(No. 107.)



# 1884.

PARLIAMENT OF TASMANIA.

# RAILWAYS.—PARLIAMENTARY SURVEYS:

# REPORT OF THE ENGINEER-IN-CHIEF.

Presented to both Houses of Parliament by His Excellency's Command.



Public Works Office, Hobart, 25th July, 1884.

Sir,

I HAVE the honor to submit herewith plans, sections, and estimates for the several Lines of Railway for which Parliamentary Surveys were authorised during the last Session of Parliament; viz.,-

- " Formby to Ulverstone."
- " Deloraine, via Chudleigh, to Mole Creek."
- "Bellerive to Sorell, with Branch to Richmond."

The Line from Formby to Ulverstone is designed to be of the same type as that from Deloraine to Formby, and will be an extension of the trunk line from Launceston. The earthworks are, on the average, light, but the two bridges over the Rivers Don and Forth respectively will be of rather a costly character.

Leaving Formby Station of the Mersey and Deloraine Line, the railway follows the Esplanade for a short distance, then traverses the Township of Formby in a diagonal direction to Laycock's farm, follows the coast for a short distance, and crosses the River Don at a high level near Templar's House, crosses the range terminating at the Don Bluff, passing close to Suckling's and Lillico's, and again follows the coast to the Township of Leith, which it traverses, and then crosses the River Forth near Williams's farm, on to a dry ridge, avoiding all the flooded lands that would be met with by any other crossing higher up the river, and saving very considerable expense by so doing; the coast line is then followed all the way to the wharves at Ulverstone, where the terminus is proposed.

The length is eleven miles seventy-five chains, and the estimated cost averages £4940 per mile.

The Deloraine to Chudleigh and Mole Creek Line is designed to be one of the light or secondary type, and will require no expensive works, while the gradients and curves will be equal to those on the better class lines. It commences by a junction with the Mersey and Deloraine Line at Chudleigh Road Station, follows that line for a short distance to Tuttle's farm, crosses the road to the Red Hills, passes a little to the west of Damper's Bridge, and follows the Chudleigh road more or less to the divide between the watersheds of the Meander and Mersey Rivers at Cunningham's homestead; here it leaves the road, and is contoured down the hill sides, at the back of Ritchie's, to the flat ground at Chudleigh; from thence, taking a direct line for the Wesleydale Road, it again follows the Main Road, and terminates some half mile beyond the school-house at Mole Creek.

The distance is twelve miles fifty chains, and the estimated average cost per mile is about £2300.

The Line from Bellerive to Sorell, with Branch to Richmond, is also designed to be of a secondary class, but the section from Bellerive to Sorell will cost an additional £1000 per mile on the average, owing to the exceptional features on it, viz., the tunnel at the Red Gate (198 yards in length), and the bridging over the Pittwater (1113 yards), as well as to the extent of excavations in rock. The bridging referred to is a necessity, as the present structure is not sufficiently preserved or strong enough to take even the light railway loads with safety. I propose, however, to use the existing solid embankments of the Causeway without widening, and to make the present bridges form so many "passing places" for the ordinary horse and carriage traffic when trains are passing over the Causeway. The gradients and curves will be equal to those of better class lines, with two exceptions, viz., a grade of 1 in 33 (with the load) near Mr. M'Ardell's house, and one three-chain curve at the Bellerive Station.

In connection with this Railway it is likely that proper wharf accommodation will eventually be required at Bellerive, as well as provision for running a light engine or motor and a few trucks on to a ferry-boat, for transfer to tramway lines at the landing-place at Hobart.

The line to Sorell follows the main road more or less all the way, and terminates on the Esplanade, and near the Parsonage at Sorell. The Richmond Branch joins near the old Chapel,

passes between Henslow's and Johnson's, crosses the Grass Tree Hill Road about half a mile from junction with Richmond Road, and terminates at "Prospect," at a point favourable for future extension to Campania.

The length of the Sorell Line is fourteen miles thirty-eight and a-half chains, and the estimated average cost per mile  $\pm 3200$ .

The length of the Richmond Branch is seven miles sixty chains, and the estimated average cost per mile  $\pm 2300$ .

With regard to light or secondary lines, I have no doubt but that they can be constructed generally for about £2500 per mile, if they are not loaded with heavy payments for land, with cost of fencing (now an expensive item), and with so many charges that are incidental and necessary to the working of the better class of lines. I should propose that only a very limited quantity of fencing be erected, say, through the Town lots or near homesteads, and that the division of properties or paddocks be preserved by means of cattle-stops or guards; and that no telegraph lines be erected.

A portion of the money thus saved I would propose to expend in short "turn-outs" or sidings upon each property that would be likely to give a reasonable prospect of traffic. They need not be made to contain more than one or two trucks, and permission could be given to owners to extend them as required. These facilities would be of very great value to the several properties concerned, and tend to foster and develop the traffic of these light lines.

I have the honor to be,

Sir,

Your obedient Servant,

JAMES FINCHAM, Engineer-in-Chief.

The Hon. the Minister of Lands and Works.

#### TASMANIAN GOVERNMENT RAILWAYS.

#### FORMBY AND ULVERSTONE LINE.

ESTIMATE OF COST.

#### Length, 11 miles 75 chains.

		ىلە	S.	u.
	Clearing	600	0	0
1920	Lineal chains fencing, at 30s.	2880	0	0
36.070	Cublic vards excavation, including side-cutting, at 1s. 9d.	7531	<b>2</b>	6
5500	Cubic yards excavation for road approaches, at 1s, 9d,	481	5	Ō
600	Lineal chains ditching at fix	180	ŏ	ŏ
200	Lineal chains forming at 25%	250	ŏ	ŏ
688	Lineal fact culverts of various sizes	675	1Ň	ŏ
000	Bridge over Bizer Don	4500	ň	ň
	Bridge over River Bouth	6500	ň	ň
	Bridge over fores rolling and the	900	ň	ň
	Bridge over Olayton's Livel-	200	ň	Ă
ວວ	Lingel shains used dispusion at £10	200	Ň	Å
52 51	Etheat and myblic word everying at £10	1050	Ň	Ň
21	Wiles 25 object route crossings, at 200.	15 519	15	Ň
11	Males 75 chains permanent way, complete, with 45 15. steel raits, at £1500	10,010	10	Ň
	A comparadiate market	400	Ň	v A
	Accommodation works	500	v v	0
	Station yards and buildings	3900	0	U
		45 100	10	_
		40,186	12	0
	Contract surveys, engineering, and supervision $\dots $ $\pm 3000  0  0$			
	Land and charges			
	Rolling stock $4000  0  0$			
	Contingencies			
		13,813	7	6
		£59,000	0	0
				===

# LINE FROM DELORAINE, viâ CHUDLEIGH, TO MOLE CREEK.

### ESTIMATE OF COST.

## Length, 12 miles 50 chains.

		£	s.	d.
	Clearing	300	0	0
300	Chains fencing, at 30s.	450	0	0
38	Cattle-guards, at £20	760	Ŏ	Ő
27.122	Cubic vards, exception including side-cutting at 1, 6d	2034	<u>'</u> 3	ň
733	Cubic yards exception in limestone roat at As 6d	164	18	Å
1100	Choice distance of the	104	10	ň
940	Chains untering, at 08.	000	0	0
040	Chains forming, at 20s.	340	10	U U
914	Lineal feet culverts of various sizes	1543	10	Ŭ
	Bridges	700	0	0
27	Chains road diversions, at $\pm 10$ .	270	-0	0
6	Main or public road crossings, at $\pounds 50$	300	0	0
12	Miles 50 chains permanent way (25 lb. steel rails), complete, at £900	11,362	10	0
	Accommodation works	250	0	0
	Stations and sidings	1000	0	0
		19 805	T	6
	Contract surveys one incoming and supervision 42000 0 0	10,000		U
	Lond and showed 1500 0 0			
•	Dalling stock			
	$\begin{array}{c} \text{Rolling stock} \\ \text{Solution} \\ So$			
	Contingencies	0101		~
		9194	18	6
	·	£29,000	0	0
				<u> </u>

# LINE FROM BELLERIVE TO SORELL, WITH BRANCH LINE TO RICHMOND.

### ESTIMATES OF COST.

# 1. Bellerive to Sorell.—Distance, $14\frac{1}{2}$ miles.

£

е *д* 

		~		
	Clearing	500	0	0
200	Chains fencing, limited quantity only	300	0	0
40,142	Cubic yards excavation, at 1s. 6d.	3010	13	0
20,753	Cubic vards excavation in rock, at 4s	· 4150	12	0
200	Chains forming on surface, at 15s	150	0	Ō
960	Chains ditching, at 8s	384	0	Õ
1325	Feet culverts	605	12	Ō
3339	Lineal feet bridging across Pittwater	6000	0	Ŏ
1800	Square vards rough pitched apron to bank at Medway Point, at 4s. 6d	405	Ō	Ō
198	Lineal yards tunnel, part lined, at £20	· 3960	Ō	Ō
10	Main and public road crossings, at £50	500	Ó	Ō
26	Cattle-guards, dividing properties, at £20	520	0	0
14 <del>1</del>	Miles permanent way, complete, with 25 lb. steel rails, at £900	13,050	0	Ō
2	Accommodation works, say	300	Ó	Ŏ
	Stations and sidings, and vards	1500	Ō	Ō
	Water supply.	500	0	Ō
	Jetty or wharf at Bellerive not included.		•	•
	•	35,835	17	_
	Survey engineering and supervision	00,000	11	Ū.
	Land and logal charges (80 acres)			
	Bolling stock 3000 0 0			
	Contingencies 3664 0 0	10.164	3	A
		£46,000	0	0
	i			

Say, £3200 per mile.

#### 2.—Branch to Richmond.—Length $7\frac{3}{4}$ miles.

		£	<i>s</i> .	d.
	Clearing	150	0	0
60	Chains fencing (limited quantity only)	90	0	0
26,848	Cubic vards excavation, at 1s. 6d.	2013	12	0
60	Chains forming on surface, at 15s.	45	0	0
620	Chains ditching, at 8s.	248	0	0
765	Lineal feet culverts.	391	10	Ō
	Bridges	700	Õ	ŏ
5	Main or public road crossings at £50.	250	ň	ŏ
าง	Cattle guarde dividing properties at £20	560	ň	ň
73	Miles normanent way, complete with 25 lb steel rolls f000	6975	ň	ŏ
4	A non-modeling ways complete, with 20 10. Steel fails, 2000.	900	ň	ň
	Recommendation works, say	7000	ň	Ň
	Stations, yards, and sidings	1000	U	U
	· · · · · · · · · · · · · · · · · · ·	10 609	6	
		12,025	z	U
	Survey, engineering, and supervision			
	Land and legal charges (50 acres)			
	Rolling stock			
	Contingencies 1276-18 0		-	~
		5376	18	0
	-			_
		£18,000	0	0
	Say $\pm 2300$ per mile.			

Public Works Office, Hobart, 4th August, 1884.

Bellerive to Sorell and Richmond Line.—Suggested alternative Route vià Rokeby. MEMO.

THE increased length of railway to construct will be as follows :---

A very light easy line can be obtained, and if cost be taken, at, say, only  $\pounds 2300$  per mile, there would, even then, doubtless be a saving of about  $\pounds 10,000$  in favour of the shorter route with heavier works.

The Hon. the Minister.

2

### JAMES FINCHAM, Engineer-in-Chief.

WILLIAM THOMAS STRUTT, GOVERNMENT PRINTER, TASMANIA.