Required to prevent the Banks slipping into the Canal.

Lining the Banks of the Canal with Hemlock Logs, not provided for in the Estimate given to the Committee, and is completed....

Pumps and Labor, not provided for in the Estimate given to the Committee, and is completed....

Required whilst laying the Oak Sill and Hanging the lower Gates of the Locks; the necessity of this Service was not foreseen at the period of forming the Estimate given to the Committee.

PAC, W044, Vol. 20, Reel B-1295, pp. 384-386, 393-398. *Particulars of the Hogs Back.*

18. Dam of Arch'd Key'd Work. ...

This Amount includes the excavation of a Waste Channel, and all the Contingencies which have occured to the Dam.

Increase of Expense, arises from its failure in the Spring of 1828, and the necessity of allowing an additional height & thickness to the Dam, above what was provided for in the Estimate given to the Committee, in order to prevent the Water flowing over it. The excavations in forming the waste channel were required for the Dam, and included in the above Expenditure, which does not include all the contingencies which have occurred to the Dam, the Statement to that effect in Document K is therefore in Error, the Progress Report shows the Expenditure on each Service.

Three Locks Complete. ...

Arises from the lowness of Contractors Prices below the Original Estimate.

The necessity of a Guard Lock was not foreseen or provided for in the Estimate of Works given to the Committee. In forming the probable Amount of Works to complete forwarded to England in the Spring of 1830 on finding that a Guard Lock was indispensably necessary for the Security of the Works, I Estimated for the Two Locks at Hartwells as Extra Works, and then by deducting the Amount of the Two Locks required at the Hogs Back, from the Sum provided for the Three Locks in the Original Estimate, the Saving on the Item, Masonry at the Hogs Back would be shewn, the correct mode I acknowledge would have been, to have deducted the Amount of the Two Locks at Hartwells (as approved of by the Committee) from the Original Estimate of the Three Locks, and then to have provided for the Guard Lock and Inverts in the probable Amount of Works to complete before alluded to under the lead of Extra Works; indispensably necessary.

Backing & Puddling behind Lock Walls. ...

Increase of Expense, a Guard Lock being necessary the Rear of the chamber Walls required to be Puddled; the Expense of Puddling has also invariably proved much greater than estimated for.

Sluice Gates, Complete, Eight Pair. ...

Increase of Expense, arises from the substituting Crabs

& Chains for Racks & Pinions, & Cast Iron for Wooden Valves, also from the Two Pair of additional Sluices required for the Guard Lock.

Stop Gate.

To provide for the Repairs which might be required to the Lock Gates, Sill or Sluices, it was deemed advisable to have Stop Gates in readiness, otherwise whenever an accident occurred, however trifling to the Upper Lock, it would be necessary to form a Coffer Dam in front of the same, the Construction and removal of which, would cost at least £200 and if by a sudden rise of the River, the Coffer Dam received any injury which is not at all improbable, the sudden rush of Water upon the Lower Gates of the Guard Lock, might be attended with serious injury to the Works.

Constructing a Railway, 1160 feet in Length

Necessary to convey Materials from the Quarry to the Dam.

The necessity of this Service arose from the failure of Mr. Fenlon, and the apparent probability that the Works at the Hogs Back would have to be executed by Day work from the high prices demanded by various persons for the performance of the same, which I felt myself called upon to resist; on the completion of the Railway which is carried from the Quarry to the Dam;

Removing Flood Wood etc...from River.

Occasioned by the Drift Wood which was aground on the Three Island Rapids floating down when Dam was raised.

This Service was indispensably necessary, & consequent upon the Alteration from the Original Plan (of allowing the Water to flow over the Dam as approved of by the Committee for had the Entrance of Waste Weir, got choked with the floating Trees brought down by the Current of the River, the very effect its construction was intended to provide for (namely the affording & free passage for the water, to prevent its flowing over the Dam) would have been counteracted, & the consequence very serious injury to that Work which is not constructed to meet such an unexpected casualty.

The Expense attended upon this Service has been very heavy, from the great accumulation of floating Timber, the quantity of which could not have been anticipated or foreseen, and the Amount to complete the same can only be looked upon as the probable one, but whatever the Ultimate Expense may prove, it is absolutely necessary for the safety of the Dam, that the Waste Weir and Channel, be kept open & clear from all obstruction, and when once the present Mass of Wood shall be removed, which was ocasioned by the raising of the water by the Dam, I fully anticipate that the future Expense will not be very good, as the Boom which it was necessary to construct, and which I should recommend being continued until the Banks of the Rideau are well cleared, will prevent the floating Wood from passing the

Waste Weir, and it can be removed by the permanent Labourers required to Work the Locks; the Boom will also serve as a permanent floating Bridge.

Constructing Waste Weir & Bridge Over the Same.

Waste Weir to prevent Water passing over the Bridge is a continuation of the Railway. Waste Weir - The Bed of the River at the Hogs Back is formed of a Slaty Strata, dipping at an Angle of 45° directly across the same, and having observed the effect of the Water upon the Rock when the Dam gave way, I considered it unsafe to allow the Water of the Rideau River to flow over this Work as originally proposed from the conviction, that its falling from so great a height, would in time undermine the foundations, and ultimately cause its final destruction - I therefore considered it indispensably necessary to deviate from the Original Plan, and have in consequence constructed a permanent Waste Weir, which forms a regular inclined plane over Rock to the River.

The Bridge was a continuation of the Rail Road from the Mainland across the Waste Channel, and required in the construction of the Dam, upon the completion of which work, it was destroyed, from the consideration that it would prove a check to the Flood Water of the River, and, by preventing its freely passing over the Waste Weir, occasioned an additional pressure upon the Dam. ...

Small Coffer Dam Entrance to Guard Lock, and Removing Ditto.

Considering that the additional pressure upon the Stop Gates (required whilst Building the Upper Sill Hanging Gates etc...) occasioned by the Spring Floods might in some degree effect the Masonry whilst in a green state, I considered it indispensably necessary to provide against the possibility of such an event by constructing a Coffer Dam in front of the Guard Lock, to such a height as would relieve the Stop Gates from the extra pressure alluded to....

PAC, W044, Reel B-1294, Vol. 18, p. 230-234.

Progress Made During 1832.

1. The Locks at the Entrance Valley, Hog's Back ... have been completed...

Report of Canals in Canada, p. 6 and 7. Mem. 3rd February, 1832. in *British Parliamentary Papers*, Reports Correspondence and Papers Relating to Canada 1825-32, Colonies Canada, Vol. 6.

Projected Cost of the Works

Hog's Back £27,022,16.

PAC, W044, Vol. 19, p. 20.

Probable Amount of Each Section When Completed.

Hog's Back. £34,701,,4,,8.

Exerpt's from Lieutenant Frome's Report.

At the Hog's Back ... the canal first enters the Rideau on its left bank. Of the two combined locks constructed here, the upper is only a guard lock, its coping being 8 feet above the surface of the 7-feet water on its sill; the