineer in Canada was directed by the Commander of the Forces to make for connecting the Steam Boat Navigation of the Rideau and Ottawa with the River St. Lawrence.

8 February 1832.

It appears that no orders have been given for altering the three upper Locks of the Grenville Canal in the Ottawa, which were constructed on the small scale, nearly similar to those at La Chine, before the enlarged scale to pass steam boats was determined upon. It is now indispensable, in the first place, that these Locks should be assimilated to the rest of the Navigation, at the expense of £.54,245. 19. 2. a part of which, it is stated, may be covered by savings on the Estimates, already submitted, for the Ottawa Canals.

This communication also contains Lieut.-Colonel By's Report and Estimate for continuing the Steam Boat Navigation by Rivière des Prairies, in rear of Montreal, on the same scale as the Rideau Locks, at an expense of £.117,270. 6. 2., or of constructing it on an enlarged scale, at the expense of £.148,144. 1. 5.; and a Report, with Estimates, is likewise transmitted from Lieut.-Colonel Du Vernet, Royal Staff Corps, for a Canal to pass the Rapid at St. Ann's, at the western extremity of Montreal Island, showing three modes of executing the Work, varying in amount from £.22,950 to £.46,700, one of which will be necessary, if the Canal is determined upon at this spot, in lieu of passing in rear of Montreal by the Rivière des Prairies.—*C. G. E.* 8 Feb. 1832.

Submit to the Master-General.—*C. T.*

10 February 1832.

Seeing that the Rideau Canal and the Canals on the Ottawa are still unfinished, I cannot recommend to His Majesty's Government the incurring of any additional expense for Water Communication in Canada, in the present state of the Finances of the Country.—*J. K.*

16 February 1832.

Ordered, That a Communication to the effect of the Master-General's Minute be made to Sir A. Bryce; and that Copies of these Papers be sent to the Treasury, in addition to those sent on the 17th instant.—*T. 47.*

20 February 1832.

T. F. K.

ADVERTING to the Statement called for by the latter part of the Board's Minute of the 19th ult., on this Letter from Mr. Stewart relative to the Canals in Canada, which I transmitted with my communication of 23d ult. I have now to report, in reference to the former part of the Board's Minute before referred to, that it appears the Estimate for the Carillon Rapids has been increased from £.58,000 to £.72,318, but no final opinion or decision can now be given upon this Estimate, as a further Report is promised by Sir J. Kempt, which holds out the possibility that a less expensive plan may be adopted; and in the mean while the commencement of this work appears to be suspended. I have therefore only at present to remark on any contemplated alteration of this Canal, by aid from the North River, that the Local Authorities in Canada should be instructed to ascertain how far it will affect the interest of private individuals, and thus involve the Government in claims against them.

In regard to the Estimate now transmitted for the Chute à Blondenu, the amount is £.20,785, instead of £.11,580 before reported, being an excess of £.9,205, which is stated to be caused by the rock through which this Canal is entirely cut, proving to be extremely hard and compact, instead of a loose horizontal strata which appeared when the first estimate was prepared, I therefore consider this excess unavoidable. This work appears to be in progress by the Staff Corps.

In respect to the Estimate for the Grenville, there is an excess of £.3,399 beyond the first Estimate for the completion of this Canal, as transmitted by Sir J. Kempt in February 1828, which is stated to be in consequence of the prices put down in the first Estimate which was prepared by Lieut-Col. Du Vernet being far too low; besides the above, there is now provided for the first time £.54,245 for altering the three Locks (already constructed in this Canal on the small scale,) so as to correspond with those of the Rideau, and for widening and deepening such parts of the Canal as may require alteration; in regard to which I have only to observe, that this service will be necessary in order to complete the Water Communication on the same scale as the Locks on the Rideau.

This sum includes £.1,500 for five Bridges to communicate with lands, (about 136 acres) belonging to private individuals, lying between the Ottawa and the Grenville; but this land Sir J. Kempt proposes should be purchased to avoid the expense of constructing and repairing these Bridges, and a further Report is promised respecting the proposed purchase.

The Estimates also provide £.23,761 for the establishment and entire expense of the two Staff Corps Companies, employed on these Canals from the 25th of June 1829 (when the Companies were transferred to the Ordinance,) to the end of 1832, being the period contemplated for the completion of the Works, provided the necessary funds can be granted. This expense has hitherto not been provided in the Estimates for these Works, but understood to be borne on the Army Extraordinaries, and therefore it may be said to be only a charge of account.

In regard to the Rideau Canal, which is adverted to in the present Papers, I propose to make it the subject of a separate communication, in reference to reports which I have recently received from the Commanding Engineer in Canada.

6th July 1830.

A. B.

In reference to my Minute of the 6th instant, on a Letter from the Treasury, relative to the Estimate for the Grenville and other Canals carrying on by the Staff Corps in Canada, which was referred for my Report by the Board's Minute of 10th ultimo, also in reference to my Minute of the 15th June on a Letter from Colonel Durnford, relative to the amount of the Estimate for the Rideau Canal, I now forward, for the Master General's and Board's information and orders, the inclosed Report from Colonel Durnford, dated 24th April, and Papers referred to, relative to the Rideau Canal, also a subsequent Letter from the Colonel, dated 10th May last, in continuation of the same subject.

By these Papers (of which a list is enclosed marked O.) it appears that in addition to the expense at present estimated for this Canal, (£.576,757,) a further sum of £.116,686 will be required, of which £.30,134 is the amount of the excess in the execution of the Works already finished, after deducting some savings upon other parts; also £.2,843, the amount of errors in the original Estimate, and £.83,714 for additional Works, which it is stated were neither contemplated by

Lieutenant-

Lieutenant-Colonel By nor ordered by the Committee of which Sir James Kempt was President, and consequently are not included in the original Estimate for the Rideau Canal.

On these Expenses I have to observe, that an excess of £. 30,000 on so large an Expenditure already incurred (£. 349,000) for work carried on, for the greater part through a country hitherto a wilderness, does not appear extraordinary, but such as might be expected, and Lieutenant-Colonel By has furnished the enclosed Statement marked (B.) showing upon what particular points of the Canal these excesses have occurred.

In regard to the additional Works, which are calculated at £. 83,714, it is much to be regretted that these services were not foreseen and originally provided for. Colonel Durnford states, that the principal item of expense of these additional Works is for waste Weirs at each of the Dams and nest of Locks, the necessity for which became particularly apparent after the failure of the Dam at the Hog's Back: inasmuch that it is found necessary that they should be adopted on the whole line of the Canal, and that their beneficial effects have been already satisfactorily proved where executed. I have to observe, there can be no doubt that every precaution should be adopted to prevent accidents to the Dams upon which the efficiency of the Canal will so greatly depend: but I recommend their use to be limited to such cases as both Colonel Durnford and Lieut.-Colonel By consider absolutely necessary. A detailed List, marked (K). No. 5, page 2, of these services is enclosed.

These Expenses (including the errors of £. 2,843 in the original Estimate) will make a total of £. 693,448 for the Rideau.

The Work appears to be in rapid progress, and is expected to be completed in August 1831, if the necessary funds are provided; it may therefore be here proper to add, that the sum of £. 436,666 has already been voted for this Canal, including the grant of 1830, and therefore, according to the present calculation, a further sum of £. 256,777 requires still to be voted for its completion.

Besides the above-mentioned services, there are four others now brought forward for the first time, viz.—

	£.	s.	d.
22 Blockhouses - - -	33,000	-	-
Land for ditto, and Defences - -	20,000	-	-
Reservoir at By Town - - -	8,000	-	-
15 Bridges over the Canal - - -	8,230	-	-
	<u>£. 69,230</u>	-	-

These services do not appear to be commenced, but wait the orders of Government; and although they do not seem to be absolutely necessary for the navigation of the Rideau, yet they are so nearly connected with the Canal, that the possibility of their being ultimately found advisable should not be lost sight of. The Blockhouses, if constructed now, are intended also to lodge some of the Lock-masters, and in this case the Houses provided for them in the original Estimate need not be constructed. The purchase of the land is altogether a part of the expense attending the Defences; the proposed Reservoir is partly proposed for the Canal, and partly for its defence, it being intended to feed the first eight Locks, and also to serve as a wet ditch for the defence of the entrance of the Canal; and some of the proposed Bridges must, I understand, be erected to comply with the conditions of the Rideau Act. On these services I would recommend that the whole should be deferred until the Canal is completed, and until the general question of the Works required for its defence can be considered and finally approved; therefore the Lock-masters' Houses, and a small Reservoir to feed the first eight Locks, which is provided in the original Estimate, should be constructed, and only such of the proposed Bridges as Government is bound to construct by the Rideau Act, a List of which Lieut.-Colonel By should report as soon as possible.

23d July 1830.

ad August 1830.
The Board request Sir A. Bryce to give them his opinion (if the documents now transmitted enable him to form one), on the three several sums here reported on, of Errors, Excess and Additional Works; whether these increases to the original Estimate are satisfactorily accounted for; and if he is unable to form a decided opinion, that he would have the goodness to point out to the Board upon each or either of these items, where the difficulty of forming such opinion lies, and the course which he would advise to be adopted, in order to enable the Board to give the Lords of the Treasury a distinct opinion whether this large increase of the original Estimate is, under each head, satisfactorily accounted for, or whether it appears that any charges of neglect or other blame attaches to the parties concerned.

Of these sums, £. 53,000 is for defences only, and may be entirely postponed, to be dealt with hereafter by the Treasury as a separate question; but some of the 15 Bridges must be performed, and it appears to the Board ought originally to have been calculated upon. The Board request Sir A. Bryce's opinion upon this point, and also whether the Act directs in what time they should be built. The Board likewise wish to know whether Sir A. Bryce is able to form any opinion as to the ultimate probability of the large Reservoir being constructed.

S. P.

A. B.

In reply to the Board's Minute of the 2d instant, Sir A. Bryce has to observe; with respect to the errors, amounting to £. 2,843, on the original Estimate handed to the Committee, that Colonel Durnford, in his Letter of the 24th April 1830, paragraph 7, states, that Lieutenant-Colonel By offers no explanation upon these errors; it is therefore necessary that Colonel Durnford should investigate and report upon them before any opinion can be given from this Office.

In regard to the excess and additional Works, amounting to £. 113,848, Colonel Durnford's Letter of 10th May 1830, No. 52, transmits Lieutenant-Colonel By's Statement in explanation, as to how the balance of excesses and savings produce the several results, making up the total sum of £. 30,143, stated as excess; but although certain quantities and amounts are shown in the Report (K.) the Documents transmitted will not enable Sir A. Bryce to form a decided opinion, whether the increase is satisfactorily accounted for, nor upon the additional Works, and that therefore it appears advisable a reference should be made to Colonel Durnford, who should, on the spot, go into a minute investigation of the several items of Documents, (K.) and particularly report whether the whole of those which had been marked thus *, in red ink, in this Office, were indispensably necessary for the execution of the Rideau Navigation. It is also recommended that Colonel Durnford should transmit a descriptive Report, explaining the nature of the Works at each Station, as embraced in the Estimate of £. 576,000, handed to the Committee, the alterations now executed or proposed, with his opinion on the necessity or expediency of the alterations, showing particularly the causes which have led to the alteration in the use of the Dams, which were originally intended to be themselves waste Weirs, whereas separate Works are now proposed for this purpose, without explaining the reasons of the alteration, nor the maximum heights at which it is assumed that the Dams might answer the double object originally designed; and with respect to the expense of the construction of the Chaudière Bridges and the Toll-house, Colonel Durnford should report the present annual Toll, and what addition may be expected; also, whether there is any Act of Legislature securing to Government the right of Toll.

In regard to the construction of the Bridges at the expense of Government, where the Canal cuts into any highway, Colonel Durnford should communicate with the Crown Lawyers, as to the full intent and meaning of the 11th Article of the Rideau Act, which refers to these Bridges, and after receiving and considering that interpretation, he should communicate with the Surveyor-General of the Upper Province, as to what Bridges Government, under that interpretation, are liable to construct, and then report accordingly, stating the expense, and whether, as the Dams are no longer to be considered as waste Weirs, they may not become Causeways, and by a slight deviation of the course of the Road, serve instead of the Bridges, which would be otherwise constructed; the time at which these Bridges are to be executed, by the Rideau Act, is prescribed to one month after any Road has been destroyed by the construction of the Canal. In regard to the proposed large Reservoir in front of Upper By Town, Colonel Durnford should also report specifically on the necessity or expediency of constructing this Work as regards the Canal, the defences and the health (so far as he can form an opinion) of the immediate vicinity. It will be necessary that Document (K.) should be sent back to Colonel Durnford, who should be directed to return it to England, with the Report and information now recommended to be called for.

11 August 1830.

C. G. E.

LETTER from Lieutenant-Colonel By, to Sir Alexander Bryce, Inspector-General of Fortifications, &c. &c. &c.

Royal Engineer's Office, By Town, Rideau Canal,
8th January 1831.

SIR,

I HAVE the honour of transmitting, for the information of his Lordship the Master General, and Right honourable and Honourable Board of Ordnance, a Plan of the Route of the Rideau Canal, with a section showing the various lifts of the Lock, the distance between the lifts, and the sum expended on each work from the commencement on 21st September 1820, to the 31st December 1830,

From

from which it appears that £.575,551. 4. 2½. has been expended, and that £.117,898. 7. 7½. still remains unexpended of the Estimate of £.693,448. 11. 10½. given to the Committee in June 1828, of which his Excellency Sir James Kempt was President.

I have also the honour to report, from the rapid progress already made towards completing these works, I have every reason to believe the whole will be finished in August next; but as the expense depends in a great measure on contingencies, the extent of which cannot be exactly ascertained, as they chiefly arise from the immense pressure of water, and the periodical sickness, it is impossible for me to report the precise sum that may be required; but at this moment, as far as I can judge from what has occurred in the construction of these Works, I am of opinion that the balance of £.117,898. 7. 7½. still remaining unexpended of the above-mentioned Estimate, will prove sufficient to complete this Water Communication from the Ottawa to Kingston.

A detailed Report of the expense of each work is now forming, to lay before Colonel Durnford, Commanding Royal Engineers, Canada, to enable him to report on the necessity of each item.

I have the honour to be, &c. &c. &c.

(signed) *John By*, Lieutenant-Colonel,
Royal Engineers Commanding, Rideau Canal.

Forwarded for the Master-General's and Board's information and orders. There is some mistake in the sum here stated by Lieutenant-Colonel By, as the amount of the Estimate laid before the Committee being £.693,448, no such amount having been given.

It is therefore proposed to call on Lieutenant-Colonel By for an explanation; in the mean time it has been considered proper to report the receipt of this Letter,

18 May 1831.

(signed) *C. G. E.*

20 May 1831.

Submit to the Master General.

(signed) *H. D.*

21 May 1831.

In acknowledging the receipt of this Letter, Sir A. Bryce will inform Lieutenant-Colonel By, that the Estimate given by him to the Committee in 1828, amounted to £.576,757 only, and not, as he states, to the sum of £.693,448. 11. 10. That the latter sum is the amount of his supplementary Estimate, given in by him in 1830, which has never been sanctioned by the Government. That the greater part of the money which has been expended, has not yet been voted by Parliament, and that he is on no account to undertake any new work, or to incur any expense in the completion of those now in progress, unless the same should be deemed of pressing importance, and essentially necessary for the due completion and security of the Canal.

(signed) *J. K.*

Ordered, That the directions contained in the Master-General's Minute, be carried into effect,

(signed) *H. D.*

23 May 1831.

EXTRACT of a Letter from Colonel *Durnford* to Lieutenant-Colonel *Fanshawe*,
Royal Engineers, &c. &c. &c.

SIR,

Royal Engineer's Office, Quebec, 15 July 1831.

HEREWITH I have the honour to return the Document (K.), transmitted to me for my information and further report; and I have to state, for the information of Major-General Sir Alexander Bryce, that having arranged with Lieut.-Colonel By, who came to Quebec during the winter for that purpose, the mode of affording the information and explanations required, so as to render them as clear and intelligible as possible, I proceeded, as soon after the opening of the Navigation as my other duties would permit, to By Town, and through the whole line of the Canal, accompanied by Lieut.-Colonel By, for the purpose of forming my opinion of the correctness of his statements in the accompanying Documents, as far as the present

advanced state of the Works would allow me, and, in fact, to make them in a measure my own. The following is a description of the accompanying Documents:—

No. 1, explains the errors in the original Estimate of £.576,757 handed to the Committee, amounting to £.2,843, and increasing it to £.579,600.

No. 2, comprising from No. 1 (K.) to No. 23 (K.) and a Document marked (E.) referred to in page 179 of No. 4 (K.), affords the explanations required on the items of Document (K.), marked * in red ink, in your office, showing the causes of the excess of £.30,134 on the Estimate handed to the Committee corrected, being the Balance between the savings and excesses on the several Works contemplated and provided for in that Estimate; and the nature of the extra Works found necessary in the progress of the Work, which were not contemplated, nor provided for in that Estimate, and amounting to £.83,714.

No. 3 contains a Description and progress Report of the Works on each Section of the Canal, 21 in number, 311 pages, comprising an Account of the Expenditure under the head of Contingencies: a Statement (No. 1.) of Compensation, with Copies of Letters relating to it annexed; an Abstract (No. 2.) of Lands purchased; an Abstract (A.), showing the probable sums required to complete each Section, to the 31st December last, in addition to those stated in Document (K.); and an Abstract Statement of the Expenditure on each Section up to the 31st December last, and of the sums required to complete them.

No. 4 contains a correspondence on the subject of the Tolls of the Chaudière Bridges, and the construction of the Bridges which Government will be required to erect, where the Canal cuts into any existing or intended Highway, containing the opinion of the Attorney-General of the Upper Province on these points, and the instructions of the Commander of the Forces, in consequence, to bring the subject of the former before him again at the next meeting of the provincial Parliament. I was informed by Lieutenant-Colonel By that the Tolls are at present let for £.200 a year, and that no increase to that rent is yet expected.

No. 5 contains a Copy of a Letter, and the original document therewith received, which I forward as requested by Lieutenant-Colonel By, to show the difficulties he has had to contend with, affecting the Expenditure and progress of the Work, from the sickness which prevailed throughout the Western half of the Canal.

With respect to the "causes which led to the alteration in the use of the Dams," it was considered, that, if allowed to serve as waste Weirs, as well as Dams, as at first intended, they would from their perpendicular construction in front, be liable, at any height, to have their foundations washed away; and further, that their tops would also be liable to be injured by the drift wood constantly passing over them, which must be expected in great quantities for many years, particularly during the Freshes in the Spring, and therefore, that it was advisable to construct a waste channel at each Dam.

With regard to the "necessity or expediency of constructing the large Reservoir in front of Upper By Town, as regards the Canal, the defence and the health of the vicinity," I have to observe, that as the distance from the Locks at By Town to those at Hartwell is 3½ miles, and from the latter to the Hog's Back about 1½ mile, it would be difficult to ensure any drainage of the Canal, between the two former by vessels passing between By Town and Ottawa only, or by the leakage of the embankments, being regularly replenished from the still water above the Hog's Back, and that therefore I consider a Reservoir, as near as possible to the head of the Locks at By Town, very desirable; about six acres have been already formed, and the necessity and expediency of forming the remainder, depend upon various circumstances, as the extent of the leakage of the Embankment, the increase of trade, and particularly the Works of defence decided on, for the construction of which the excavation would be required, and to the strength of which the Reservoir itself would greatly contribute. The land required for this double purpose was originally swampy, but was cleared and has recently been drained into the Canal at the expense of Government, which must, I conceive, have in some degree tended to promote the very healthy state of the vicinity.

It is my duty to draw the attention of Sir Alexander Bryce to the descriptive and progress Report (No. 3.) herewith transmitted, as it details and explains the necessity of various executed or contemplated services therein included, which collectively entail a further increase to the Estimate of the expense of the Rideau Canal, amounting to about £.26,626 beyond the amount I before reported; and I think it right to add, that I consider it by no means improbable, that even the amount

amount now contemplated may be found inadequate, though I trust any further demand will be trifling, as the Works are generally so nearly drawing to a close, that some unforeseen accident alone should occasion it. In conclusion, it becomes me to observe, that although Lieut.-Colonel By's Report is dated in January last, having found it necessary to take it back with him for revision, I did not receive it in a shape to forward, until I brought it with me to Quebec on my return from my late tour of inspection, nor could I have forwarded it satisfactorily before I had made the investigation required.

I have the honour to be, &c.

(signed) *E. Durnford*, Commanding Engineers, Canada.

Forwarded for the information of the Board, in compliance with their order of the 17th August 1830, ^E/₂₇, and in reference to their Minute of the 2d August 1830, on my Report of the 23d July, forwarding Colonel Durnford's Letter of 24th April 1830.

It will appear by the present Report, that Colonel Durnford has carefully investigated the several explanations afforded by Lieut.-Colonel By, in respect to the excess of his expenditure beyond the Estimate of £.576,757, which he handed to the Committee in 1828.

The accompanying Documents contain explanations on each of the points suggested in the Report from my office of 11th August 1830, the correctness and sufficiency of which, as stated by Lieut.-Colonel By in document (K.), are verified by Colonel Durnford's opinion.

I have attentively considered the whole of what is stated, and submit the following conclusion: That the errors in Lieut.-Colonel By's Estimate of £.576,757 are errors of calculation amounting to £.2,843. (*Vide* No. 1.)

No. 2, containing explanations for No. 1 to No. 23, together with the descriptive and progress Report, are the result of Colonel Durnford's investigation as regards the excesses £.30,134, and extra Work £.83,714, reported in Colonel Durnford's Letter of the 24th April 1830; and when it is considered that a work of such magnitude and novelty as the Rideau Navigation, has been carried on, not in a settled country, where all the localities and resources might be intimately known, but pushed on by the greatest exertion, in a new country, with a new establishment formed on the spot, it is not surprising that errors should have arisen, and the Estimates framed in its early stages of progress should have proved insufficient. The explanations have been fully gone into. The expediency of the partial deviations which have been made from the original project could only be ascertained on the spot; but I concur in the principles which have led, as measures of security, to the adoption of waste Weirs, and the consequent enlargement of the Dams, Embankments, and Chamber Wells, the Stop Gates, the occasional Guard Locks, the raising of the level of the Summit Pond, and the straightening the line of Navigation wherever it could be done.

There are some of the excesses which are not satisfactorily explained, viz. an excess of £.2,000 in lengthening the cut stone Bridge at the Entrance Valley; the allowance to the Contractor of the Materials for taking up masonry, which had to be removed in consequence of the alteration of the size of the Locks; and the extra allowance for parts of the invert Arches from the same cause, and the additional quantity of Masonry at the Hog's Back.

It will be seen in the Document, No. 3, Abstract (A.) that an expense of £.25,624. 13. 4. is contemplated beyond the amount of £.693,448. 11. 10 1/2. already reported in Colonel Durnford's Letter of 24th April 1830; and Colonel Durnford further states, that it is by no means improbable that the amount now contemplated may be found inadequate; and considering that, although the work was drawing fast to a close when this Report was written, none of the Locks had then been proved, it is very probable that some partial imperfections may be visible, the adjustment of which could not be estimated.

In Document, No. 4, it will be seen, that although the Expenditure in the Chaudière Bridges has amounted to £.6,165. 12. 9. there is a present income arising from Tolls amounting to £.200, and which, as the settlement of the country advances (in which these Bridges will essentially assist), may be expected to increase. Amongst these Papers, (No. 4.) will be seen the opinion of the Attorney-General of Upper Canada, that substantial Bridges must be constructed over the Canal whenever a public travelled road shall be crossed by the Canal, in order that public intercourse by means of the then existing roads may not be interrupted. The

amount of expense which will thus fall upon the Government cannot, I conceive, be stated, unless the Surveyor General of the Province shall state distinctly what are the public travelled roads which require such Bridges.

The necessity for the formation of a Reservoir at the head of the Entrance Valley, is shown by this Letter to rest in some degree upon the trade that may eventually be carried on between By Town and the Lower Province. I am therefore of opinion, that the execution of this work may be postponed until the service actually requires it.

4th November 1831.

A. B.

Copy of a LETTER from R. Byham, Esquire, to the Honourable J. Stewart,
&c. &c. &c.

SIR,

Office of Ordnance, 20th February 1832.

I HAVE the honour to acknowledge the receipt of your Letter, dated the 7th instant, relative to the further sum of £. 25,624. 13. 4. which it has been stated will be required for the *completion* of the Rideau Canal; and I am commanded to request you will inform the Lords Commissioners of His Majesty's Treasury that the Master General and Board having attentively considered their Lordships' Minute upon this subject, they beg to submit to their Lordships the inclosed Copy of a Memorandum from the Office of the Inspector General of Fortifications, dated the 10th instant, and to explain to their Lordships that the Report and voluminous Documents relative to this matter, have required much time, labour and consideration; but that the result as to expense is stated in the accompanying Abstract (A.) (Copy) which will show that the excesses relate exclusively to Works contemplated by Parliament in 1831, as stated in Mr. Tennyson's Letter to Mr. Spring Rice, dated the 4th instant, and are not occasioned by any new Works.

The Master General and Board beg to observe, that had the Lords of the Treasury been pleased to communicate to this Department the Vote of 1831, the Master General and Board would have neted upon the rule to which they uniformly and rigidly adhere, by directing that such Vote should in no case be exceeded; and at any rate they conclude that the Engineers will have acted upon this general practice, if the Lords of the Treasury made the usual communication of the Vote of 1831 to the Authorities in Canada, in terms calculated to check the expenditure beyond the amount of that Vote. I am also instructed to observe, that no orders, either from this Board, or from the Lords of the Treasury, subsequent to the above Vote, could have affected the estimate of this additional expense of £. 25,624, which was framed by Lieutenant-Colonel By in January 1831, communicated by Colonel Durnford's Letter, dated in July last, and received in London in the month of September.

With regard to the *ultimate* expenditure upon the Works contemplated in 1831 for opening the Rideau Canal, I am commanded to state, that the Master General and Board did not collect from any thing which heretofore transpired, that this Vote was to be *final*. On the contrary, it was always stated by this Department, and seemed to be understood on all hands, that a further charge would probably arise. (The Master General and Board here beg to refer to a memorandum dated January 1831, from the office of the Inspector General of Fortifications, and the Report to the Lords of the Treasury therein referred to, printed, page 13 of the Report to the Committee of The House of Commons upon the Rideau Canal in 1831.) Moreover, that in the Report of the Commons' Committee page 7, such further charge is distinctly anticipated. They say, "Some uncertainty seems still to prevail with regard to the ultimate expense; and they recommend that the officer superintending the work, shall be instructed to frame an accurate estimate of what is *still necessary to open the navigation* on the Rideau Canal, and that this Estimate shall, with as little delay as possible, be submitted to Parliament. In the mean time the Committee do not object to the vote of £. 256,000, seeing no reason to imagine it will be *more than enough* to satisfy outstanding claims. They are induced to recommend the propriety of obtaining an immediate Estimate of what remains to be done, from an apprehension that *more money may still be required*."

The Master General and Board beg to submit that such was the tone of all the evidence given, and of all the communications to and from this Department, and of the discussions in Parliament, and, although no communication was made by the Lords

Lords of the Treasury to the Board of Ordnance of the recommendation of the Committee above cited, yet it has in fact been met by the information furnished by the Board's Officers in Canada. That accordingly the Master General and Board were not prepared for the surprize now expressed by their Lordships, but were rather gratified to find that the total excess was only likely to be, by Lieut-Colonel By's Report received in September 1831, £.25,624, as far as it could be accurately estimated, and that there does not exist any apprehension of more than a "trifling" addition to the expenditure actually foreseen, in order to bring the Rideau Canal to a close.

The Master General and Board beg permission, finally, to remark, that it is of course for the Government to decide whether the whole of the immense outlay already incurred, shall be lost, when the Canal can be opened by means of a comparatively small addition to the charge; and they think it right to state that any suspense of the work, with a view to resumption hereafter, would necessarily increase the expenditure considerably, and render a large portion of the establishment maintained in Canada for this object a dead weight in the mean time.

I have the honour to be, &c. &c. &c.

(signed)

R. Byham.

MEM. 10 February 1832.

THE cause of the excess of £.25,624 on the Rideau Canal, referred to in the enclosed Minute from the Treasury, as also the amount of £.113,843 for errors, excesses and extra Works before reported, and on which latter the Board, by order of 19th August 1830, called for further information, are explained in the Documents sent to the Board with Sir A. Bryce's Minute of the 4th November last, upon a Letter from Colonel Durnford, dated 15th July 1831; and amongst these Lieutenant-Colonel By has furnished a Document, dated 14th January 1831, containing 311 folio pages, and so detailed that the several explanations are given in more than 500 items of expense, showing in each the amount of the item in the Estimate of £.576,757 given to the Committee in Canada, the amount expended at the date of the Report, and the amount required to complete; and where the item has required an increase of expenditure beyond the amount stated in the Estimate of £.576,757, explanation is given. To detail these particulars in this Minute would be only a repetition of Lieutenant-Colonel By's Documents, the whole of which must be perused by those who wish to be fully informed upon the subject, but the result is, as to *expense*, shown in an Abstract (A.), one of the Papers referred to by Lieutenant-Colonel By, by which it appears, that after allowing £.32,857. 17. for savings on some of the Works executed, or not required to be executed, and provided for in the original Estimate, there is an excess of £.25,624 beyond the total of £.103,448 before reported; and in closing this Report Lieutenant-Colonel By states as follows:—

"I beg in conclusion to remark, that the original Plan and Estimate were formed from as correct data as could be obtained during the period that the woods and swamps were unleared, and in consequence of their almost impenetrable nature; many of the surveys required had to be taken during the severity of a Canadian winter; and when these circumstances are taken into consideration, with the additional fact that from the country being so extremely unhealthy, nearly all my Officers, Clerks of Works and Overseers, have suffered from repeated and severe attacks of sickness, caught whilst in the performance of their respective duties, it will not, I think, appear so much a matter of surprize that the Plans and Sections have in some instances proved to be incorrect, as that so few errors have taken place."

The foregoing Document forms a portion of those recently called for by The House of Commons.

In regard to the period now fixed for opening the Canal, a delay on which the Treasury requires explanation, it can only be stated, that the time first named was generally considered very limited; and when it is remembered that sickness and unforeseen casualties have operated to retard completion for a short time, yet the Work, as a whole, may be said to have been executed most rapidly; besides, a considerable portion of the Line was opened in the Autumn of 1831, and measures then taken to reduce the Establishment, by withdrawing some of the Officers employed on the Work,

and the two Companies of Sappers and Miners, which have now been carried into effect.

In regard to the question from the Treasury, as to the period when the Report in question was received by the Ordnance, I have to state, that it was received in this Office on the 3d September; and after it had been fully gone into, and the numerous detailed Documents, having reference thereto, duly examined and fully considered, the whole were forwarded to the Board, with Sir A. Blyce's Report of 4th November last.

In reply to the Board's question, as to what communication has been made to Canada regarding the Vote of 1831, I have to observe, that no official communication has been made to this Office of the Vote being granted, and consequently no communication has been made to Canada from hence; indeed, as the Vote is taken by another Department, and not by the Ordnance, it is to be presumed, that that Department may have made the necessary communication to the Ordnance, or proper Authorities in Canada, with a view to check the issuing of any sums beyond the sum voted; such is the usual course for Works voted by the Ordnance, although such communications are made by the Board direct to the respective Officers at the Station, and not to this Office, further than the Master General and Board's Orders upon the Annual Estimate, which are reported on from this Office to agree with the Votes which the Board notify their intention to propose to Parliament.

In reference to that part of the Treasury Minute, wherein information is required whether any expenditure, &c. has been incurred beyond the amount sanctioned; it appears by Lieutenant-Colonel By's Report of 14th January 1831, that the total expenditure at that period was £.585,980, which falls short of the Votes for this Canal by the sum of £.106,686, and this amount has therefore been available for the progress of the Canal for the year 1831; but it cannot now be stated from this office, nor, it is presumed, without reference to Canada, whether this sum has been exceeded, or what liabilities the Government are now under to meet existing contracts, although it may be observed that by Lieutenant-Colonel By's Report above quoted, he states that "he has every reason to suppose that £.25,624 in addition will prove sufficient;" but this is exclusive of £.782 which remains to be yet voted on the total of the Estimate before submitted to Parliament.

10 Feb. 1832.

(signed) C. G. E.

Copy of TREASURY MINUTE, dated 11th May 1832.

My Lords read the Letter from the Secretary of the Ordnance, dated 20th February 1832, containing the Observations of the Master General and Board, in reply to the Minute of My Lords of the 7th of February, upon the subject of the further additional Estimate then for the first time communicated to this Board, of £.25,624 for the Rideau Canal.

My Lords resume the consideration of the former Papers upon this subject.

In that Minute, My Lords expressed their concern, that, in addition to the very large sum sanctioned by this Board and by Parliament, as an excess of the original Estimate of Lieutenant-Colonel By for these Works, they should be called upon to provide a further sum of £.25,624, and that they should be left in doubt whether even that amount would be sufficient to cover the expenditure, Colonel Durnford having expressed some hesitation upon the subject.

My Lords also requested to be informed when this additional Estimate was received in this country, and whether the expenditure upon the Canal had exceeded the amount granted by Parliament for the purpose.

It appears from the explanation of the Master General and Board of Ordnance, that the Papers which show that this further sum of £.25,624 will be required, were prepared by Colonel By, in the month of January 1831, and were transmitted from Canada to this country by Colonel Durnford on the 15th July 1831, and that they were received in this country in the month of September.

When My Lords consider that so large an exceeding as £.116,691 had been already sanctioned by Parliament, they cannot but regret that they should not have been apprized that a further expenditure would be required to complete the Works upon the Canal, because they would, if informed of that fact, have been able to have procured further information before they could be required to prepare an Estimate for Parliament on account of the Canal.

This

This information is the more necessary on account of Colonel Durnford's observations, it appearing from his statement to be by no means improbable that a still further sum may hereafter be applied for; and, My Lords, although they cannot avoid submitting an Estimate for the Rideau Canal to Parliament, will suspend any issue thereon, when voted, until they shall be able to ascertain precisely the whole amount that can be required for the completion of the Works.

With respect to that part of the Letter from the Ordnance which relates to the expenditure of 1831, My Lords are of opinion that there was no necessity for any communication to be made from this Board of the amount voted by Parliament for the purpose. The Votes of Parliament are of themselves sufficient intimation upon the subject, and it appears to My Lords to be the duty of the respective Departments to take cognizance of the Votes for all Services conducted under their direction, and to issue proper instructions upon them.

My Lords consider that it would not have come within the scope of their duty, to have entered into any communication upon the subject with the Ordnance Officers in Canada, it not being the usage of the Board of Treasury on any occasion to give instructions or directions to any of the Ordnance Officers, except through the Master General and Board.

It has been the constant desire of My Lords, in communication with the several Departments of the State, to prevent any possible exceeding of the Estimates voted by Parliament, as was explained by their former Minutes; and if it shall appear that any exceeding has again taken place in Canada, in this case, My Lords are of opinion that a very serious responsibility will have been incurred by the parties concerned. My Lords trust, however, that no such exceeding has taken place, since My Lords perceive that the expenditure had fallen short of the Votes to the close of 1830 by the sum of £.106,686; and although it is stated in the Letter of Commissary-General Routh that an Estimate had been transmitted to him contemplating an expenditure of £.88,000 from March 1832 to complete the Canal, My Lords, in the absence of any statement of the actual expenditure to the close of 1831, are willing to hope that that amount formed part of the sum of £.106,686 unexpended at the commencement of the year, and of the additional Estimate of £.25,624 now before My Lords.

With respect to any issues upon that Estimate, My Lords are not called upon to give any directions without further and more specific information; but it is satisfactory to My Lords to perceive that it has not been prepared with a view to any additional works, but appears, so far as My Lords can now judge, to have been framed to meet some additional expenses upon works already sanctioned.

In the mean time should Parliament place £.50,000 at the disposal of His Majesty, on account of the Canal Communication in Canada, My Lords will authorize the Commissary General in Canada to apply, in the course of the year 1832, to that expenditure, such a sum as may not allow the expenditure for the years 1831 and 1832, to exceed £.156,686, viz. the balance of former Grants unexpended at the beginning of 1831, and the amount of the proposed Grant for 1832, the sum of £.25,624 to be however reserved till further directions.

My Lords however desire that in making this communication to the Commissariat Officer, he may be specially enjoined not to pay any sum whatever which will occasion an expenditure for the two years greater than the sum above mentioned, and also, that he will make no payment whatever for this service, except upon Drafts or Accounts specifically stated to be for this service.

Request the Board of Ordnance to lay before My Lords with as little delay as possible, an Account of the total Expenditure for this service during the year 1831, and to the latest period to which it can be carried forward.

Transmit Copy of this Minute to the Secretary of the Ordnance for the Master General and Board's information, and for the government of their Officers in Canada, and request they will issue Instructions to their Officers in Canada not to draw for money for this Service upon the Commissariat Officers for any sum beyond the amount stated in this Minute, until farther authority from hence has been received, and to state on the face of all their drafts for this Service, that the money is required for the Canal Communications in Canada, distinguishing whether such expenditure is for the Rideau Canal or for the Canals on the Ottawa.

Transmit Copy of this Minute to Commissary-General Routh.

Appendix, No. 2.

Copy of LETTER from the SECRETARY of the ORDNANCE, dated 21 May 1832, respecting the EXPENDITURE upon the WORKS of the RIDEAU CANAL in Canada; together with a Copy of the TREASURY MINUTE thereon.

LETTER from *R. Byham*, Esq. to the Right hon. *T. Spring Rice*,
&c. &c. &c.

SIR,

Office of Ordnance, 21st May 1832.

REFERRING you to my communications of the 17th and 20th February last, transmitting various Documents connected with the progress of an Expenditure upon the Works of the Rideau Canal;—

I have the honour, by command of the Master General and Board of Ordnance, to forward to you, for the purpose of being submitted to the Lords Commissioners of His Majesty's Treasury, a further Letter from Lieut.-Colonel By on the same subject, to which is annexed a Report from the Inspector General of Fortifications, dated the 18th instant; and, as the Papers accompanying the said Letter are extremely voluminous, and would occupy a considerable period in copying, the Master General and Board, in order to save time, are induced to send the same in original, with the Board's request that they may be returned as soon as they can be conveniently spared; and if it should be their Lordships' desire to be furnished with Copies of those Documents, the Master General and Board will order the same to be prepared, on receiving back the Papers, with a notification of their Lordships' wish to that effect; and with any further communication which their Lordships may consider it necessary to make to this Department on the subject in question.

I have the honour, &c. &c. (signed) *R. Byham*.

LETTER from Lieut.-Colonel *By*, Royal Engineers, to Colonel *Nicolls*,
Commanding Royal Engineers, Canada.

Commanding Royal Engineer Office,

Rideau Canal, 27th Feb. 1832.

SIR,

NO Notifications having been made to me, that my progress Report to the 31st December 1830, forwarded through Colonel Durnford, Royal Engineers, has been received by the Inspector General of Fortifications, I have the honour of forwarding a Duplicate of the same for the information of the Master General and Right honourable and Honourable Board, with additional sheets, showing the amount expended to the 31st December 1831, and the sum required to complete the Canal; also, an Abstract (Z.), exhibiting the Total Expenditure from the commencement of that work to the 31st December last, and the amount which will be required during the present year to complete the Water Communication; and I fully expect that the Canal will be opened throughout its whole extent by the 1st May next.

I have, &c.

(signed) *John By*, Lieut.-Colonel, Royal Engineers.

—No. 20.—

Received on 12th March, and forwarded on to the Inspector General of Fortifications.

(signed) *Gust. Nicolls*, Colonel,

Quebec, 17th March 1832.

Commanding Royal Engineers, Canada.

Forwarded for the information of the Master General and Board, with reference to my Minute of the 4th November last, forwarding Colonel Durnford's Report of 15th July 1831.

It will be seen, by a perusal of the present communication, that Lieut.-Col. By, when he wrote this Letter, contemplated the completion of the Rideau Canal by the first of this month; and it appears by the Abstract (Z.) that the expenditure up to the 31st December 1831, was £.715,408. 15. 6., being £.22,742. 15. 6. more than has been voted by Parliament; and that a further sum of £.60,615. 10. would probably be expended for the completion of the Canal, making a total of £.776,024. 5. 6. and an excess of £.83,358. 5. 6. beyond what is already voted by Parliament. I have however to observe, that this amount only provides for the Civil and Military Establishments, up to the date of the contemplated completion of the Work. It is therefore probable there will be a further excess on this Item (23.)

Columns

Columns 9 and 10 show the expected saving and excess on the respective Items of the Estimate of 31st December 1830. I have marked opposite each sum in those columns, the number of the page in the annexed copy of Lieut.-Col. By's Report of 14th January 1831, where his detailed explanations of the causes of these Savings and Excesses may be found.

The Sums stated necessary for Blockhouses and Land Defences (£.27,750) included in the Abstract, do not form a part of the Canal Work, and therefore I conclude, from Lieut.-Col. By's explanations, will not be expended until further orders, although I apprehend that the total now stated (£. 803,774. 5. 6.) will eventually be required for the completion of the Canal with Bridges and Block-houses.

18th May 1832.

A. B.

19th May 1832.

Ordered, That these Papers be immediately sent to the Treasury, being previously submitted to the Master General.

T. P. K.

21st May 1832.

Approved. J. K.

Copy of TREASURY MINUTE, dated 25 May 1832.

My Lords have under their serious consideration the Letter from the Secretary of the Ordnance of the 21st instant, transmitting to this Board a Letter from Colonel By, of 27th February 1832, accompanied by various explanatory Documents and Accounts, upon the subject of the Expenditure on the Works at the Rideau Canal to the close of 1831, and of that required to complete the Canal, the opening of which was expected to take place in the course of the present month.

My Lords will take into their future consideration these voluminous Accounts and Papers; but they cannot delay expressing their opinion to the Master General and Board of Ordnance on the conduct of Colonel By in carrying on this Work. It appears from that Officer's Letter, and from the Report of the Inspector General of Fortifications thereon, that Colonel By had actually expended to the close of the year 1831, £.715,408. 15. 6., being £.22,742. 15. 6. more than had been granted for this Work by Parliament; and that, without waiting for any authority from this country, he has gone on during the present year with a further Expenditure, entirely unsanctioned, and which it is stated will probably amount to £.60,615. 10., making an excess of 83,358. 5. 6. beyond the amount granted by Parliament. The Expenditure which was contemplated for this Canal, when the subject was immediately under the consideration of the Select Committee of the House of Commons in 1831, and the whole Expenditure for which any order has at any time been given by any competent authority, is £.693,448., exclusive of £.69,230. for Blockhouses and Works of Defence not sanctioned. In order therefore to complete the Work, Colonel By has, upon his own responsibility, thought proper to expend no less than £.82,576. My Lords assuming from these Papers that the Work has actually been carried on to its completion, since the date of Colonel By's Letter of February last, and that the expense has not been less than the sum at which he then calculated it.

It is impossible for My Lords to permit such conduct to be pursued by any public functionary. If My Lords were to allow any person whatever to expend with impunity, and particularly after repeated increases of the original Estimate, upon any work under his superintendance, a larger amount than that sanctioned by Parliament and by this Board, there would be an end of all control, and My Lords would feel themselves deeply responsible to Parliament. They desire, therefore, that the Master General and Board will take immediate steps for removing Colonel By from any further superintendance over any part of the Works for making Canal Communication in Canada, and for placing some competent person in charge of those Works, upon whose knowledge and discretion due reliance can be placed; to whom must be furnished a Statement of the Estimates and Grants, and who must be strictly charged upon no account whatever to exceed the amount of the Grants.

My Lords further desire that Colonel By may be forthwith ordered to return to this country, that he may be called upon to afford such explanation as My Lords may consider necessary upon this important subject.

Let Copies of these Papers and of this Minute be forthwith prepared, with a view to their being laid before The House of Commons.

APPENDIX TO REPORT FROM SELECT COMMITTEE

(Z.)—ABSTRACT, showing the SUMS Expended during the Half Years ending 30th June and Total Amount of WORKS when Completed; with the Saving and

	1.			2.			3.			4.			5.			
	ESTIMATE given to COMMITTEE.			EXPENDED 31 December 1830.			EXPENDED from 31 December 1830 till 30 June 1831.			EXPENDED from 30 June till 31 December 1831.			TOTAL EXPENDITURES, 31 Dec. 1831.			
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	
1. Entrance Valley & first 8 Locks	68,413	11	4	65,567	13	7½	4,392	12	11	487	13	10½	70,448	-	4½	
2. From Eight Locks to Hogs Back	43,372	17	9	60,485	14	3½	1,058	17	-	1,367	16	4½	62,912	7	8½	
3. Hogs Back	30,658	-	3	33,369	17	4½	500	6	4½	1,202	7	10½	35,072	11	8	
4. Black Rapids	10,113	12	5	13,131	16	10½	828	15	8½	9	19	4	13,970	11	11	
5. Long Island	22,504	2	6	33,840	10	1½	5,332	1	10½	1,319	13	8½	40,492	5	8½	
6. Burret's Rapids	11,249	9	5	10,652	8	9½	602	7	5½	1,250	2	10½	12,504	19	1½	
7. Nicholson's Rapids	10,725	9	4½	13,581	7	1½	545	6	4	988	2	6½	15,114	16	-	
8. Clowe's Quarry	9,865	-	4½	11,434	14	-½	181	16	2½	-	-	-	11,616	10	3	
9. Merrick's Mills	17,906	10	9	17,501	14	8	1,318	1	1½	1,492	9	10	20,312	5	7½	
10. Maitland's Rapids	5,776	5	7	9,545	14	8½	1,51	15	10	1,197	1	-½	10,894	11	7½	
11. Edmund's Rapids & Phillip's Bay	14,182	6	3	7,152	10	8½	1,623	10	1½	687	7	6½	9,463	8	5½	
12. Old Sly's Rapids	12,248	18	10½	17,060	16	7½	2,200	13	3	247	11	-½	19,509	-	11½	
13. Smith's Falls	20,408	10	5½	21,171	-	2½	645	17	2½	2,140	1	7½	23,956	19	-½	
14. First Rapids	10,718	1	10½	14,109	18	10	4,153	11	10	6,469	18	6½	24,733	9	2½	
Oliver's Ferry	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15. Narrow's Rideau Lake	409	10	-	3,269	17	3½	1,292	3	3½	2,001	7	3½	6,563	7	10½	
16. Isthmus, ditto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Strait between Mud & Clear Lakes	13,639	3	-	20,105	9	3½	6,813	13	2	2,009	16	5½	28,928	18	11	
17. Chaffy's Mills & Small Isthmus	20,799	16	2½	6,799	19	4½	3,360	-	-	310	15	3½	10,380	14	7½	
Indian Lake	8,988	9	9½	4,325	15	7½	1,025	-	-	2,083	9	10½	7,434	5	6½	
18. Davies' Rapids	39,136	10	3½	59,531	17	6½	5,797	2	6½	7,728	14	11½	73,057	14	11½	
19. Jones' Falls	1,384	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cranberry Marsh & White Fish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20. Brewer's Upper Mill & Round Tail	17,219	16	-½	9,604	13	8½	220	17	-½	8,316	1	6½	18,141	12	3½	
21. Brewer's Lower Mill	11,262	19	11½	4,316	16	-½	3,474	17	-	1,652	2	3	9,443	15	3½	
22. Kingston Mills, Jacks & Billidore	49,382	7	5	37,981	11	9½	9,656	-	7	6,255	6	10½	53,892	19	3½	
Rifts & Cutaroque	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23. Civil & Military Establishment Barracks & General Contingencies	121,473	3	2½	87,855	3	9½	7,810	10	11½	11,198	14	10½	106,864	9	8	
24. Locks, Gates, Cills, &c.	-	-	-	13,515	13	5½	3,950	16	8½	2,074	16	9½	19,541	6	10½	
25. Purchase of Land & Compensation for Damages	7,162	2	6	10,157	12	6½	-	-	-	-	-	-	10,157	12	6½	
	£.	579,600	15	7½	585,980	8	6½	66,936	14	6½	62,491	12	4½	715,408	15	6

Expended to the 31st December 1831. (See Column, No 5) - - - - - 715,408 15 6

Required to complete - - - - - ditto - - - - - 6 - - - - - 88,365 10 -

Total Amount of Canal, when completed, with Bridges & Black-houses. (See Column, No 7) £.803,774 5 6

31st
Incre

£.

700

400

200

3,800

1,500

1,300

400

2,050

1,500

1,800

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34,650

88,365

* The

also £. 14

the Prog

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For

For

For

24 Feb.

570.

ON CANAL COMMUNICATIONS IN CANADA.

31st December 1831; the Total Sums Expended; the probable Sums required to complete and Increase on each Section on Estimate 31st December 1830.

6.		7.		8.		9.		10.		11.			
REQUIRED to COMPLETE.		TOTAL AMOUNT of WORKS.		AMOUNT Estimated to COMPLETE, 31 December 1830.		SAVING on ESTIMATE, 31 December 1830.		INCREASE on ESTIMATE, 31 December 1830.		Probable Sum required to be Expended 1832, to complete the Navigation.		Probable PERIOD of COMPLETING.	
£.	s. d.	£.	s. d.	£.	s. d.	£.	s. d.	Page	£.	s. d.	£.	s. d.	
79,448	- 4 1/2	79,448	- 4 1/2	70,643	3 9 1/2	195	3 4 1/2	26	-	-	-	-	
62,392	7 8 1/2	700	-	63,612	7 8 1/2	64,079	5 4 1/2	54	-	-	-	-	
35,072	11 8	400	-	35,472	11 8	34,701	4 8	-	-	-	77 1/2	7 -	
13,970	11 11	200	-	14,170	11 11	13,977	10 2	-	-	-	193	1 9	
49,492	5 8 1/2	3,800	-	44,292	5 8 1/2	38,525	19 7 1/2	-	-	-	5,766	6 1 1/2	
12,504	19 1 1/2	1,500	-	14,004	19 1 1/2	13,638	4 3 1/2	-	-	-	306	14 9 1/2	
15,114	16 -	1,300	-	16,414	16 -	14,660	15 7 1/2	-	-	-	1,754	- 4 1/2	
11,616	10 3	400	-	12,016	10 3	11,529	14 - 1/2	-	-	-	486	16 2 1/2	
20,312	5 7 1/2	2,050	-	22,362	5 7 1/2	20,436	8 -	-	-	-	1,965	17 7 1/2	
10,894	11 7 1/2	1,500	-	12,394	11 7 1/2	11,102	17 2 1/2	-	-	-	1,291	14 4 1/2	
9,463	8 5 1/2	1,800	-	11,263	8 5 1/2	12,039	4 - 1/2	153	-	-	-	-	
19,509	- 11 1/2	900	-	20,409	- 11 1/2	19,527	- 6 1/2	-	-	-	882	- 4 1/2	
23,956	19 - 1/2	4,900	-	28,856	19 - 1/2	33,217	3 3 1/2	179	-	-	-	-	
24,733	9 2 1/2	1,900	-	26,633	9 2 1/2	20,896	4 2 1/2	-	-	-	5,737	5 -	
6,563	7 10 1/2	1,000	-	7,563	7 10 1/2	6,529	5 1 1/2	-	-	-	1,034	2 8 1/2	
28,028	18 11	2,650	-	31,578	18 11	28,049	13 11 1/2	-	-	-	3,529	4 11 1/2	
10,380	14 7 1/2	2,500	-	12,880	14 7 1/2	11,075	17 5 1/2	-	-	-	1,804	17 2 1/2	
7,434	5 6 1/2	1,400	-	8,834	5 6 1/2	8,396	5 10 1/2	-	-	-	437	19 7 1/2	
73,057	14 11 1/2	7,300	-	80,357	14 11 1/2	77,342	10 7 1/2	-	-	-	3,015	4 4 1/2	
8,141	12 3 1/2	2,700	-	20,841	12 3 1/2	18,754	9 2 1/2	-	-	-	2,087	3 1	
9,443	15 3 1/2	1,400	-	10,843	15 3 1/2	9,339	12 1 1/2	-	-	-	1,504	3 1 1/2	
33,892	19 3 1/2	6,400	-	60,292	19 3 1/2	52,972	11 3 1/2	-	-	-	7,320	7 11 1/2	
26,864	9 8	3,415	10 -	110,279	19 8	98,736	16 7	-	-	-	11,543	3 1	
9,541	11 10 1/2	3,600	-	23,141	6 10 1/2	18,670	15 5 1/2	-	-	-	4,470	11 5 1/2	
0,157	12 6 1/2	34,650	-	44,807	12 6 1/2	10,151	12 6 1/2	-	-	-	34,650	- -	
5,408	15 6	88,965	10 -	803,774	5 6	719,974	5 2 1/2	5,798	- 11 1/2	90,498	1 3	60,615	10 -

-- Completed, and the Locks have been repeatedly filled & Steam Boats passed.*

-- A Steam Boat may pass these Works on the breaking up of the ice, but they will not be completed until the 1st May next.†

* The Sum required to complete includes £. 20,000, being for the purchase of land required for military purposes; also £. 14,000 to cover damages which individuals will sustain from the construction of the Canal, not provided for in the Progress Report of 31st December 1830.

† Amount required to complete the Navigation in 1832	- - - - -	46,615	10 -	£.	s. d.
For the purchase of Land, and Compensation to Individuals	- - - - -	14,000	- -		
For Black Houses, Bridges, &c. which may afterwards be constructed	- - - - -	7,750	- -		
For Compensation to Individuals for Damages	- - - - -	20,000	- -		
Total Amount	- - - - -	£.	88,365	10 -	

21 Feb. 1832.

(signed) John By, Lieut.-Col. Royal Engineers, Comd, Rideau Canal.

Appendix, No. 3.

COPY of TREASURY MINUTE, dated 10th June 1831; LETTER from the Admiralty, 17th June 1831; Ditto, Secretary of State for the Colonies, 29th June 1831; Ditto, Ordnance, 5th July 1831; TREASURY MINUTE, dated 8th July 1831, upon the subject of giving to Parliament a more early and effectual Control over the EXPENDITURE for PUBLIC WORKS ABROAD, as recommended by the Select Committee of The House of Commons, appointed to consider the Water Communication in *Canada*.

Whitehall, Treasury Chambers, }
15 July 1831.

T. SPRING RICE.

Copy of TREASURY MINUTE, dated 10th June 1831.

My LORDS read the following Extract from the Report of the Select Committee, appointed to consider the Water Communication in *Canada*:

"Your Committee are distinctly of opinion, that some additional Security is required for the purpose of giving to Parliament a more early and effectual control over Expenditure, of the description of that under consideration. With this view, they submit the following Resolutions to The House:—

"1st. That no Public Work of any magnitude shall be undertaken, except on a Survey and Estimate, made by an officer acting under the orders of some responsible Department.

"2d. That on the first application for a Vote of Money, an Estimate of the sum likely to be required for the whole Work shall be laid before The House.

"3d. In cases which require more than one year for their completion, and where Money is proposed to be voted on account, there shall be submitted to The House in each year, and before the Vote is proposed, a Statement of the Sums already voted, of the Money actually expended up to the date of the last Accounts, of all outstanding Demands, and of the Sum still wanting to complete the Work; and any deviations from the Original Plan or any contemplated additions to the magnitude or expense of the whole Work, shall be inserted in the Estimates of the year.

"4th. No Department of the Government shall authorize any officer to enter into Contracts for any Work, beyond the limits of the annual grants of Money, without the sanction of a Minute of the Board of Treasury, which shall, with as little delay as possible, be laid before The House."

In the Opinions thus pronounced, My LORDS concur: feeling the necessity of providing in all cases a more direct and effective Parliamentary check upon the Public Expenditure, they are desirous of carrying these Resolutions into effect invariably; but before any decided step is taken, either by proposing these Resolutions in The House of Commons, or by pursuing any other course thereon, My LORDS direct, that Letters be written to the Secretary of State for the Colonial Department, the Lords of the Admiralty, and the Board of Ordnance, expressing the strong opinion of this Board, and inquiring whether any public inconvenience is considered by the several Departments as likely to result from an adherence to Regulations which, in the judgment of My LORDS, are as no less in accordance with constitutional principles, than calculated in a most important degree to advance the Public Service.

LETTER from *John Barrow*, Esquire, to The Honourable *J. Stewart*,
&c. &c. &c.

SIR,

Admiralty Office, 17th June 1831.

I HAVE laid before My Lords Commissioners of the Admiralty your Letter of the 14th instant, with the accompanying Extract from a Report of the Select Committee of The House of Commons appointed to consider the Water Communication in Canada; and I have their Lordships' commands to acquaint you, that they entirely concur in the propriety of the whole of the Regulations suggested by the Committee for a more early and effectual control over Expenditure for all kinds of Public Works, and their Lordships have in fact anticipated the greater part of them: their Lordships will, however, give directions to the subordinate Boards implicitly to adhere to these Regulations, so far as they are concerned.

I am, &c. &c.

(signed) *John Barrow*.

LETTER from *R. W. Hay*, Esquire, to The Honourable *J. Stewart*,
&c. &c. &c.

SIR,

Downing-street, 29th June 1831.

I HAVE laid before Viscount Goderich your Letter of the 16th instant, transmitting for his Lordship's opinion, by command of the Lords Commissioners of the Treasury, the Copy of their Lordships' Minute of the 10th instant, founded on a Report of a Select Committee of The House of Commons, proposing certain Resolutions for giving to Parliament a more early and effectual control over Expenditure on Public Works, and stating, that their Lordships are desirous of carrying them invariably into effect, as being no less in accordance with constitutional principles, than calculated in a most important degree to advance the Public Service; and I am directed to acquaint you, for the information of the Lords Commissioners, that Lord Goderich concurs in their Lordships' opinion, and he is not aware that any public inconvenience is likely to result from an adherence to these Regulations in future.

I am, &c. &c.

(signed) *R. W. Hay*.

LETTER from *R. Byham*, Esquire, to The Honourable *J. Stewart*,
&c. &c. &c.

SIR,

Office of Ordnance, 5th July 1831.

REFERRING to your Letter of the 14th ult., transmitting an Extract from a Report of the Select Committee of The House of Commons, appointed to consider the Water Communication in Canada, and desiring to receive the Opinion of the Master General and Board of Ordnance upon the Resolutions therein proposed, with the view of giving to Parliament a more early and effectual control over Expenditure of the description mentioned therein;—

I have the honour to acquaint you, for the information of the Lords Commissioners of His Majesty's Treasury, that the Master General and Board are not aware of any objection to the adoption of the Resolutions referred to; but, with regard to the 4th Resolution, they consider it right to state, that, unless Executive Officers at *Foreign Stations* are authorized to enter into a contract for the *whole* of any Work proposed to be executed in a given number of years, Contractors will naturally seek to indemnify themselves, by higher prices, from the risk they would run of having their work stopped, or discontinued, at the end of any year. At the same time, the Treasury, in the event of the Resolutions being adopted, having, as

it seems, the power of sanctioning, by their Minute, a deviation from the 4th Resolution, it is submitted, as a question for their Lordships' consideration, whether this power will be effectual to obviate the inconvenience above anticipated.

I have the honour, &c. &c.

(signed) *R. Byham.*

Copy of TREASURY MINUTE, dated 8th July 1831.

READ Letter from the Secretary to the Board of Ordnance of the 5th instant, referring to the Letter of this Board of the 14th ult., enclosing an Extract from a Report of the Select Committee of The House of Commons, appointed to consider the Water Communication with Canada, for the Opinion of the Master General and Board of Ordnance, upon the Resolutions therein proposed, with the view of giving to Parliament a more early and effectual control over Expenditure of Public Works in the Colonies; wherein he states, that the Master General and Board of Ordnance are not aware of any objection to the Resolutions referred to; but with regard to the 4th Resolution, they state, "that, unless Executive Officers at *Foreign Stations* are authorized to enter into a contract for the *whole* of any Work proposed " to be executed in a given number of years, Contractors will naturally seek to " indemnify themselves, by higher prices, from the risk they would run of having " their works stopped, or discontinued, at the end of any year."

Read Letter from Mr. Hay of the 29th ult. on the same subject.

My Lords resume the consideration of all the former Papers on this subject, and also read their Minutes of the 10th and 28th ult.

My Lords are gratified to perceive, that it appears from these Communications that no real difficulty arises in carrying into effect generally the proposed Resolutions, and thus ensuring to Parliament a more full and adequate Check upon the Public Expenditure.

With respect to the difficulty suggested by the Ordnance Department, My Lords are of opinion, that it will not arise where the entire Expense of any Work has been submitted to Parliament, and approved of, although a Vote may not have been taken for the full amount in any one year. Unforeseen and unavoidable Expenditure will, it is conceived, be sufficiently provided for by the exception contained in these Resolutions.

The Lords of the Admiralty having already given orders that these Resolutions shall be acted upon implicitly in that Department in future, it is unnecessary to make any further communication to that Board; but My Lords desire that the Secretary of State for the Colonies and the Master General and Board of Ordnance may be requested to give corresponding directions in their respective Departments.

Appendix, No. 4.

LETTER from Major General Sir *A. Bryce* to *R. Byham, Esq.*,
&c. &c. &c.

Sir,

84, Pall Mall, 19th May 1832.

THE Report which was forwarded with my Minute of yesterday's date, will inform the Master General and Board, that Lieutenant-Colonel By expected to complete the *Navigation of the Rideau Canal* on the first of this month. It is therefore to be considered, that from the period of the completion of the Navigation, the Master General's and Board's Order of 21st June 1826, for executing this Canal, will have been fulfilled; but as this work will be liable to constant current expenditure, as well in the working of the Locks, and preservation of the Banks, as in usual repairs

repairs, which will inevitably arise, it becomes necessary to consider for future provision; therefore, (with reference to the Board's Orders of 6th December 1830^T and 29th June 1831^E, communicating that the Canal is to remain solely in charge, and under the control of the Ordnance, and to the Master General's and Board's subsequent Order of 14th October 1831^T, communicating that it is contemplated by the Government, that until the amount of Tolls, &c. for passing the Locks shall be sufficient to defray the annual expense of repairs, the necessary Funds should be provided by the Colonial Legislature in Canada,) I recommend, that immediate orders be given to the respective Officers at Quebec, and the Paymaster of the Rideau, that from the period when the Commanding Engineer in Canada considers the execution of the Canal to be completed, a separate account be kept of all expenses incurred in its maintenance, so that the expenditure on the execution, and on the maintenance, may be wholly distinct, and that if any Funds shall, in consequence of the last Order above quoted, have been voted and made available for the maintenance of the Canal, all expenses for repairs, and the establishment necessary to be kept up from the completion of the work, should be charged to that sum.

I am, Sir, &c. &c.

(signed) *Alex^r Bryce, M. G^l.*

Appendix, No. 5.

MEMORANDUM from OFFICE of ORDNANCE.

26th May 1832.
SUBMIT to the Master General, that a communication be made to the Lords Commissioners of the Treasury, acknowledging Mr. Spring Rice's Letter of the 11th May, received on the 23d, in which was transmitted to this Department Copy of a Minute of the Lords Commissioners of the Treasury, dated 11th May 1832.

Acquaint their Lordships, in reference to Mr. Spring Rice's desire, that the Master General and Board will "lay before My Lords, with as little delay as possible, an account of the total expenditure on the Rideau Canal during the year 1831, and to the latest period to which it can be carried forward;" that the Board have the satisfaction to think that they have been enabled to fulfil his desire in the fullest manner, by transmitting, on the 21st May, to Mr. Spring Rice, for the information of the Lords Commissioners of the Treasury, a complete statement of the Expense for the year 1831, received from Lieut.-Colonel By, with his Report, dated 27th February 1832; showing also, they lamented to find a statement of expenditure incurred by Lieut.-Colonel By wholly unauthorized by this Department, not only amounting to £. 25,624, which was before made known as a probable exceeding on the last Estimate, but to a very much larger amount.

Acquaint their Lordships, that the Board would immediately have carried into effect the Instructions of their Lordships contained in their Minute of 11th May, had the circumstances remained the same as when that Minute was made; but under the altered and unfortunate state of the case now known to their Lordships, the Board feel themselves justified, and indeed called upon, to await the final Instructions of the Lords Commissioners of the Treasury, founded upon the latest state of information contained in the Papers transmitted to their Lordships on the 21st May; on receiving such final Instructions, the Board will not fail to carry into effect the Orders of the Lords Commissioners of the Treasury with the least possible delay.

Transmit to Mr. Spring Rice, for the information of the Lords Commissioners of the Treasury, Copy of Sir Alexander Bryce's Letter of the 19th May 1832, respecting the expense of the maintenance of, or of such repairs as may arise upon, the Rideau Canal, and the mode of keeping the Accounts of the same. State to their Lordships, that as there is every reason to believe that the Canal is now finished, it is of the utmost importance that this Department should receive the most precise Instructions from the Lords Commissioners of the Treasury respecting any expense to be incurred on the Canal subsequently to its completion for its maintenance and repair; that such orders seem essential, to guard against the possibility

possibility of future unauthorized expenditure; and that this Department will lose no time in giving effect to such arrangements and orders as the Lords Commissioners may consider most suitable to the case. The Board beg to draw the attention of the Lords Commissioners of the Treasury in an especial manner to the contents of Sir Alexander Bryce's Letter, from an impression, that if Funds are not speedily provided for the maintenance of the Canal by the Colonial Legislature in Canada, no time ought to be lost in deciding upon and regulating all charges for repairs in the interim, in order that unauthorized future expenditure may, under any possible circumstances, be effectually guarded against.

(signed) T. F. K.

29th May 1832.

I approve,

(signed) J. K.

Ordered accordingly.

Appendix, No. 6.

LETTER from the Right Hon. T. Spring Rice to the Secretary of the Ordnance, &c. &c. &c.

SIR,

Treasury Chambers, 9th June 1832.

HAVING laid before the Lords Commissioners of His Majesty's Treasury your Letter of the 26th ult., I have it in command to acquaint you, that My Lords entirely concur in opinion with the Master General and Board of Ordnance, that it is of essential importance that precise Instructions should be given with respect to the future management of the Rideau Canal, and to the mode of defraying the expense of its maintenance and repair, and that My Lords will have this important branch of the subject under their consideration as soon as the Select Committee of The House of Commons now sitting by direction of the House, upon the subject of the expenditure already incurred, shall have made any Report to The House, it appearing to My Lords that the whole subject in all its branches should be considered by that Committee. In the mean time, however, and until some final arrangement shall be made, My Lords are of opinion, that the expense absolutely required to maintain the Canal, must be borne by this Country. My Lords have no means, however, of forming any judgment of the probable charge per annum which will be occasioned thereby; and as that information is necessary, not only for this Board, but also for the Select Committee of The House of Commons, My Lords request the Master General and Board will direct some of their practical Officers to prepare an Estimate of the probable amount that may be required, looking to the nature and extent of the work. My Lords entirely approve of the suggestion, that a separate and distinct account should be kept of all the Charges now to be incurred for this Canal, in the manner proposed by Sir A. Bryce, and for the reasons stated by him.

I am, Sir, your obedient servant,

Spring Rice.

9th June 1832.

REFER to Sir A. Bryce, and that he be desired to consider the subject here mentioned, and, after consulting any Officer of Engineers whom he shall consider necessary, to prepare the best Estimate he can form of the probable Expense of maintaining the Rideau Canal, looking to the extent and nature of the work, and to lay the same before the Board with as little delay as possible.

Submit this Minute to the Master General before it is acted upon.

11th June 1832.

Approved.

T. F. K.

11th June 1832.

Ordered according to the Board's Minute of the 9th inst.

T. F. K.

Appendix, No. 7.

ESTIMATE of the AMOUNT that will probably be necessary, in the year 1832, for the Maintenance, including Repairs, of the *Rideau Canal*, under supposition that it was quite completed and opened on the 1st May last.

	£.	s.	d.
One Captain, Royal Engineers, extra pay, 366 days, at 11s. 1d.	202	16	6
One Second Captain, Royal Engineers, extra pay, 366 days, at 8s.	146	8	-
One First Lieutenant, Royal Engineers, extra pay, 366 days, at 7s. 10d.	143	7	-
One First Lieutenant, Royal Engineers, extra pay, 366 days, at 6s. 10d.	125	1	-
Command pay to the senior Officer for 366 days, at 10s.	183	-	-
Pay, instead of travelling expenses, to the Second Captain and two Subalterns, for six months in the year, 540 days, at 5s.	137	5	-
Forage allowance for the four Officers, at 2s. each for 366 days	146	8	-
Pay of one Clerk of Works, at 14s.	256	4	-
Allowance for a Horse, 2s.	36	12	-
Pay of one Overseer of Works, at 12s.	219	12	-
Allowance for a Horse, at 2s.	36	12	-
Pay of one Master Carpenter, at 10s.	183	-	-
Allowance for a Horse, at 2s.	36	12	-
Pay of one Master Mason, at 10s.	183	-	-
Allowance for a Horse, at 2s.	36	12	-
Pay of one Master Smith, at 10s.	183	-	-
Allowance for a Horse, at 2s.	36	12	-
Pay and allowance of one Clerk for Commanding Engineer	150	-	-
Pay of ten first-class working Foremen of Artificers, 366 days, each at 6s.	1,098	-	-
Four Carpenters, four Masons, two Smiths, to be stationed as follows:—			
One Carpenter, one Mason, one Smith, at the first eight Locks.			
One Carpenter, one Mason, at Smith's Falls.			
One Carpenter, one Mason, one Smith, at Jones's Falls.			
One Carpenter, one Mason, at Kingston Mills.			
Pay of 22 permanent Lock-keepers, 366 days, at 5s.	2,013	-	-
Pay of 34 additional Lock-keepers (eight months) for aiding in passing the boats, &c. 243 days, each at 4s.	1,606	-	-
Pay of 30 common labourers for six months, which it is anticipated will be required in passing and extricating drift timber from the entrances of the locks and against the dams, 188 days, each at 3s. 6d.	1,260	-	-
Canoes and hire of crews for eight months, suppose	320	-	-
Probable expense for casualties, from 5,000 <i>l.</i> to 10,000 <i>l.</i> , saying the latter	10,000	-	-
Probable Total Expense	18,799	1	6

21st June 1832.

(signed)

E. W. Durnford,
Colonel Royal Engineers.

Appendix, No. 8.

ESTIMATE for increasing the Width of the GRENVILLE CANAL for STEAM-BOAT NAVIGATION, making the Bottom 40 Feet wide, with Slope 2 to 1, except in the Rocky Situation, there to be regulated by the nature of the Rock.

THESE Locks were built, as formerly ordered, 108 feet long and 20 feet wide. It is calculated that they cannot be taken down and rebuilt complete, of the dimensions now approved, of 130 ft. x 33 ft. for Steam-Boat Navigation, at a less expense than stated.

The Canal had been originally laid out at 28 feet wide at bottom, excepting at the deep and expensive cuttings, where, for a distance of above 1,600 yards, it is only 20 feet wide. The excavation herein stated, is for making the whole length of Canal, about 6 miles, 40 feet wide at bottom, and the average price of 3s. 6d. per cubic yard is assumed, as in the deep cutting it is entirely through Rock, and in no other part is there less than two or three feet of Rock at the bottom.

The re-forming a Tow-path or Road is estimated, as in some places the whole, and in others the greater part, will have been cut away in widening the Canal.

The Canal having isolated between it and the Ottawa River a long slip of Land, although not more than 360 acres, yet extending nearly six miles, and belonging to different Proprietors settled on it, five permanent Bridges had been established, which must now be replaced by Drawbridges (and of a greater extent) to allow the passage of Steam Boats, or the Land be purchased, which, however, may not be so practicable, except in one instance, where the Sum required for the Bridge exceeds the Value of the Land.

	Amount Sterling.	
	£.	s. d.
PUTTING down the three upper Locks, and re-constructing them of the Size of the lower ones:		
Taking down and rebuilding on the approved large scale for Steam-Boat Navigation, No. 1 Regulating Lock -}	7,000	- -
Taking down and rebuilding, &c. No. 2 Lock, 6 feet lift -	4,500	- -
Taking down and rebuilding, &c. No. 3 Lock, 7 feet lift -	5,000	- -
163,147 cubic yards of Excavation, through Rock and Earth, in widening the present Canal from 20 and 28 feet width to 40 feet throughout at bottom, at 3s. 6d. -}	28,550	14 6
13,777 cubic yards of Excavation in forming a Tow-path and Road, 1s. 8d. - - - - -}	1,148	1 8
4 314 yards running of grubbing and removing the Boulders on part of ditto, £. 5 per 100 yards -}	215	14 -
6 miles running of metalling the whole length of ditto, including breaking of Stone and Transport, £. 100 -}	600	- -
Coffer-dam and Machinery to pump out the Water -	300	- -
300 toises of dry Masonry in forming a Pier on South side of entrance at upper end of Canal, 20s. -}	300	- -
Taking down and rebuilding four large Drains or Bridges over Rivulets, £. 50 - - - - -}	200	- -
Putting up Five Drawbridges over Canal, constructed to permit the passage of Steam Boats - - - - -}	1,500	- -
	49,314	10 2
Contingencies, 1-10 - - - - -}	4,931	9 -
TOTAL - - - - - £.	54,245	19 2

Appendix, No. 9.

STATEMENT of the EXPENDITURE on the OTTAWA CANALS to the 31st December 1831, with the Amount required to complete from that Date; also the Amount of the approved Estimates for those Works, and the probable Saving or Excess on each, made up from the latest Reports received from Canada.

WORKS.	Expended to the 31st Dec. 1831.	Required to complete from 31 Dec. 1831.	Total Expense of the Works.	Approved Estimate for the Works.	Saving.	Excess.	REMARKS.
	£.	£.	£.	£.	£.	£.	
Grenville - - - - -	137,244	775	138,019	138,019			
Enlarging the Locks at the Grenville, and widening and deepening the Canal where necessary to pass Steam Boats of the size intended to work on the Rideau	-	54,245	54,245	54,245	-	-	Not yet ordered to be commenced.
Carillon Rapids - - - - -	23,721	12,523	36,244	45,404	9,220		
Châte-a-Blondeau - - - - -	9,872	5,113	14,985	20,783	5,800		
Superintendence and Establishment - - - - -	14,261	-	23,761	23,761	-	-	
	-	-	267,234	282,274	15,020	-	As only £14,261 had been expended on 31st Dec. last, and these Canals are calculated to be finished by the end of 1832, it is expected that there will be a considerable saving on this superintendence, but the amount cannot be now stated.

Appendix, No. 10.

NOTE in Explanation of the CONTRACTS for Work carrying on at the RIDEAU CANAL in Canada.

FROM the nature of the Works to be executed under most of the foregoing Contracts, it will be observed, that as they were for specific purposes, no stop could have been put to them without exposing Government to the risk of actions for breach of covenant. In those cases where the Contracts appear terminable at pleasure, it must be remembered, that they were so far connected with certain of those entered into for specific purposes, as virtually to become interminable: for instance, where Quarries were to be opened, Land cleared, and Oxen employed in drawing, on the line of the Canal, wherever required: these, as unconnected services, might have been stopped; but as some Lock, or other Work, had been specially contracted for, to be erected on one of the spots to be so cleared, it became imperative to clear the ground, quarry stone, &c. &c. in order to proceed with the Lock or Work alluded to; so that, in fact, it would have been very difficult, if not impossible, to suspend the progress of the whole.

The Contracts made by the Commissary stipulate, that in case of failure on the part of the Contractor, another party might be employed to complete the Work, and the expense should be charged to the Contractor; and he was also held bound in a penalty on the failure of any separate covenant.

Office of Ordnance,
13 June 1832.

R. Byham, Secretary.

Appendix, No. 11.

MEMORANDUMS

Relative to the WATER COMMUNICATION between Montreal and Kingston;
Compiled and corrected to 1832, by S. B. Howlett.

Mile from Montreal.	Miles to Kingston.	
		LA CHINE CANAL, ON THE ST. LAWRENCE.
1.	277.	LA CHINE CANAL.—This Canal is 28 feet wide at bottom, 48 feet at the water-line, slopes generally two to one, has 5 feet depth of water, and a towing-path. The whole fall is 42 feet, with 6 Locks. It is the property of a Company, and was begun in 1821, and completed in three years; it cost £,137,000, which was defrayed by the Company, assisted by Government, for which the Public Service is exempt from Toll.
		THE OTTAWA.
56.	222.	CAPILLON RAPIDS.—To pass these Rapids, a cut is proposed, with 2 Locks, on the left bank of the River.
60.	218.	CHUTE-à-BLANDEAU.—To pass this Fall, there is a cut, with 1 Lock, on the left bank of the River.
64.	214.	GRENVILLE CANAL.—This Canal is on the left bank of the River it is about 7 miles in length, has 6 Locks, and its section is similar to that of the La Chine Canal. From this Canal the Ottawa is navigable up to the Falls of Chaudière,

Miles from Montreal.	Miles to Kingston.	THE RIDEAU CANAL.
128.	150.	ENTRANCE BAY. —This is a small Bay in the Ottawa, about a mile below the Falls of Chaudière, and about a mile above the point where the Rideau River falls into the Ottawa. The Bay is in 45° 30' North Latitude, and 76° 50' West Longitude. From this Bay the Canal is entered by 8 Locks. The Canal then passes through a natural Gully, crosses Dow's Swamp (which is flooded by means of a mound); crosses Peter's Gully by means of an Aqueduct, and joins the Rideau River at the Hog's Back, distant from Entrance Bay about 6 miles.
132.	146.	HARTWELL'S. —Two Locks.
133.	145.	HOG'S BACK. —This Dam is 45 feet high and 400 long; and the Canal rises into the River by means of 1 Lock, besides a Guard Lock. The Dam, by throwing back the River, converts about 7 miles of rapids into still navigable water.
138.	140.	BLACK RAPIDS. —A Dam and 1 Lock.
143.	135.	LONG ISLAND RAPIDS. —A Dam and 3 Locks, and 2 Embankments. This Dam throws back the water sufficiently to overcome the rapids and deepen the shallows, so as to render the River navigable up to Burrett's Rapids.
167.	111.	BURRETT'S RAPIDS. —A Dam and 1 Lock.
169.	109.	NICHOLSON'S RAPIDS. — Dam and 2 Locks, and an Embankment.
171.	107.	CLOW'S QUARRY. —A Dam and 1 Lock, and an Embankment.
173.	105.	MERRICK'S RAPIDS. —A Dam and 3 Locks.
187.	91.	MAITLAND'S RAPIDS. —A Dam and 1 Lock.
190.	88.	EDMUND'S RAPIDS. —A Dam and 1 Lock.
194.	84.	OLD SLY'S RAPIDS. —A Dam and 2 Locks.
196.	82.	SMITH'S FALLS. —A Dam and 3 Locks.
202.	76.	FIRST RAPIDS. —A Dam and 1 Lock.
210.	68.	OLIVER'S FERRY. —Here the Rideau Lake contracts to 463 feet in width, and a Ferry is established to connect the Road between Perth and Brockville.
226.	52.	UPPER NARROWS. —Here the Rideau Lake contracts again to about 80 feet in width, across which a Dam is thrown, with a Lock of 4 feet lift, forming the Upper Rideau Lake into a summit Pond of about 291 feet above Entrance Bay in the Ottawa.
232.	46.	ISTHMUS R. LAKE. —This Isthmus separates the Upper Rideau Lake, which is the source of the Rideau River, from Mud Lake, which is the source of the River Cataragui. The Canal will now have to descend 162 feet before it reaches Kingston Harbour. The Canal is cut through this Isthmus, which is a mile and a half in width, having 1 Lock.
237.	41.	ISTHMUS CLEAR LAKE. —A cut is made through this neck of land, which is 330 feet across, to avoid the rapids of the natural channel.
238.	40.	CHAFFEY'S MILLS. —A Dam and 1 Lock.
243.	35.	DAVIS'S RAPIDS. —A Dam and 1 Lock.
248.	30.	JONES FALLS. —A Dam and 4 Locks.
255.	23.	CRANBERRY MARSH. —is about 78 feet above the level of Kingston Harbour, and about 8 miles along. Besides flowing into the Cataragui River, the waters of this Marsh or Lake burst out at White Fish Falls, and flow into the Gananoqui River, which River will be made the waste weir for regulating the level of the water in the Rideau Lake, which is the summit Pond; so that the water in the whole line of Canal, whether in times of flood or not, may always be kept at a steady height.

Miles from Montreal.	Miles to Kingston.	
		<i>THE RIDEAU CANAL—continued.</i>
260.	18.	BREWER'S UPPER MILLS.—Two Dams and 2 Locks.
261.	17.	BREWER'S LOWER MILLS.—A Dam and 1 Lock.
273.	5.	KINGSTON MILLS.—A Dam and 4 Locks. The Canal or Catarqui River falls into Kingston Bay at these Mills, 5 miles from Kingston.
		GANNEAU SHOALS (in Kingston Bay).—The work at this station consisted in abating these Shoals, so as to obtain a depth of five feet water in dry seasons.

The distance from Montreal to Entrance Bay is about 128 miles; and the time required for the passage of Troops by this line would be about 30 hours. The distance from Entrance Bay to Kingston is about 150 miles; and the time required for the passage of Troops by this line would be about 54 hours.

The Locks of La Chine Canal, and the three upper Locks of the Grenville Canal on the Ottawa, are calculated for vessels of 20 feet beam, with 5 feet depth of water.

The remaining Locks on the line of the Ottawa, and those on the Rideau, are intended for vessels 68 feet long and 80 feet beam, and the least depth of water 5 feet.

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Appendix N^o II
OUTLINE MAP

showing the
WATER COMMUNICATIONS
between
KINGSTON AND MONTREAL

1832.

Compiled by Sam^l B. Hoell^r Chief Draftsman
Inspector General's Office.



O N T A R I O

