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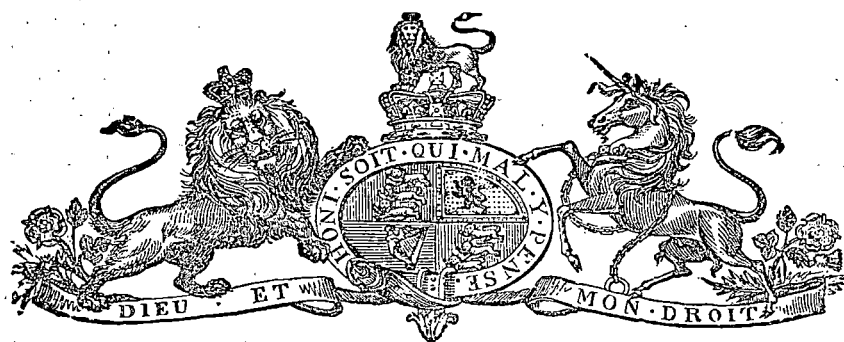
1870.

T A S M A N I A.

LAUNCESTON AND WESTERN RAILWAY.

ADDITIONAL CORRESPONDENCE.

Laid upon the Table by the Colonial Treasurer, and ordered by the House to be printed, October 4, 1870.



LAUNCESTON AND WESTERN RAILWAY.

REPORTS OF THE DAMAGE TO THE RAILWAY BY FLOODS.

671.

BY ELECTRIC TELEGRAPH.

Launceston, 12th September, 1870.

A FULL report of the damage done to the works of the Launceston and Western Railway by the late floods will be forwarded to you without delay. At present it is impossible to estimate correctly the full amount of damage. It will take thousands. I believe the Contractors will repudiate their liability to make it good, under the plea of defective design.

S. V. KEMP.

The Hon. the Colonial Secretary.

Railway Commissioners' Office, Launceston, 14th September, 1870.

SIR,

As the damage sustained to the Works of the Launceston and Western Railway through the heavy fall of rain during the 8th and 9th instant, and as the same is of general interest to the community as well as to the Government, I take leave to forward the following Report for your information. I premise by stating that such a short time has elapsed since the subsidence of the waters, that I have been unable to proceed along the line and to personally visit all the portions that have sustained damage; but I have seen the most important parts, while the condition of the other portions have been given to me by individuals whose statements I have no reason to doubt. Upon another occasion, if it be deemed necessary, I shall, after I have examined the whole of the works of the line, address you at greater length and with such suggestions as may, if approved of, prevent the recurrence of such another devastation.

With these observations I now proceed to observe in detail the damage sustained to the works along the line:—

From the Launceston Terminus to a distance of $1\frac{1}{2}$ miles no appreciable damage has occurred beyond the washing away at places of portions of the ballast. From $1\frac{1}{2}$ miles to the crossing of the St. Leonard's Road, near Hobler's Bridge, the line was submerged, and the rush of water has washed away the ballast and earthworks and made several small breaches through the embankment.

At the second crossing of the North Esk River, near the last-named point, the Wooden Bridge was completely submerged. The Engineers reduced the bridge 20 feet in length from their original design, and made another bridge in another locality 20 feet longer. The sanction of the Directory was not sought for this local adjustment. For several chains in length near the bridge the water washed completely over the line, carrying away the ballast and earthwork and making gaps several feet in length and depth; the rails are bent, and everything at this point of the works looks in a wretched state. From this on to Killafaddy little or no damage has occurred beyond the falling in of the slopes of some of the cuttings and the filling up of the water drains. From Killafaddy to 4 miles St. Leonard's Station the line was submerged several feet, the water crossed and recrossed over this portion of the line, washing away the ballast and earthworks, and making several breaches in the embankments, at which places the rails and sleepers are suspended in mid-air. The damage over this portion is something considerable. From 4 miles to 4 miles 32 chains no damage has been done.

At 4 miles 32 chains, "Verulam Bank," the double five (5) feet culvert has evidently collapsed, the bricks have been washed a considerable distance into the adjoining fields, the embankment has subsided several feet immediately over the culvert, leaving the sleepers and rails suspended in mid-air; the embankment throughout has subsided considerably, and has been forced out of shape; the ballast has in several places been washed away. This is one of the worst damaged places along the line. From 4 miles 32 chains to 8 miles 28 chains no appreciable damage has occurred beyond the slipping away of several portions of the slopes of the cuttings and the washing away of the side ballast.

At 8 miles 28 chains the end of the culvert has been stopped up, the slopes of the embankment falling over them. It is impossible to speak of the damage at this point until the fallen earth has been cleared away, but from the nature of the earth I fear the culvert has been injured considerably.

From 8 m. 28 to 9 m. 8 chains no damage beyond the falling in of the slopes of the cutting, which has in some places completely covered the rails. At 9 m. 8 chains (Big Bank) a portion of the double culvert under this embankment, which is between 70 and 80 feet high, has collapsed, the foot of the slope of the embankment has given way, and the sides are full of fissures, showing every indication of slipping in. The damage at this point is very considerable on account of the extreme height of the embankment, and unless immediate means are taken the damage already sustained will be greatly increased.

The Big Cutting has not been seriously affected by the late rains; the slopes are continually slipping in and are always on the move. I believe that several thousands of cubic yards will have yet to be taken out of this cutting before the slips are cured.

From 9 m. 8 to 9 m. 55 chains no damage has been sustained. At 9 m. 55 chains about six feet of the outlet end of the culvert has been washed away, and a small portion of the embankment has slipped in.

From 9 m. 55 chains to the Evandale Road the waters have made a breach of about 12 feet, washing away the earthwork and ballast.

From the Evandale Road to the Perth no appreciable damage has been sustained beyond the washing away of portions of the ballast and soil of the embankment.

At the Township of Perth about three chains of the embankment and ballast have been completely washed away, leaving the rails and sleepers bare.

From Perth to $27\frac{1}{2}$ miles no damage worth mentioning has occurred.

At $27\frac{1}{2}$ miles the line for about 3 or 4 chains was submerged several feet, all the earth and ballast washed away.

From $27\frac{1}{2}$ miles to 29 miles little or no damage has been sustained beyond the washing away of portions of the side ballast.

From 29 miles to 31 miles the water has been over the line and has washed away large portions of the ballast, and has slightly damaged the earthwork and drains.

From 31 miles to Mrs. Noakes' Brewery, Hagley Flat, little or no damage has been sustained.

At that part of the line which passes through Mrs. Noakes' considerable damage has taken place, the water washed completely over the line, washing away the embankment on each side of the culvert, making a gap of about 66 feet, and leaving the brickwork of the culvert, minus the wing walls, standing intact.

From Mrs. Noakes' to the first crossing of the Westbury Road the works have been considerably damaged; the ballast has been washed away, the side drains filled with mud deposit, &c.

From first crossing of the Westbury Road to the Quamby Brook on the Township of Westbury the works have been slightly damaged, but not to that extent as to warrant a description of them.

At the Quamby Brook the flood waters have made a complete breach of 20 feet in the embankment, leaving the sleepers and rails suspended; large quantities of ballast have been washed away, and otherwise doing considerable damage.

From the Quamby Brook to the Exton Toll-bar and road diversion the damage has been comparatively light, the water has rutted the slopes of the embankment, and in some places washed away portions of the ballast.

At the Exton Toll-bar and road diversion the rails and works were submerged ; large portions of the side ballast have been washed away, and other slight damage has been sustained.

From the Exton Toll-bar into Deloraine the works have not suffered any injury worth mentioning.

The Hon. the Colonial Secretary, Hobart Town.

I have, &c.,
(Signed)

SAML. V. KEMP.

673.

*Railway Commissioners' Office, Launceston,
14th September, 1870.*

SIR,

REFERRING you to my other communication of this day's date, containing so far as I now know a report on the damage sustained by the Launceston and Western Railway works last week, I now briefly beg to add in this letter for your own information, that the Contractors have suspended all operations, and appear to be waiting for the decision of the Company's Engineers and the presence of Mr. Doyne, who has this day arrived from Melbourne by the Derwent.

I greatly fear they will attempt to repudiate their liability to make good the damage done to the works by the floods, under the maintenance clause of the conditions attached to the Specification for the Works, under the plea of defective design in the laying out of the Line originally, and not making proper provision for the outlet of flood waters.

The late floods have determined, beyond doubt, the insufficiency of the water-ways across the line, and the lowness of the levels of the rails at the several points referred to in my other communication ; all of which were predicted by residents, who spoke from years of actual experience in these matters, and who now assert that the line and works will be subjected to these periodical visitations unless raised to a higher level, beyond the reach of floods.

It is, therefore, a matter of serious consideration as to the best and most prudent course to pursue ; whether to call upon the Contractors to restore the line and works to their original state, or to make further provision for the escape of flood waters and to raise those low portions of the line beyond the reach of floods. The great difficulty in the way is the want of funds. At present there is no other course open but to wait patiently the report of the Engineers and the determination of the Directory.

I need hardly add that in any case now the opening of the line must be postponed, probably till about the beginning of next year.

The Company's Engineers have been unable to report upon the extent of the damage sustained to the works to the Directory, consequently no course of action has been determined upon.

Two Civil Engineers from Melbourne have been retained on behalf of the Contractors, and they have this day arrived in Launceston by the *Derwent*.

To the Hon. the Colonial Secretary, Hobart Town.

I have, &c.,
(Signed)

SAML. V. KEMP.

674.

Railway Commissioners' Office, Launceston, 23rd September, 1870.

SIR,

WE have the honor to forward herewith a copy of the Engineers' Report upon the damage done to the Launceston and Western Railway and Works by the late floods, with copies of all correspondence which has taken place between the Engineers and Contractors having reference thereto ; also a copy of a letter which we have deemed it our duty to address to the Directory in connection with such report and correspondence.

The professional Commissioner having, on the 14th instant, so fully reported the nature and extent of the damage occasioned by the late floods, we do not deem it necessary, at this juncture, to add anything to such report in our collective capacity as Commissioners.

We have, &c.,
(Signed)

THEODORE BARTLEY.
SAML. V. KEMP.
FRED. M. INNES.

The Hon. the Colonial Secretary, Hobart Town.

*Launceston and Western Railway Engineers' Office,
Launceston, Tasmania, 19th September, 1870.*

DEAR SIR,

WE have to report, for the information of the Directors, that we have made a careful inspection of the Works of the Railway, with a view to ascertaining the effects of the late unusual floods upon them; and we find that, while they are seriously injured in many places, the total damage is not so great as was at first supposed.

The only brickworks that have been injured in any important degree are the culvert at Verulam, and the one under Embankment No. 38, on Mr. R. Cameron's land, both of which are partially destroyed, and constitute the most serious injury sustained: all the others are intact, or only very slightly damaged. The main waterways of the country over which the Railway has been carried at Longford and the Liffey have proved amply sufficient in every respect.

The injury done to the permanent way is mainly confined to the low portions of the Line in the neighbourhood of Elfin and Killafaddy, between 1m. 40ch. and 3m. 25ch., where the water passed over it with great force,—breaking through the embankment at several points, and removing a deal of the ballast,—leaving the sleepers attached to the rails. But little of this ballast is lost to the Contractors, as it is generally only removed a few yards, and can be returned at a small cost. No sleepers have been lost.

Passing Verulam, the Works up Jingle's Valley and on to the White Hills have sustained no injury of importance,—the effect of the saturation upon the various embankments being to cause them to subside in a few days to the extent that would, under ordinary circumstances, have occupied twelve months.

At Embankment No. 42 we observed a tendency to slip,—due, we believe, to the unsound character of the original ground. It is not, however, of very notable extent at present.

At the Evandale Road a small breach has been made in the embankment,—caused, we have reason to believe, by the indiscretion of the gate-keeper in cutting a drain through the bank for the purpose of relieving the ground where his tent was located. The injury here is of no importance.

At the Perth and Longford Road about one chain of the embankment has been destroyed; and beyond this point there is no injury worthy of remark up to 27m. 30ch., where about 40 yards of the embankment (3 feet deep) and the ballast have been carried away. At 32m. 10chs. a similar shallow embankment has suffered to the same extent; and the last point is at 35m. 60chs. (Quamby Brook) where the water made its way through between the embankment and the wing walls of the bridge,—causing the bank to give way for a length of about fifty feet.

One important cause of the injury to the permanent way was undoubtedly the green (*i.e.* new) condition of the embankments. These had been recently covered with vegetable soil, and some with grass seed, so that the action of large bodies of water upon them easily set the material in motion, and led the way to the destruction which followed. In works of this kind, extending over a large area of country, there must be some risk to earth-works exposed to the action of water until they have had sufficient time to consolidate, and to acquire the protecting skin or sod afforded by the growth of vegetable matter. The want of this protection was the only cause of apprehension we felt for the security of the Works at Longford, where, we are happy to say, the precautions taken were entirely successful.

From the statements of many old residents, who were in a position to observe the extent and suddenness of the floods in the North Esk District, there seems to be no doubt that they were more severe than any that have occurred for many years; and it is therefore reasonable to hope that it may be many more before a similar visitation falls upon us: at the same time, it is an unanswerable argument that what has already occurred may occur again at any time. For this reason we shall recommend, in the restoration of the Line, the introduction of some alterations which we believe will secure—so far as it is possible to do so from a flood of such severity—protection from a recurrence of the injury the Works have sustained. These alterations require to be very carefully considered; and we shall submit them as soon as we have completed certain surveys and observations which we are now taking for the purpose.

In conclusion, it is our duty to report that the Contractors stopped work upon the Line on the evening of Tuesday, the 13th instant, and have not since returned.

We annex Copies of the Correspondence which has passed between the Contractors and ourselves concerning the necessary repairs. On receipt of the Contractors' Letter, dated September 16, we thought it right to obtain the advice of the Company's Solicitors to guide us, and received the consent of the Chairman to our doing so. We have to request that we may be authorised to continue to consult them when necessary. The letter from Messrs. Overend and Robb, of this date, we have not yet replied to. As, however, in paragraph 4 of this letter a distinct issue is raised as to the respective liabilities of the Company and the Contractors to make good the injury sustained, we have submitted it to the Company's Advisers, who consider that it would be desirable to have the opinion of Mr. Wilberforce Stephen, of Melbourne, (the Counsel who advised in the terms of the Contract), on the point; and we suggest that the Solicitors be instructed at once to take the necessary steps to procure a settlement of this important issue.

In the meantime it is a matter worthy of the consideration of the Directors, whether an arrangement without prejudice to either party can be come to with the Contractors, under which the Works can proceed without further delay.

We have, &c.,

(Signed) DOYNE, MAJOR, & WILLETT, *Engineers.*

HENRY DOWLING, *Esq.*, *Secretary.*

1.

*Launceston and Western Railway Engineers' Office,
Launceston, 14th September, 1870.*

GENTLEMEN,

As several days have now elapsed since the damage was done to the Line, we would be glad to be informed what steps you propose taking to put it in order, as we consider that prompt action is necessary.

We are, &c.,

(Signed) DOYNE, MAJOR, & WILLETT, *Engineers.*

Messrs. OVEREND & ROBB, Launceston.

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2.

*Launceston and Western Railway, Contractors' Office, Railway Wharf,
William-street, Launceston, 16th September, 1870.*

GENTLEMEN,

WE beg leave to acknowledge the receipt of your letter of the 14th instant, desiring to be informed of what steps we propose taking to put the Line in order, after the damage by the late floods, as you consider prompt action was necessary:

In reply thereto, we beg leave to say, that we are with yourselves fully alive to the necessity of prompt action; we therefore made an immediate inspection of the damaged works and have already taken the necessary preliminary precautions. We now await your instructions as to the proper course to be adopted to accomplish the desired object.

We are, &c.,

(Signed) OVEREND & ROBB.

*Messrs. DOYNE, MAJOR, & WILLETT, Engineers,
Launceston and Western Railway.*

3.

*Launceston and Western Railway, Engineer's Office,
Launceston, 17th September, 1870.*

GENTLEMEN,

WE are in receipt of your letter of the 16th instant, asking for instructions as to the proper course to be adopted to put the Line in order after the damage done by the late floods. We have no instructions to give beyond requesting that you will proceed with the completion of the Line as speedily as possible.

We shall be glad to aid you with our advice if you desire to consult us.

We are, &c.,

(Signed) DOYNE, MAJOR, & WILLETT, Engineers.

*Messrs. OVEREND & ROBB, Contractors.
Launceston and Western Railway.*

4.

*Launceston and Western Railway, Contractors' Office, Railway Wharf,
William-street, Launceston, 19th September, 1870.*

GENTLEMEN,

WE beg leave to acknowledge the receipt of your letter of the 17th instant, in which you decline to give us any instructions as to the proper course to be adopted to put the Line in order after the damage done by the late floods; beyond requesting us to proceed with the completion of the Line as speedily as possible.

In reply thereto, we beg leave to state:—

1st. That it is evident on inspecting the portions of the Line most seriously damaged that the openings provided for the passage of the storm waters, under the Line, are totally inadequate both in size and number for that purpose, and that in many places the Line is constructed below ordinary flood level.

2nd. That even in many places where the Line is not carried away or seriously damaged, considerable injury has been done to the Line by the insufficient waterway under the Line.

3. That it would be perfectly useless to put the Line in order without at the same time raising the flood levels of the Line, and also considerably increasing the waterways under the Line, as the same or greater damage will infallibly result, with perhaps loss of life added to the consequences.

4th. That we most positively decline being held responsible for damages to the Line, the result of the inadequacy of the openings provided for the passage of storm waters under the Line, and the low levels at which the Line has been constructed.

5th. We are aware of the importance of immediate steps being taken to remedy the defects and repair the damages, and are willing with the concurrence of all necessary parties to come to an arrangement to do whatever we can that may be required.

6th. In the event of any difference of opinion as to our liability we would wish that the matter should at once be enquired into and referred to arbitration in terms of the Contract.

We have, &c.,

(Signed) OVEREND & ROBB.

*Messrs. DOYNE, MAJOR, & WILLETT, Engineers,
Launceston and Western Railway.*

Railway Commissioners' Office, Launceston, 23rd September, 1870.

SIR,

WE deem it our duty under the present aspect of matters connected with the Railway, more especially referring to all questions arising out of the damages occasioned by the late floods, distinctly to intimate to the Directory the views we entertain as respects such questions, by which views it is our present intention to be governed in any future action we may be called upon to take in connection therewith, and the restoration and final completion of the Railway.

1. The Contractors having distinctly denied that they are legally bound by the terms and conditions of their Contract to repair the damages done by the late floods to the Railway at their own cost, basing such denial upon the

ground that such damages have been occasioned solely by certain portions of the line having been constructed below the flood level, and by insufficient provision having been made by the Engineers for the passage of storm waters throughout the whole line, we deem it due to the Directors and ourselves distinctly to state that we consider it imperatively necessary that the question—whether the Contractors are or are not so bound to repair such damage, assuming that it has solely arisen from the causes alleged by them—should be *immediately* submitted for the opinions of the counsel, Messrs. Fellows and Wilberforce Stephens, as agreed upon at yesterday's Board meeting.

2. That should such Counsel determine that the Contractors are not legally bound to repair and make good at their own cost all damages to the line occasioned by any defects or errors in the designs of the Engineers, as alleged by the Contractors, it will be also imperatively necessary at once accurately to determine what respective portions of such damage have been or have not been so occasioned; and we are of opinion that an arrangement upon this question should (if practicable) be arrived at without prejudice to either party, between the Engineers, the Contractors, and, if necessary, the Directors, pending the said opinion of counsel being obtained, so as to avoid any loss of time.

3. We would also respectfully impress upon the Directory the great urgency of immediately obtaining from the Contractors, through the Engineers, a full and final account of all outstanding claims for extras or otherwise on the part of the Contractors up to the date of such account, so that it may be at once clearly and distinctly ascertained what balance of the respective amounts now remaining at the disposal of the Colonial Treasurer and of the Company and Commissioners would, after the settlement of these and all other outstanding claims, be available, if needed, for the restoration as well as for final completion of the Railway and Works, with the alterations proposed by the Company's Engineers, as, if such balance should prove insufficient, it will be indispensably necessary for the Company to take immediate measures to raise such additional funds as may be required to cover the cost of such restoration and completion.

4. Adverting to our opinion expressed in the 2nd paragraph of this letter as to the great urgency of immediately obtaining Counsel's opinion upon the legal issues raised by the Contractors, as to their liability to make good the damage done to the Railway and Works by the late floods, we are of opinion that it would be highly desirable, in order to avoid the delay and expense which would inevitably attend any ulterior proceeding, to obtain a judicial determination of such issue that the Contractors and Directory should, if practicable, mutually agree to abide by the legal opinion of the Counsel before named; and we would respectfully advise that the Contractors should be communicated with, with a view of bringing about such an arrangement.

5. We think it right to intimate that we shall not feel justified in concurring in any payments to the Contractors, on account of any works upon the Railway, until some determination satisfactory to us upon the questions above submitted has been arrived at.

6. At the special Board Meeting of the Directory held yesterday, the Engineers stated that the Culvert at No. 38 embankment, damaged by the late floods, was quite sufficient in area to carry off the flood waters; and that in reserving such culvert, they do not propose to increase its area, but only to alter and strengthen the design so as to resist the pressure of the superincumbent weight of earthwork; and further stated that they propose to raise the low portions of the line a foot, for a distance of two miles between the Launceston and St. Leonard's Stations.

7. As all questions connected with the restoration and proposed alterations of the line are of the utmost importance, and may seriously affect the Contractors' liability of maintenance, we deem it highly desirable that these questions and all others referred to in this communication should be legally and finally settled with as little delay as possible.

8. We have no desire to intrude our own opinion on the Directory, or to act in opposition to their views, but as repeated objections have been made at late Board Meetings by some of the Directors to our verbal expressions of opinion as Commissioners, we deem it necessary to state our views in writing.

We remain, &c.,

(Signed) THEODORE BARTLEY:
SAML. V. KEMP.

The Secretary of the Launceston & Western Railway Company, Launceston.