

(No. 100.)



1887.

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PARLIAMENT OF TASMANIA.

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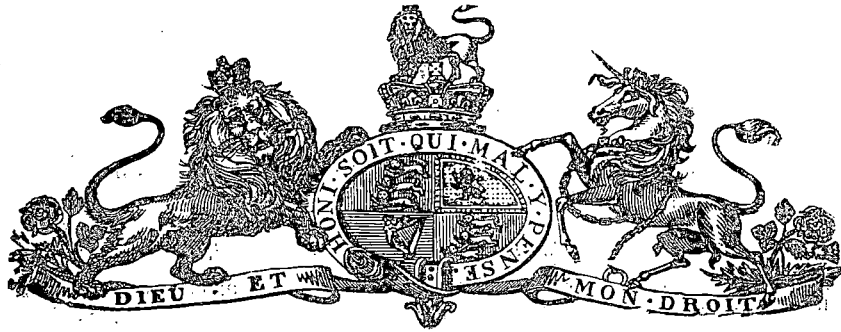
RAILWAY SURVEYS, PLANS, AND ESTIMATES:

PROGRESS REPORT.

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

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Laid upon the Table by the Minister of Lands and Works, August 18; and  
ordered by the House of Assembly to be printed, August 24, 1887.



## RAILWAY SURVEY LINES.

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*Public Works Office, Hobart, 17th August, 1887.*

SIR,

I HAVE the honor to report on the progress of Railway Surveys to date as follows; viz.—

### *Kimberley's Ford, viâ Sheffield, to Western Railway.*

A trial line, leaving Sheffield at the termination of the Permanent Railway Survey from Railton, has been surveyed to Spreyton viâ Lower Barrington.

This line is 18 miles 57 chains in length, and has been located with easy gradients and light earthworks to Lower Barrington at  $7\frac{1}{2}$  miles. From the Don Trading Company's Store the route runs parallel, but on a higher level on east side of tramway. There is a prevalent idea in the district that this tramway should be utilised and adopted for the railway; but this is inadvisable, as the tram line falls for 2 miles from Lower Barrington at a grade of 1 in 33, whilst the minimum railway grade is 1 in 40, and at No. 3 Bridge,  $3\frac{1}{2}$  miles from Barrington, the proposed line of railway is not less than 80 feet above the tram level. The line crosses the Don River for the second time at 13 miles 35 chains at a level of 756 feet below Sheffield; from thence it rises with sharp grades to the lowest part of the spur from Kelsie's Tier, which is crossed at 15 miles 20 chains at a height of 270 feet above the Don crossing; from 15 to 16 miles there will be some heavy earthworks. From the summit level on Kelsie's Tier the line falls towards Spreyton with sharp grades, the end of the line at 18 miles 57 chains being 400 feet below Kelsie's Tier crossing.

The curves are good until the descent towards Spreyton is made, where it will be necessary to have several 5-chain curves, or the alternative of heavy earthworks.

The route passes for 13 miles through good agricultural land, but after crossing the Don River near Melrose Creek the course lies in an apparently useless country.

An alternative route has been surveyed from  $11\frac{1}{2}$  miles of line above described to join the Formby to Ulverstone line near the east bank of the Don River. This line follows the valley of the Don, and commences to run parallel and level with the tramway at  $12\frac{1}{2}$  miles from Sheffield. The length of line by this route would be 19 miles 20 chains. The line would be nearly level, and very little earthworks would be required.

I attach hereto a diagram laid down on the parish plans, showing the routes referred to.

A plan and section of the trial line has been prepared for the guidance of the Engineer in charge of the permanent survey of this line, but no reliable estimate could be framed from them. The permanent survey for this line, and from Kimberley's Ford to Sheffield, has been stopped for want of money to complete the survey.

### *Ulverstone to Emu Bay.*

The permanent survey for the coast line has been completed; its length is 17 miles 34 chains 46 links. Easy gradients and light earthworks have been obtained, but portions of the line unavoidably run through short bays of the sea varying from 5 to 17 chains in length; in each instance the banks lie between high and low water. About 60 chains of line will be exposed to rough seas, and must be solidly constructed and have flat slopes to resist the wave action; upwards of 100 chains will pass through fairly well sheltered water. The principal bridges required will be for the Leven, Penguin, Blythe, and Emu Rivers, but no special difficulty will be met with in their construction.

An alternative trial line from Ulverstone to Penguin, known as the "Back route," has been surveyed. This deviation commences at Ulverstone West, near the Main Road Bridge, thence following the Leven and Myrtle Creek westwards for about five miles, reaches the summit of the divide between the Myrtle Creek and the coast at a height of 230 feet above the sea, thence following the hills behind Penguin Township joins the coast line at the Penguin Creek. This deviation would be 6 miles 75 chains in length, and is roughly parallel to the coast railway line, and is from a half to one mile inland from it.

The plans and section from Ulverstone to Penguin have been plotted; and plans and section from Penguin to Emu Bay are now in hand.

No estimates have been prepared for this line.

*Tunnack to Parattah.*

A trial line has been made, but the permanent survey has not been marked out; light earthworks with moderate curves and fair gradients can be obtained.

A plan and section, from which an estimate of cost can be obtained, has been prepared.

No estimate has been prepared for this line.

*Antill Ponds to Cressy and Longford.*

A rough examination of the country has been made with an aneroid barometer, but no detail surveys or levels have been taken. The line can be constructed without heavy works; the gradients will be satisfactory, and curves easy; there will be one or two cuttings about 20 feet deep, and not very costly bridging and embankment across the Lake River.

No plans or section have been prepared.

No estimate has been prepared.

*Lower Piper Branch, Scottsdale Railway.*

The permanent survey for this line has been completed; its length is 14 miles 3 chains 65 links. The line branches from the Launceston to Scottsdale line at the Piper River Bridge near the sixteenth mile; from thence it runs, with light earthworks, easy grades and curves, through Turner's Marsh to the Bangor Slate Quarry; from thence through somewhat rougher country, but still with light earthworks and good gradients and curves, to the main road from Launceston to the Lower Piper, about 50 chains west of south-west corner of Alford Township.

There are no heavy or expensive works of any kind on this line. A few flood-openings will be required at Turner's Marsh of cheap design.

Contract plans and sections have not yet been prepared.

Estimate has not been made.

*Glenora to Ouse.*

The permanent survey has been completed; length of line, 21 miles 5 chains 80 links.

This line passes through broken country between Glenora and the Derwent River at 11½ miles. On this portion there will be some heavy earthwork and expensive bridges, including one across the Derwent River. From 11½ miles to the termination of the line near the Ouse bridge the works will be light. The gradients and curves throughout are good, there being only a total length of 51 chains on a 1 in 40 grade, and the sharpest curve has a 6-chain radius.

A back route was examined and levelled, on which the gradients were found to be unfavourable.

The permanent line has been adopted after a thorough examination of the country had been made, involving levelling over 40 miles of trial section and 22 miles of cross sections.

The contract, plans, and sections for this line are completed.

No estimate has been prepared.

*Scottsdale to Upper Ringarooma.*

The trial surveys are completed, and the location of the line has been decided upon; its length will be about 23½ miles, of which 12 miles have been permanently pegged out.

The line has been carried through a difficult mountainous country, densely timbered, and has been located only after a very careful examination and comparison of different routes, involving survey of upwards of 108 miles of trial lines and 11 miles of cross sections. The best route has now been obtained; sharp grades in conjunction with sharp curves have been avoided. The earthworks will not be heavy. The summit of the Billycock Range will be crossed with a cutting 8 chains long and 25 feet in the deepest part; few heavy cuttings will exceed 10 chains in length.

Plans and sections not yet prepared.

Estimate not made.

The vote for Railway Surveys being nearly exhausted, it will be necessary to stop this survey at the end of the present month.

*Ulverstone to Castra.*

A Parliamentary Survey was ordered for this line.

The survey is now completed. The line is 9½ miles in length. The ruling grade is 1 in 44, and the sharpest curve has a 6-chain radius. There will not be any heavy works.

The plans and section are now in hand, and an approximate estimate from the Parliamentary Survey will be prepared in the course of two or three weeks.

I have the honor to be,

Sir,

Your obedient Servant,

JAMES GRIFFITH, *Inspecting Engineer*  
*Railway Surveys.*

*The Engineer-in-Chief, Hobart.*