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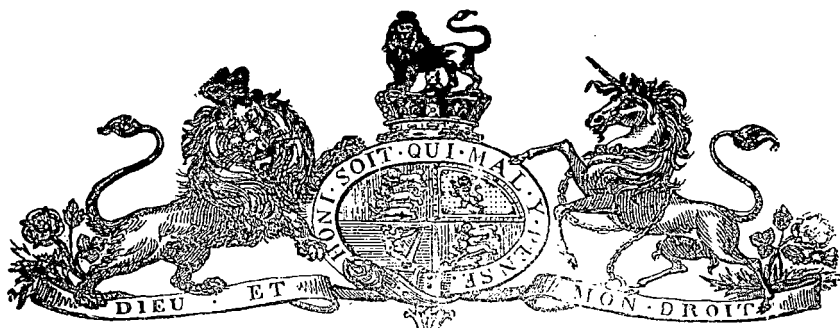
PARLIAMENT OF TASMANIA.

RAILWAY CONSTRUCTION:

REPLY FROM THE GENERAL MANAGER OF RAILWAYS TO
THE EXPLANATION MADE BY THE ENGINEER-IN-CHIEF.

Return to an Order of the House of Assembly. (Mr. Burgess.)

Laid upon the Table by the Minister of Lands, August 22, 1890, and ordered by
the House of Assembly to be printed, August 28, 1890.



*Tasmanian Government Railways,
General Manager's Office, Launceston, 15th August, 1890.*

SIR,

IT was not my intention, after reading in the Public Works Statement that you considered, upon the whole, my condemnation of the construction of the railways was too sweeping, to have offered any remarks. From time to time in my Annual Report I have expressed an opinion upon the subject as a matter of protection to myself, so that when renewals are required at an early date, and the working expenses go up in proportion, I may be able to offer a tangible reason therefor.

Since the Public Works Statement was published, however, you have been kind enough to supply me with a copy of the Engineer-in-Chief's Report, to which you make reference in your Statement. In it I find that gentleman makes use of the terms "exaggerations," and "inconsistent statements" as applied to myself.

After mature reflection I have decided to ask very respectfully your permission to reply, and that my reply may have the same publicity as the Report of the Engineer-in-Chief.

To deal with the Report generally, the basis of my complaint is contained in some half dozen lines on page 7 of my Annual Report, including—

Unnecessary steep grades.
Weak section of rail (Mersey Line.)
Wooden box culverts in bank 15 and 16 feet deep.
Insufficient waterways.
Inferior timber work.
Bad class of sleepers.
Shortness of ballast.

With regard to the first, the Don Hill and the Chudleigh Lines alone speak for themselves, the former on a grade of 39·7 or thereabouts, the latter having a difference of elevation of 6 inches only in the two termini, with its numerous grades of 1 in 40.

The Mersey Rail is still on the line, causing the use of some 400 sleepers additional per mile, with all the cost of renewing, packing, &c.

New waterways and many chains of drains are all to be seen on the lines.

Inferior timber can be pointed out. Timber cut one day and put into buildings the next, necessitating expense which, if timber was of good quality and condition, would be avoided. The inferior sleepers I pass over, as my contention has been admitted in this connection.

With regard to shortness of ballast, it has been so sparsely supplied in places that it has been at times unsafe to allow one train to follow another until the repairers have gone to the curves and repaired the damage done by the passing of the first train. The curves on the Mersey Line were propped up for months with spars, and packed with sleepers to enable trains to get over them—so much so that the officer in charge of maintenance will tell you that it was always a matter of uncertainty, when a train started, whether it would reach its destination in safety.

The Engineer-in-Chief is evidently under a misapprehension when he deals with the matter of working expenses.

In stating that "if a comparison is made between the cost of maintaining the much vaunted Western Line directly after its opening and the narrow gauge lines, it is altogether to the credit of the latter," the Engineer-in-Chief is also in error. The figures stand as follow:—

Western Line.—First three years' maintenance, 1872-73-74, (for 1871 the line was maintained by Contractors).

Average cost per train mile.....	11·75 <i>d</i> .
Per cent. of Receipts	25·14
Per cent. of Expenditure	28·21

Government Lines.—For years 1886–87–88.

Average cost per train mile.....	1s. 4·5d.
Per cent. of Receipts	38·19
Per cent. of Expenditure	42·33

I am assured by those officers who have been in the Railway service since the opening of the Western Line that after the Contractors left the line a ballast train has never worked between Evandale Junction and Deloraine. On the Mersey Line a ballast train was out in 1887, and for three months of the current year a ballast train has been continually at work on the Mersey Line.

I do not propose to traverse the Engineer-in-Chief's Report item by item—my general remarks, I think, deal sufficiently with the Report. I will therefore, in conclusion, take the last paragraph, in which the Engineer-in-Chief writes as follows:—

“I now desire to place on record my denial of the accuracy of the Report as a fair statement of the condition of the lines as a whole when referred to as inefficiently constructed. Indeed, a reference to Returns 11 and 20, attached to Manager's Report, will show that it carries its own refutation, for not only (see Return No. 11) are the working expenses per train mile lower than any other Colony, but working expenses of the Tasmanian Railways (Return No. 20) have steadily decreased for the last five years, *as the new permanent way has become consolidated.*”

It is quite true that the working expenses, since I have had the honor to manage your Railways, have diminished until they are now as low, or lower, than those of any of the other Colonies, *but this refers to the working expenses as a whole.* I yet contend they might be lower.

In the identical Report the returns of which the Engineer-in-Chief refers to, will be found a Decennial Return of receipts and expenses in full detail. (Return No. 21.)

Let us analyse the Decennial Return and see how much consolidation of new permanent way has done for us. Taking the five years quoted by the Engineer-in-Chief, it will be seen that the maintenance in 1886 cost more than in 1885, in 1887 it is much more than in 1886, in 1888 there is a slight reduction over 1887, whilst in 1889 there is a reduction, brought about by the introduction of a new element—the faithfully constructed Scottsdale Line.

If we eliminate the Scottsdale Line from our calculations, there is a slight increase over 1888.

Upon comparison, it is found that the maintenance of the Government Railways is worked at a higher charge than in any Colony except Queensland. Compared with the Main Line it is far higher, although the Engineer-in-Chief has certified that thousands of pounds have been charged by the Main Line Company to Maintenance which should have been charged to Capital Account.

The Accountant has been good enough to prepare and certify for me some Returns which I append hereto. From these can be gleaned the startling facts that whilst the maintenance of the Main Line, *including all the disputed items*, absorbed only 29·28 per cent of receipts, the maintenance of the Government Railways absorbed 37·79 per cent of receipts. Similarly, whilst of the Main Line Company's working expenses maintenance cost 30·03 per cent, on the Government Lines the proportions was 42·94, and whilst the cost of maintenance per train mile on the Main Line was 1s. 3·02d., the cost per train mile on the Government Line was 1s. 4·1d.

At the request of Mr. Dowling, I enclose his subsidiary report.

Finally, it was with great reluctance that in my yearly reports I felt constrained to touch lightly upon defects which were daily forced upon my notice. It is with greater regret that I now feel it necessary to go more fully into details, and as evidence that, to a great extent, the faults of construction had attracted attention prior to my arrival in the Colony, I append reports, written shortly after the opening of the Mersey Line in 1885, by Mr. Batchelor, Locomotive Superintendent, and Mr. Dowling, the Officer in charge of Maintenance, and others, including a letter from the Engineer-in-Chief to Mr. Weedon, bearing date 29th December, 1885, in which it is stated that *all deficiencies in works have been compounded for in one final payment.* This is a direct admission that deficiencies existed, and were known to the Engineer-in-Chief.

I have the honor to be,

Sir,

Your obedient Servant,

FRED. BACK, *General Manager.*

The Hon. the Minister of Lands and Works, Hobart.

TASMANIAN GOVERNMENT RAILWAYS.

COMPARATIVE Statement of the Average Cost of Maintenance of Colonial Railways for Three Years.

<i>Railway.</i>	<i>Year.</i>	<i>Cost per Train mile.</i>	<i>Cost per Mile open.</i>	<i>Per cent. of Gross Receipts.</i>	<i>Per cent. of Total Expenditure.</i>
Tasmanian Government*	1887-8-9	s. d. 1 4·1	£ 152·2	37·79	42·95
„ Main Line	1887-8-9	1 3·02†	181·15†	29·28	30·03
Victoria	{ 1886-7 1887-8 1888-9 }	0 9·17	179·7	12·72	20·72
New South Wales.....	{ 1887 1887-8 1888-9 }	1 2·46	204·1	17·75	27·03
South Australia.....	{ 1886-7 1887-8 1888-9 }	0 11·44	88	15·83	28·03
Queensland	1886-7-8	1 8·20	146·65	31·45	47·58
New Zealand	{ 1887-8 1888-9 1889-90 }	1 8·11	135·78	23·39	35·76
Cape of Good Hope	1887-8-9	1 5·7	167·63	18·1	34·16

NOTE.—Average train miles on Government Lines, 350,030.

„ Main Line Railway, 353,021.

* Excluding the cost of working the Scottsdale Line, which was opened for five months only; the average cost of Maintenance per train mile is 1s. 4·3d.; percentage of Gross Receipts, 38·04; and percentage of Total Expenditure, 43·20.

† Mileage between Launceston and Evandale Junction excluded.

W. H. LOVETT, *Accountant.*

TASMANIAN GOVERNMENT RAILWAYS.

COMPARATIVE Statement of the Average Cost of Working each Department of Colonial Railways per cent. of Total Expenditure for Three Years.

<i>Railway.</i>	<i>Year.</i>	<i>Maintenance.</i>	<i>Loco., Carriage, and Wagon.</i>	<i>Traffic.</i>	<i>General and Sundries.</i>	<i>Total.</i>
Tasmanian Government	1887-8-9	42·95	31·66	19·77	5·62	100
„ Main Line.....	1887-8-9	30·03	34·90	14·97	20·10 ^d	100
Victoria	{ 1886-7 1887-8 1888-9 }	20·72	30·53	44·92 ^a	3·83	100
New South Wales	{ 1887 1887-8 1888-9 }	27·03	37·99	29·53 ^a	5·45	100
South Australia.....	{ 1886-7 1888-9 1889-90 }	28·03	40·89	27·14	4·44	100
Queensland	1886-7-8	47·58	30·84	20·96	0·62 ^c	100
New Zealand.....	{ 1887-8 1888-9 1889-90 }	35·76	32·73	26·47	5·04	100
Cape of Good Hope.....	1887-8-9	34·16	37·80	17·50	10·54 ^b	100

^a Includes Compensation.^b Includes maintenance of telegraph lines, fuel plantations, wharf expenses, rents, and cartage.^c It would appear from the very low percentage that charges usually made against General Charges have been distributed over other Departmental charges.^d Includes London expenses.W. H. LOVETT, *Accountant.*

Extract from "Molesworth," 1888 Edition.

On the Railways of Great Britain, the proportion of the details of Working Expenses is as follows:—

Maintenance of Way	15 per cent.
Locomotive and Carriage Department.....	38 "
Traffic Charges.....	26 "
Miscellaneous, including Police, Watching, Compensation.....	14 "
Duty, Rates, &c.....	7 "
Total Expenses.....	<u>100</u>

Engineer's Office, Launceston, August 13th, 1890.

General Manager.

REFERENCE TO ANNUAL REPORT, 1890.

BEARING upon the Engineer-in-Chief's Report of the 30th ult., I submit the following remarks to substantiate the statements made by me of "faulty and incomplete construction increasing the cost of working," &c., as mentioned in my Report for year ending 1889.

I will at first refer to the Mersey Extension, "Deloraine to Devonport"—"That this Section taxes the resources of the Department to the utmost," &c.

When it was proposed to hand over this line for traffic in 1885, exception was taken to the serious deficiencies of construction, and these were to a large extent acknowledged and noted by the Engineer-in-Chief.

Some time after this, in compliance with your request "that an officer of the Construction Department should report upon the line," Mr. Sheard, accompanied by myself, made a careful examination, and in his report fully confirmed my complaints, giving his estimate of cost of necessary work. This was not at once acted upon, and after coping with the difficulties of the situation as long as it was possible, I was compelled to urgently request assistance, as the safety of the line was threatened; and then several amounts being authorised, the total of which did not cover the estimate given by Mr. Sheard, the formation was strengthened and some extra ballast put on. At one period the want of ballast and weakness caused much anxiety, and the safe condition was only secured by an increase of labour and attention. In some instances the super-elevation of the outer rail in sharp curves had to be supported with timber.

The money authorised being found insufficient, it has been necessary to expend over £1500 to strengthen the section during current year; this was charged to Maintenance. A more careful and satisfactory finish would have removed the necessity for this expenditure, at any rate to a large extent. The resources of the staff were also taxed in the endeavour to save from fire the chock and log fences through the summer months, and, excluding all extra labour and overtime, an amount of over £300 was spent in one season making good the losses with a more suitable design. The weakness of the 40lb. rail, which receives support from an unusual number of sleepers under it, becomes apparent as the timber commences to decay, and a premature removal of the timber becomes necessary to save the rails from getting crippled. This also gives an equivalent amount of labour both in removing, and daily to keep pace with this work additional men are being employed. Ten thousand (10,000) sleepers, or 10 per cent., will barely meet the requirements for the ensuing year.

As I have before stated, and still maintain, all extra culverts and openings of increased capacity put in since the line was taken over (the necessity for which was proved), have been charged against the Department.

THE FINGAL LINE—46½ MILES.

The expenditure upon this line repairing flood damages, £570, was caused to a large extent by faulty construction of culverts, and has been a charge against Maintenance. It is admitted that the staff is excessive for a line of its character, carrying such a light traffic and comparatively a surface line over an open and sound country; but must direct your attention to my frequent reports of the large amount of extra work performed in improving and strengthening the road. No actual value can be quoted, as it was not separated from ordinary maintenance, but the whole line throughout has been strengthened and ballasted to a large extent, its present satisfactory condition being due to the fact. With regard to Bain's fencing, it is quite correct that £300 was provided towards re-erecting the fence, but a considerable time elapsed before this provision was made. The fence, weak on its erection, was rendered more weak by the contractors being permitted to sell some 5000 droppers which were originally provided, and a large amount of the repairers' time was occupied in repairing and assisting in re-erection so as to spin out the £300 as far as possible. The unusual practice of allowing side cuttings to be taken out by contractors close up to fences and banks has

given much work to the repairers in building in the posts with stone or rock. Some idea of the value of this work may be arrived at when it is learned that a special engine was employed on several occasions hauling stone for this work.

The ordinary Maintenance Staff of this line and the Scottsdale are now numerically the same, although no comparison of the character of the country through which the latter passes can be made, proving the advantages resulting in a careful and finished condition.

THE DERWENT VALLEY.

The Bridgewater and New Norfolk Section is located in such a manner as to materially increase the cost of maintenance, and it is in these moist localities that an ample and sound bearing of ballast of really good quality is so essential; whereas in fact even the full interpretation of the present construction specification was barely afforded, rendering it a matter of extreme difficulty to retain a satisfactory maintenance. A safe condition is not the only desideratum to be considered, as this may be secured and at the same time want of ballast may cause a permanent injury to the way and of the stock.

The statement "that to want of protection to earthworks at Plenty against damages by flood, is to be largely attributed the loss" of the embankment washed away by the late floods is unfair, for, before the line was opened, in the presence of myself and another officer you directed the attention of the Engineer-in-Chief to the want of stone-guards at foot of the embankments. The Engineer-in-Chief remarked that a little grass seed on the slopes was all that was required, and your reply was that the first heavy flood would damage the banks, and you could not take them over unless they were protected. The Engineer-in-Chief, who did not agree with you, stated "that if the banks were washed away he would pay for repairs." The bank was washed away, and the Construction Department paid for its renewal £545. The Traffic Department lost by stoppage of traffic for a fortnight, and generally the expenses of the Maintenance Department were heavily increased.

L. DOWLING.

June 5th, 1885.

SIR,

I HAVE the honor to enclose a copy of a report received by me this afternoon from the Locomotive Superintendent upon the running condition of the Mersey Extension.

In forwarding these reports from the Departmental Officers, I am anxious that it should be clearly understood that neither one of them nor myself would venture to criticise the Engineer-in-Chief, but we are compelled simply to report the state of matters as found in connection with the new railways, which must necessarily interfere with the satisfactory working and development of traffic.

I have, &c.

R. W. LORD.

*The Honorable N. J. BROWN, M.H.A.,
Minister of Lands and Works.*

*Locomotive Superintendent's Office,
Launceston, 5th June, 1885.*

DEAR SIR,

I HAVE to report that when riding on the engine from Formby this morning I noticed that the Permanent Way is in a very bad state of repair. Since the late heavy rains the road has subsided in dozens of places, and the trains run over them at very great risk. A great number of the banks have also sunk at the ends of bridges and culverts; there are also a large amount of crippled rails, and the line not being fenced the cattle stray on to it to lie down.

I may also state that there are no lengths-men or repairers between Formby and the Whitetoord Hills, all the men being at this end. I have cautioned the Enginemen not to run to time on this Section, as I do not consider it safe; the sleepers being only shovel packed, the wet has thoroughly soaked under the road, some of which is not safe to run over at ten miles an hour.

I beg also to point out to you that I have no duplicates or spare gear of any description for the Mersey stock. Should the train get off the road or break a number of springs, it will have to stand until it can be repaired.

Yours obediently,

W. E. BATCHELOR.

R. W. LORD, *Esq., Manager, &c.*

*Locomotive Superintendent's Office,
Launceston, 14th July, 1885.*

DEAR SIR,

I HAVE to report that the 3.5 P.M. train yesterday was delayed owing to one of the springs buckles breaking when the train was just the other side of Kimberley's Ford.

This road is still very rough, which throws very great strain on the springs, and, as you are aware, I have no duplicates with this stock, this engine will have to stand idle until it is repaired.

I would beg to suggest that the Resident Engineer be asked to try and get some of the holes picked up and a better running top put on the road, or we will be having all the stock in the shops for repairs.

Yours obediently,

W. E. BATCHELOR.

R. W. LORD, *Esq., Manager, &c.*

19th December, 1885.

SIR,

I HAVE the honor to enclose herewith copy of the Assistant Engineer's Report on the Mersey Extension, when taking the Permanent Way and Works over from the Contractors.

I have, &c.

A. WEEDON, *Deputy Manager.*

The Hon. N. J. BROWN, M.H.A., Minister of Lands and Works.

Engineer's Office, Launceston, 19th December, 1885.

WESTERN EXTENSION TO FORMBY.

DEAR SIR,

I BEG to report that, in compliance with instructions received on the 1st inst., I have made a careful inspection of the above extension to determine upon the sectional division of the line for maintenance purposes. I have been fairly successful in securing a good class of labour and in organising a system of maintenance which I trust will, with careful supervision, secure a safe condition. Seven (7) sections varying from $4\frac{1}{2}$ miles to 6 miles in length have been determined upon, according to the nature of the line, each in charge of a ganger and three (3) men, making 28 men for 37 miles. This is a low estimate for maintenance, especially for the first 12 months. The period of maintenance by the Government commenced on the 12th of the month. In the interest of the Traffic Department I have noted and desire to direct attention to the state of the line, as completed by the contractors, hitherto to be maintained out of revenue. The general finish of the work throughout is not altogether satisfactory, and a larger amount of work is forced upon the Department than should be reasonably expected. The bridges, flood openings, and culverts are substantially designed and erected, and apparently of ample capacity. The drainage generally is faulty, side drains, inlets, and outlets are roughly finished and not large enough. Several portions of the line are liable to be submerged, which actually was the case last winter, and considerable damage done. Sub-ways and deep drains must be made to avoid this, if possible, in future. In many places pipes and boxes must be inserted to prevent overflow; to what extent I cannot probably determine at present, or perhaps until the damage is done. The Permanent Way is fairly strong in construction and has a good timber bearing surface, the sleepers being good and closely laid on. The fair running condition at present noticeable is equally due to this, as to the superior class of Rolling Stock placed on the line, which is running very smoothly even over portions of the line of known bad condition.

There is a serious want of regular and sufficient expansion allowance, which I consider a great fault, as it will naturally increase as the metals run out under the strain of traffic, and will necessitate cutting to avoid what is already apparent, and undue strain and kinking up at the joints. Little lifting or beater packing has been attempted—in fact, I know it has been forbidden, as it would necessitate running out more ballast. *The quantity of ballast under the sleepers in very many places is far below the quantity specified, and insufficient to retain a good running condition without lifting.* The road from Deloraine to Formby is more or less full of these slacks; and I consider the running top generally is left in a very unsatisfactory state. No. 2 section.—The old tramway is weak in many places, the narrow banks and formation disallowing the necessary lifting and canting of the way in curves, as it would not support the ballast. A good deal has been done to strengthen some of the banks, but not to the extent it is required, or *will have to be done.* A safe and good running condition for anything faster than your present time table cannot be secured under the present state of these banks, and I estimate there is two or three months' work with the ballast engine and a gang of men to effectively strengthen this section. *The contractors have acknowledged to me their inability*

to maintain it as it stands, and their consequent complete neglect of it, which has resulted in their attempt to pass it over in a strained and crippled condition. With our limited strength, the straightening of these rails will occupy much time. The amount of extra labour forced upon the department, I contend, is more than should be reasonably expected, and I trust my requisitions for assistance may not be disregarded or considered uncalled for when the occasions arise. The Way when lifted will require more ballast in many localities, in others it is heavier than required, which is the irregularity and want of finish complained of.

Nearly all the Points and Crossings are very indifferently laid in, and will require correcting; some will have to be taken out altogether and relaid. Sidings and loops are also faulty in this respect. A Siding at Whitefoord Hills laid in with tram-rails and unfished joints is hardly fit for traffic, and must be early relaid.

Stock Yards have been erected of fairly good quality, but nearly all on land subject to flood waters, and no provision has been made to drain or allow for raising them. Where there is much stock traffic they will require pitching. The station buildings are of a sufficient substantial character at present, but will possibly require some extension as the traffic is developed.

The Platforms, with one exception, are strongly constructed of a stone wall filling in, and topped with gravel.

Latrobe, Formby, and Railton will require asphaltting or they will get very wet in winter time. Just now they are dusty. Some miles of old fencing near Latrobe erected by the Mersey Tramway Company is in a very bad state, and will not prevent cattle trespassing, any injury to which the Department will be liable for, besides the risk to the passing trains. This will require renewing within 12 months. There is no stock of rails left on hand, in fact, not one. A small supply must be obtained at once. A sum of about £200, or possibly a little less, will be required for equipment of gangs. I will submit for approval a list of tools, trollies, &c., arranged to be taken over from the Contractors at satisfactory prices, which will nearly reach £100. Every endeavour, as soon as gangs are settled and equipped, will be made to improve the present condition. Until then I trust no attempt will be made to materially increase the speed of the trains, as, I before remarked, the condition at present will not stand it.

I am, &c.

L. DOWLING.

A. WEEDON, Esq.

Lands and Works Office, Hobart, 22nd December, 1885.

SIR,

I AM directed to acknowledge the receipt of your letter of the 19th instant, covering copy of Report of Assistant-Engineer on the Mersey Extension when taking the Permanent Way and Works over from the Contractors, and to inform you that your letter and copy of report have been referred to the Engineer-in-Chief.

I have, &c.

T. R. ATKINSON, *Minister's Secretary.*

A. WEEDON, Esq., *Deputy Manager of Railways, Launceston.*

Public Works Office, Hobart, 29th December, 1885.

MERSEY AND DELORAINE LINE.

DEAR SIR,

I BEG to inform you that, on my recommendation, the whole of the works of the Mersey and Deloraine Railway have been taken out of the hands of the Contractors, and the claims for balance of work, alleged losses sustained by them, and counter claims for deficiencies in works, compounded for in one final payment.

I am, &c.

J. FINCHAM, *Engineer-in-Chief.*

A. WEEDON, Esq., *Deputy Manager Government Railways, Launceston.*