Proceedings of the Madras Government, Public Works Department, 5th May 1875.

No. 143. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 23rd March 1875, No. 174:—

I HAVE the honor to enclose, herewith, for transmission to the Government of India, Statements A, B, C, and D, showing the progress up to the end of the fourth quarter of 1874 on the construction works of the Southern and Northern Extensions of the South Indian Railway, together with a brief descriptive report on the same by the Chief Engineer.

2. Adverting to the orders of Government as per margin, I beg to request that the views of Government on the following point raised by the Agent may be communicated:—

G. O., No. 1,990, dated 23rd July 1874.
" " 2,886, " 9th Oct. 1874.
" " 153, " 19th Jan. 1875.

Column 1 of the General Summary (Statement A) represents the anticipated requirements in this country under each head; but the figures recorded as *expenditure* in column 3 are confined to cash outlay as distinguished from store debits, and a comparison of these two columns can only mislead. To be of real value, therefore, this statement should either show quantities only which would effect earlier preparation or contain the whole expenditure against each item whether debited direct to the works or incurred through the medium of the suspense accounts. If the latter is the course directed to be adopted, I beg to point out that the reports will have to be delayed till the accounts relating to each quarter have been finally adjusted.

3. The Chief Engineer in his report draws attention to the unsatisfactory condition and the danger that may result from the continued use of the present line of telegraph along the extensions. It is hoped that the instructions issued by the Government of India in their letter* embodied in the Proceedings of Government, No. 434, of the 15th ultimo, in regard to the erection of permanent lines of telegraphs, will be carried into effect with as little delay as possible.

* No. 53 T., dated 25th January 1875.

SOUTH INDIAN RAILWAY.

Letter from the Chief Engineer, to the Agent, dated Trichinopoly, 29th January 1875, *No.* 1,047.

HEREWITH I have the pleasure to forward my usual quarterly progress report for the quarter ending December 31st; in doing so I would remark that I am fully aware of the necessity for promptly rendering this report, and in explanation of the delay noticed in the order passed by Government on the last report, I would observe that at the time we were making up the return for the quarter ending September 30th, we were also engaged in preparing the Budget Estimate for 1875-76, a work which requires a great deal of careful supervision to ensure its being accurately compiled; hence the delay complained of by the Government.

2. On the Southern Extension the tabular statement shows that the earthwork as completed is somewhat in excess of the estimated quantities; this is accounted for by our having raised the

bank in various places when it was considered advisable to do so; the expenditure however will be found well within the estimated amount.

3. In masonry the work of coping is still going on, and with the exception of the Satoor bridge nearly all large bridges are ready to receive the girders.

4. The work of rivetting up the girders is progressing satisfactorily both on the districts and also at Trichinopoly, where as I before reported we are rivetting up the girders for the Vygay Bridge.

5. I am sorry to say that there is still no news of the 5·70 foot girder for the skew bridge at 2 miles 23 chains, District No. 10, being yet on the road from Rio Janeiro; these are the only girders for the Southern Extension not yet landed in India.

The platelaying is completed up to about three miles beyond Dindigul, and beyond that is being laid almost as fast as the material arrives from England.

The locomotive now runs as far as Culputty on the 8th mile of District 3, and is kept fully employed in taking permanent-way material for District 5; from Culputty the material is taken by carts and strung out along the line.

The locomotive at Madura has been ballasting and bringing in stone from the quarries for the station buildings, and in my next report I hope to be able to report that similar work has been done by the engine at Tuticorin, as she is expected to be running in a few days.

The tabular form will show the progress that has been made in station buildings. I regret that the engine shed at Trichinopoly which is ready to receive the roof cannot be completed owing to the iron work of the latter being still undelivered as it was shipped in the same vessel as the girders above referred to as still being required.

I would again venture to impress upon you the very unsatisfactory state we are in as regards telegraph communication; now that we are expecting to have two engines working on a single line, it is more than ever absolutely necessary that our telegraph communication should be put upon a somewhat more substantial footing than it is at present.

With regard to the Northern Extension, I have to report that the unusually heavy rains which fell during October and caused such disasters on the Madras Railway also caused some very heavy floods on the line between Madras and Cuddalore, and from observations then taken I have deemed it advisable to raise the bank in many places, and also to increase the waterway allowed in the original estimate. Most of these increases both in earthwork and in waterway are included in my revised estimate, and I think that with a few exceptions the provisions therein estimated for will be found to be all that is required. The progress during the past three months has on account of the rains not been so satisfactory as we could wish, but every effort has been made to collect materials ready for the approaching working season, and I hope the figures shown in my next return will bear out my present estimated progress.

I have determined to take a locomotive by road from Madras to St. Thomas' Mount where I expect she will be found to be of great assistance south of the latter station.

Permanent-way laying is progressing favorably on Districts 2 and 9. Some ballast wagons have been lately landed at Cuddalore, and will be utilized in forwarding permanent-way material on northwards. At present all the energies of the staff are exerted in providing materials for the bridge, which accounts for the small return of work done under the head of stations.

The permanent telegraph is being erected between Madras and Tindevanum, and will be opened up for use as each district is completed.

Between Tanjore and the Coleroon the surveys are approaching completion, and on Districts 10,16 and 17 some earthwork has been executed. On this section of the line we are also engaged in the collection of materials, but the last three months have not been very favorable for brick-making; however, there is a good stock in hand, and as soon as sanction is obtained to commence the masonry a fair start will be made.

SOUTH INDIAN RAILWAY.

A.

ENGINEERING DEPARTMENT.

General Progress Report of Southern Extension from Trichinopoly to Tuticorin, 215 Miles 1 Chain, for Quarter ending 31st December 1874.

Reference to Heads of Estimate.	Details.	Total Estimate. Indian Expenditure.	Total Estimate. Value of English Stores.	Actual Indian Expenditure. During quarter.	Actual Indian Expenditure. Total from commencement to end of quarter.	Numbers. Finished. Total.	Numbers. In hand.	Quantities. Total as per Estimate.	Quantities. Executed during quarter.	Quantities. Executed to end of quarter.	Probable date. Of completion.	Probable date. By which Permanent-way can be laid if urgently required.	Depends upon supply of materials from England.
						M. CHS.	M. CHS.	C. FEET.	C. FEET.	C. FEET.			
I.	Preliminary Expenses ...	...	...	...	...	...	...	...	...	...	Trichinopoly to Madura, July 1876. Tuticorin to Tinnevelly, July 1876. Madura to Manaobee, October 1875.		
II.	Land ...	...	...	...	...	...	...	...	...	...			
III.	Construction of Line—	...	...	...	...	...	...	...	...	...			
	Earthwork ... Embankment	6,99,277	...	20,617	5,38,879	213 1	213 65	107,584,524	2,236,978	108,560,488			
	Earthwork ... Cuttings					No. 590	No. 536	1,285,551	21,306½	1,065,961			
	Minor Bridges and Culverts ...	5,65,691	1,04,453	11,089	3,67,610	81	16	599,967	11,667	437,832			
	Large Bridges (as per Statement B) ...	4,98,296	3,92,284	10,902	2,54,045	M. CHS. 215 1	M. CHS. 180 67	...	...	...			
	Fencing ...	1,40,000	...	15,853	44,995			...	...	...			
	Turfing ...	1,47,454	...	8,803	20,340								
	Other Items ...												
IV.	Ballast and Permanent-way—												
	Ballast ... Collected	2,57,657	...	11,976	35,450	215 1	M. CHS. 34 14	18,250,925	1,127,529½	5,151,209			
	Ballast ... Spread						...	...	...	...			
	Rails ... Lifted						...	...	...	...			
	Rails ... Linked in						...	...	...	...			
	Rails ... In depôt						No. *20,623						
	Rails ... Arrived at port during quarters.						...	...	...	...			
	Rails ... Lifted						M. CHS. 83 64	...	...	...			
	Rails ... Laid						91 48	...	...	...			
	Wooden Sleepers ... In depôt	5,38,738	88,77,890	11,866	1,07,839		...	...	...	...			
	Wooden Sleepers ... Arrived at port during quarters.						83 64	...	...	...			
							91 48						
							...	†51,953	...	...			

General Progress Report of Southern Extension from Trichinopoly to Tuticorin, 215 Miles 1 Chain, for Quarter ending 31st December 1874.

Reference to Heads of Estimate.	Details.	Total Estimate. Indian Expenditure.	Total Estimate. Value of English Stores.	Actual Indian Expenditure. During quarter.	Actual Indian Expenditure. Total from commencement to end of quarter.	Numbers. Total.	Numbers. Finished	Numbers. In hand.	Quantities. Total as per Estimate.	Quantities. Executed during quarter.	Quantities. Executed to end of quarter.	Probable Date. Of completion.	Probable Date. By which Permanent-way can be laid if urgently required
						M. CHS.	M. CHS.	M. CHS.	C. FEET.	C. FEET.	C. FEET.		
V.	Stations and Buildings (Statement C)—					No.	No.	No.					
	(a.) Platforms ...	8,50,763	3,879	22,482	85,952	39	11	2					
	(b.) Passengers' Buildings ...					39	39						
	(c.) Goods sheds ...					18	18	...					
	(d.) Watering arrangements ...	1,78,955	...	1,894	29,214	19	19	...					
	(e) Staff quarters ...	1,45,585	61,407	9,259	28,977	38	38	...					
	(f.) Engine-sheds and Workshops.	75,128	84,917	7,916	10,227	4	4	...					
	(g) Small Items ...	12,000	...	156	9,311	149	139	10					
VI.	Telegraph ...	1,51,442	...	1,871	3,893	...	...	...					
VII.	Plant ...	2,00,084	1,51,442	6,509	24,279	...	...	...					
VIII.	Rolling Stock (Statement D)	8,16,850	7,06,450	...	...	...	...	...					
IX.	Maintenance ...	2,53,015	...	1,16,178	‡9,40,965	‡ Under this head the whole of the establishments are included and no expenditure on this account therefore appears in the report for the Northern Extension.							
X.	Establishment ...	9,37,000	...										
XI.	Contingencies ...	1,00,800		1,711	§16,026	§ See note under (a).							

* Rails in Depôt—
At Trichinopoly ... 5,829
" Tuticorin ... 14,794
20,623

† Sleepers in Depôt—
At Trichinopoly ... 11,845
" Tuticorin ... 40,108
51,953

(Signed) J. SMITH,
for Agent.

S. M. JOHNSON,
Asst. Govt. Examiner, Railway Accounts.

(Signed) J. SMITH,
Chief Auditor.

NEGAPATAM,
18th February 1875.

B.

ENGINEERING DEPARTMENT.

Progress Report of large Bridges on Southern Extension from Trichinopoly to Tuticorin, 215 Miles and 1 Chain, for Quarter ending 31st December 1874.

Names of Bridges.	Foundation.	Abutments and Piers up to Springing or Girder level.	Arching or Erection of Girders.	Other Items.	Remarks.
District No. 1.—Bridge at 50 chains—					
Percentage done	100	95	...	...	3 20 feet girders.
Date of completion	...	.....	...	...	July 1875.
Do. No. 1.—Corayar bridge at 3 miles 43 chains—					
Percentage done	100	100	100	...	5 30 feet girders.
Date of completion	...	.....	...	...	Completed.
Do. No. 1.—Bridge at 4 miles 2 chains 61 links—					
Percentage done	100	100	100	...	4 20 feet girders.
Date of completion	...	.....	...	50	Copings of No. 2 abutment and caps for piers in hand.
Do. No. 2.—Bridge at 2 miles 41 chains—					
Percentage done	100	100	100	...	July 1875.
Date of completion	...	.....	...	...	4 20 feet girders.
Do. No. 2.—Bridge at 9 miles 51 chains—					Copings in hand.
Percentage done	100	100	100	...	July 1875.
Date of completion	...	.....	...	...	3 20 feet girders.
Do. No. 3.—Bridge at 1 mile 45 chains—					Copings in hand.
Percentage done	100	100	100	...	July 1875.
Date of completion	...	.....	...	...	5 20 feet girders.
Do. No. 3.—Bridge at 9 miles 40 chains—					
Percentage done	100	100	...	...	July 1875.
Date of completion	...	.....	...	...	1 70 feet girder.
Do. No. 3.—Bridge at 14 miles 45 chains 89 links—					
Percentage done	100	100	100	...	July 1875.
Date of completion	...	.....	...	...	3 30 feet girders
Do. No. 4.—Cullar Nullah bridge at 5 miles 70½ chains—					
Percentage done	100	100	100	...	July 1875.
Date of completion	...	.....	...	...	2 30 feet girders.
Do. No. 4.—Mooloopady river at 8 miles 42 chains 70 links—					
Percentage done	100	100	100	...	Parapet walls, copings, etc., in hand.
Date of completion	...	.....	...	...	July 1875.
Do. No. 5.—Anavooloothan Nullah at 3 miles 8 chains 96 links—					6 30 feet girders.
Percentage done	100	100	100	...	Parapet walls, copings, etc., in hand.
Date of completion	...	.....	...	...	July 1875.
Do. No. 7.—Vygay bridge at 5 miles 13 chains 40 links—					3 20 feet arches.
Percentage done	100	100	...	...	Completed.
Date of completion	...	.....	...	...	15 70 feet girders.
Do. No. 8.—Goondon bridge at 5 miles 51 chains 50 links—					
Percentage done	100	100	100	...	Girders are being revetted up.
Date of completion	...	.....	...	...	July 1875.
Do. No. 8.—Sheviootay bridge at 10 miles 46 chains 49 links—					7 30 feet girders.
Percentage done	100	100	100	...	October 1875.
Date of completion	...	.....	...	...	6 30 feet girders.
Do. No. 8.—Bridge at 14 miles 10 chains 80 links—					
Percentage done	100	100	100	...	October 1875.
Date of completion	...	.....	...	...	2 30 feet girders.
Do. No. 9.—Virdupatty river at 7 miles 31 chains 58 links—					
Percentage done	100	100	25	...	October 1875.
Date of completion	...	.....	...	...	9 30 feet girders.
Do. No. 9.—Kalingapoory at 13 miles 72 chains—					
Percentage done	100	100	...	* 100	October 1875.
Date of completion	...	.....	...	...	4 20 feet girders.
Do. No. 9.—Vuchacarapatty at 14 miles 2 chains—					* Caps and copings.
Percentage done	100	100	...	† 100	October 1875.
Date of completion	...	.....	...	...	3 20 feet girders.
Do. No. 10.—Bridge at 2 miles 23 chains—					† Caps and copings.
Percentage done	100	100	...	...	October 1875.
Date of completion	...	.....	...	...	5 70 feet girders.
Do. No. 10.—Bridge at 6 miles 35 chains 46 links—					
Percentage done	100	100	...	...	Girders not yet received in India.
Date of completion	...	.....	...	...	5 50 feet girders.
					October 1875.

Progress Report of large Bridges on Southern Extension from Trichinopoly to Tuticorin, 215 Miles and 1 Chain, etc.—(Concluded.)

Names of Bridges.	Foundations.	Abutments and Piers up to Springing or Girder level.	Arching or erection of Girders.	Other Items.	Remarks.
District No. 10.—Bridge at 8 miles 31 chains 14 links—	...	.....	...	...	12 70 feet girders.
Percentage done	92	92	...	...	October 1875.
Date of completion	...	.....	...	...	1 70 feet girder.
Do. No. 10.—Bridge at 8 miles 64 chains—	...	.....	...	...	
Percentage done	100	100	...	...	October 1875.
Date of completion	...	.....	...	...	3 20 feet girders.
Do. No. 10.—Bridge at 12 miles 35 chains 52 links—	...	.....	...	...	
Percentage done	100	100	...	...	October 1875.
Date of completion	...	.....	...	...	4 30 feet girders.
Do. No. 11.—Nulli bridge at 73 chains 25 links—	...	.....	...	...	
Percentage done	100	95	...	...	October 1875.
Date of completion	...	.....	...	...	3 20 feet girders.
Do. No. 12.—Bridge at 2 miles 2 chains 37 links—	...	.....	...	...	
Percentage done	100	100	...	...	October 1875.
Date of completion	...	.....	...	...	3 20 feet girders.
Do. No. 12.—Bridge at 3 miles 27 chains 15 links—	...	.....	...	...	
Percentage done	100	100	...	...	October 1875.
Date of completion	...	.....	...	...	3 50 feet girders.
Do. No 13.—Korthapillee Nuttum Nullah at 2 miles 45 chains 78 links—					
Percentage done	100	100	...	...	Main girder revetted not in place.
Date of completion	...	.....	...	...	July 1875.
Do. No. 13.—Shoriamungalam Nullah at 3 miles 66 chains 75 links—	...	.....	...	...	4 50 feet girders.
Percentage done	100	100	...	...	2 Pairs girders revetted not in place.
Date of completion	...	.....	...	...	July 1875.
Do. No. 14.—Chittaur bridge at 5 miles 9 chains—	...	.....	...	...	10 70 feet girders.
Percentage done	100	100	...	...	
Date of completion	...	.....	...	...	July 1875.
Do. No. 14.—Bridge at 2 miles 45 chains 69 links—	...	.....	...	...	3 20 feet girders.
Percentage done	100	100	...	100*	* Caps and copings.
Date of completion	...	.....	...	...	Completed.
Do. No. 14.—Bridge at 13 miles 69 chains 66 links—	...	.....	...	...	2 30 feet girders.
Percentage done	100	100	...	...	
Date of completion	...	.....	...	...	July 1875.

C.

Progress Report of Stations of the Southern Extension from Trichinopoly to Tuticorin, 215 Miles and 1 Chain, for Quarter ending 31st December 1874.

Names of Stations.	a Platforms.	b Passengers' Buildings.	c Goods Sheds.	d Watering arrangements.	e Staff quarters (by rooms).	f Engine Sheds.	g Small Items.	Remarks.
District No. 1.—Trichinopoly station—								Probable date of completion, July 1875.
Percentage done	90	98	...	98	53	98	*28	*16′ Turntable.
Date of completion	...	...	...	...	...	...	...	
Do. No. 1.—Collatore station—								
Percentage done	98	97	90	30	...	...	†95	† Gate Lodges and Platelayers' huts.
Date of completion	...	...	...	...	...	...	...	
Do. No. 2.—Manaparay station—								
Percentage done	75	96	40	...	...	...	...	
Date of completion	...	...	..	...	...	...	...	
Do. No. 3.—Yellengacoorchy station—								
Percentage done	...	...	...	...	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 4.—Vadamadura station—								
Percentage done	90	85	...	20	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 4.—Dindigul station—								
Percentage done	96	94	60	20	...	...	...	
Date of completion	...	...	...	...	...	...	...	

Progress Report of Stations of the Southern Extension from Trichinopoly to Tuticorin, 215 Miles and 1 Chain, etc.—(Concluded.)

Names of Stations.	a Platforms.	b Passengers' Buildings.	c Goods Sheds.	d Watering arrangements.	e Staff quarters (by rooms).	f Engine Sheds.	g Small Items.	Remarks.
District No. 5.—Ammanaikanoor station—								Probable date of completion, July 1875.
Percentage done	98	65	50	20	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 6.—Sholavandan station—								
Percentage done	99	90	95	82	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 7.—Madura station—								
Percentage done	95	90	90	5	5	90	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 7.—Tripanacondum station—								Probable date of completion, October 1875.
Percentage done	95	95	...	100	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 8.—Trimungalum station—								
Percentage done	...	...	...	50	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 9.—Virdupatty station—								
Percentage done	100	20	20	100	...	...	*85	* Gate Lodges and Platelayers' huts.
Date of completion	...	...	...	...	...	...	...	
Do. No. 10.—Satoor station—								
Percentage done	100	88	...	...	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 11.—Covilputty station—								
Percentage done	90	5	80	5	...	...	†75	†Platelayers' huts.
Date of completion	...	...	...	...	...	...	...	
Do. No. 12.—Kudumboor station—								
Percentage done	...	...	...	...	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 13.—Maniachee station—								Probable date of completion, July 1875.
Percentage done	...	...	...	...	...	...	...	Commenced sinking well.
Date of completion	...	...	...	...	...	...	...	
Do. No. 13.—Tuticorin station—								
Percentage done	63	27	41	2	...	47	‡77	‡ Station compound wall.
Date of completion	...	...	...	...	...	...	...	
Do. No. 14.—Gaingoondam station—								
Percentage done	95	96	87	40	...	...	...	
Date of completion	...	...	...	...	...	...	...	
Do. No. 14.—Tinnevelly station—								
Percentage done	100	83	50	...	...	99	§	§ Gate Lodge 100 per cent. Platelayers' huts 75 per cent. Boundary wall 100 per cent.
Date of completion	...	...	...	...	...	...	...	

TRICHINOPOLY,
31*st December* 1874.

(Signed) F. J. SMITH,
for *Chief Engineer.*

(Signed) J. SMITH,
for *Agent.*

A.

ENGINEERING DEPARTMENT.

General Progress Report of Northern Extension from Madras to Tanjore, 217 Miles, for Quarter ending 31st December 1874.

Reference to Heads of Estimate.	Details.	TOTAL ESTIMATE. Indian Expenditure.	TOTAL ESTIMATE. Value of English Stores.	ACTUAL INDIAN EXPENDITURE. During quarter.	ACTUAL INDIAN EXPENDITURE. Total from commencement to end of quarter.	NUMBERS. Total.	NUMBERS. Finished	NUMBERS. In hand.	QUANTITIES. Total as per Estimate.	QUANTITIES. Executed during quarter.	QUANTITIES. Executed to end of quarter.	PROBABLE DATE. Of completion.	PROBABLE DATE. By which Permanent-way can be laid if urgently required.
I.	Preliminary Expenses	8,61,000	...	1,042	1,13,837	...	...	...	...	...	...	Madras to Chingleput, July 1875. Chingleput to river Coleroon with breaks at the large bridges, Palar, Poonear, Guddelum, and Paravanar, July 1876. River Coleroon to Combaconum (except the large bridge there), October 1876. Combaconum to Tanjore, May 1876.	
II.	Land	...	...	...	...	...	...	...	...	...	...		
III.	Construction of Line—												
						M. C.	M. C.	M. C.	C. FT.	C. FT.	C. FT.		
	Earthwork. {Embankment ... {Cuttings ...	3,91,360		40,332	1,65,868	217 0	104 51	32 67	81,424,345	5,722,392	46,026,630		
						No.	No.	No.					
	Minor Bridges and Culverts ...	2,11,000		17,381	43,540	700	59	94	1,058,400	90,794	241,110		
	Large Bridges (as per Statement B.)	8,63,442		8,286	26,797	34	...	8	560,085	10,989	50,706		
						M. C.	M. C.	M. C.					
	Fencing	83,970		4,054	5,001	217 0	35 71	30 0	...	...	...		
	Turfing	41,700		775	1,233	...	...	...	...	...	...		
	Other items												
IV.	Ballast and Permanent-way ...	22,06,870		...	...	...	...	...	...	...	...		
	Ballast ... {Collected ... {Spread ...	154,740	...	831	1,192	...	...	...	12,495,087	150,633	191,214		
	Rails ... {Lifted ... {Linked in ...					...	2 1	...	...	...	...		
						...	11 4	1 0	...	...	...		
	{In Depôt ... {Arrived at port during quarter...					...	...	No. *22,762	...	...	...		
		309,237	17,42,893	3,984	4,866	...	...	...	...	...	...		
	Wooden Sleepers. {Lifted ... {Laid ...					...	3 1	...	...	...	...		
						...	11 4	1 0	...	...	...		
	{In Depôt ... {Arrived at port during quarter...					...	...	†1,316	...	...	...		
						...	...	...	...	...	...		

* Rails in Depôt—
At Madras 19,271
„ Cuddalore 3,491
22,762

† Sleepers in Depôt—
At Madras 1,316

General Progress Report of Northern Extension from Madras to Tanjore, etc.—(Concluded.)

Reference to Heads of Estimate.	Details.	TOTAL ESTIMATE. Indian Expenditure.	TOTAL ESTIMATE. Value of English Stores.	ACTUAL INDIAN EXPENDITURE. During quarter.	ACTUAL INDIAN EXPENDITURE. Total from commencement to end of quarter.	NUMBERS. Total.	NUMBERS. Finished	NUMBERS. In hand.	QUANTITIES. Total as per Estimate.	QUANTITIES. Executed during quarter.	QUANTITIES. Executed to end of quarter.	PROBABLE DATE. Of completion.	PROBABLE DATE. By which Permanent-way can be laid if urgently required.
V.	Stations and Buildings (Statement C.)	8,58,320		...	...	...	...	...	...	...	...	Madras to Chingleput, July 1875. Chingleput to river Coleroon with breaks at the large Bridges, Palar, Poonear, Guddelum, and Paravanar July 1876. River Coleroon to Combaconum (except the large bridge there), Oct. 1876. Combaconum to Tanjore, May 1876.	
	(a.) Platforms					...	...		...	...	...		
	(b.) Passengers Buildings... ...	8,13,070		5,247	19,420	...	...	1	...	...	...		
	(c.) Goods-sheds...					...	...	...	...	...	...		
	(d.) Watering arrangements ...					...	...	1	...	...	...		
	(e.) Staff Quarters	14,250	31,000	1,906	7,709	49	6	2	...	...	...		
	(f.) Engine-sheds {Estimate included under a, b, c, d.	...	...	140	2,258	...	...	...	...	...	...		
	(g.) Small Items {												
VI.	Telegraph	6,330	...	149	149	...	...	...	...	...	...		
VII.	Plant	54,500	1,57,200	939	4,000	...	...	...	...	...	...		
VIII.	Rolling Stock (Statement D) ...	2,70,510	4,97,490	...	153	...	...	...	...	...	...		
IX.	Maintenance	55,080	...	...	...	...	...	...	...	...	...		
X.	Establishment	See report for Southern Extension which includes expenditure on this section of the line.											
XI.	Contingencies												

NEGAPATAM,
18th *February* 1875.

(Signed) J. SMITH,
Chief Auditor.

(Signed) S. M. JOHNSON,
Asst. Govt. Examiner of Railway Accts.

(Signed) J. SMITH,
for *Agent.*

B.

ENGINEERING DEPARTMENT.

Progress Report of large Bridges on Northern Extension from Madras to Tanjore, 217 Miles, for Quarter ending 31st December 1874.

Names of Bridges.	Foundations.	Abutments and Piers up to Springing or Girder level.	Arching or erection of Girders.	Other Items.	Remarks.
District No. 1—Coonum bridge at 3 miles—					
Percentage done	...	.....	.....	...	4 40 feet girders.
Date of completion	73	.....	.....	...	July 1875.
Do. No. 1—Adyar Bridge at 6 miles 59 chains—	...	.....	.....	...	6 66 feet girders.
Percentage done	...	85	45	.....	...
Date of completion	...	.. ..	.....	...	July 1875.
Do. No. 2—Oorapankum bridge at 21 miles 77 chains—					5 20 feet girders.
Percentage done	...	160	70	.....	...
Date of completion	...	...	.....	.....	...
Do. No. 3—Goodwaucherry bridge at 23 miles 47 chains—					July 1875.
Percentage done	...	30*	.....	.....	...
Date of completion	...	...	.....	.....	...
Do. No. 6—Chinglepat tank bridge at 33 miles 74 chains—					July 1875.
Percentage done	...	60	85	.....	...
Date of completion	...	...	.....	.....	...
Do. No. 7—Pombay river bridge at 97 miles 3 chains—					July 1875.
Percentage done	...	50	.....	.....	...
Date of completion	...	...	.....	.....	...
Do. No. 4—Karangooly river bridge at 49 miles 11 chains—					July 1876.
Percentage done	...	19	3	.....	...
Date of completion	...	...	.....	.....	...

*45 per cent. over-estimated last quarter.

TRICHINOPOLY,
31st December 1874.

(Signed) F. J. SMITH,
for *Chief Engineer.*

(Signed) J. SMITH,
for *Agent.*

C.

Progress Report of Stations of the Northern Extension from Madras to Tanjore, 217 Miles, for Quarter ending 31st December 1874.

Names of Stations.	(a) Platforms.	(b) Passengers' Buildings.	(c) Goods Sheds.	(d) Watering arrangements.	(e) Staff Quarters (by rooms).	(f) Engine Sheds.	(g) Small Items.	Remarks.
District No. 1—Madras Station—								
Percentage done...	.....	.....	85	.....	.....	.....	50*	*Boundary wall to Madras goods yard.
Date of completion.	.....	.....	....	.....	.....	.....	.....	.....

TRICHINOPOLY,
31st *December* 1874.

(Signed) F. J. SMITH,
for *Chief Engineer.*

(Signed) J. SMITH,
for *Agent.*

Proceedings of the Madras Government, Public Works Department,
5th May 1875.

D.

General Progress Report of Work in Erecting and Building Locomotive and Rolling Stock for Quarter ending 31st December 1874.

	Number sanctioned.	Number erected or received up to 30th September 1874.	Number erected during current year.		Building or under erection at end of quarter.	Arrived at Shops during quarter.	Arrived at Port during quarter.	Balance to arrive in Port.	Remarks.
			During quarter.	To end of quarter.					
Locomotive Engines and Tenders.	82	3	3	6	1	...	2	75	The balance to arrive is shown opposite the bonds, sets of iron works, springs, wheels, etc.
Composite Carriages ...	20	.....	.....	.....	.....	...	...		
1st class do. ...	10	.....	.....	.....	3	...	...		
2nd do. do. ...	10	.....	.....	.....	.....	...	...		
3rd do. do. ...	176	.....	.....	.....	.....	...	...		
Passengers Brake Vans..	37	.....	.....	.....	.....	...	...		
Post Office Vans ...	3	.....	.....	.....	.....	...	...		
Horse Boxes	20	.....	.....	.....	.....	...	...		
Carriage Trucks ...	4	.....	.....	.....	.....	...	...		
Goods Brake Vans ...	16	1	1	2	4	...	1		
Covered Goods Wagons	580	.....	17	17	28	...	2		
Ballast Wagons ...	150	40	30	70	.....	...	15		
Open Goods do. ...	80	.....	.....	.....	.....	...	...		
Timber Trucks	27	.....	10	10	.....	...	...		
Gunpowder Vans ...	3	.....	.....	.....	.....	...	...		
Salt Trucks	40	.....	.....	.....	.....	...	...		
High Sided Open Trucks.	229	.....	39	39	41	...	...		
Cotton Trucks	100	.....	.....	.....	.....	...	...		
5 Tons Travelling Crane.	2	.....	... ..	.....	.....	...	...		
Sets of Iron work (Carriages)	280	.....	.....	.....	.....	...	...	289	
Do (Wagons).	1.227	102	.....	.....	.....	...	45	1,089	
Springs	6,028	1,597	.....	.....	.....	...	78	4,353	
Wheels and Axles, pairs.	3,014	936	.....	.....	.....	...	50	2,028	

NEGAPATAM,
24th February 1875.

(Signed) W. S. BETTS,
Agent.

No. 144. ORDER THEREON, 5th May 1875, No. 1,201.

RAILWAY, No. 15.

THE question raised by the Agent as to the exhibition of expenditure in column 3 of Statement A will be referred for such instructions as the Government of India may desire to issue.

2. With reference to the erection of the permanent telegraph along the extensions, it is observed that the Government of India have been telegraphed to on the subject and subsequently applied to by letter to issue instructions for the immediate commencement of the work.

3. The Chief Engineer's report which is dated 29th January 1875, states that there is still no news of the five 70 feet girders for the skew bridge at 2 miles 23 chains, District No. 10, being yet on the road from Rio Janeiro. These girders were shipped in the *Ellenborough* which became disabled en route, and it is observed from

the Agent's letter recorded with G. O., No. 251, dated 25th January 1875, that by the arrangements made for transshipping the cargo into the *Portlaw* the materials were due at Negapatam during the month of February. The Consulting Engineer will report whether they have arrived according to expectation.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

No. 145. (DOCKET No. 1,292, dated 5th May 1875.)

COPY of the above forwarded to the Government of India.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

Railway Department. CONSULTING ENGINEER'S OFFICE.

No. 174.

From

LIEUT.-COLONEL J. H. M. SHAW STEWART, R.E.,
Consulting Engineer for Railways,

To

COLONEL G. W. WALKER, R.E.,
Secretary to Government,
Public Works Department.
Fort Saint George.

SIR,

I have the honour to enclose herewith, for transmission to the Government of India, statements A. B. C and D showing the progress up to the end of the fourth quarter of 1874 on the construction works of the southern and northern extensions of the South Indian Railway together with a brief descriptive report on the same by the Chief Engineer.

2 Adverting to the orders of Government as per margin, I beg to request that the views of Government on the following points raised by the Agent may be communicated.

× G.O. 1990 dated 23rd July '74.
× " - 2886 dated 9th Oct. '74.
× " - 153 dated 19th Janv. '75.

Column

Column 1 of the General summary (statement A) represents the anticipated requirements in this country under each head; but the figures recorded as expenditure in column 3 are confined to cash outlay as distinguished from store debits, and a comparison of these two columns can only mislead. To be of real value therefore this statement should either show quantities only - which would effect earlier preparation - or contain the whole expenditure against each item whether debited direct to the work or incurred through the medium of the suspense Accounts. If the latter is the course directed to be adopted, I beg to point out that the reports will have to be delayed till the accounts relating to each quarter have been finally adjusted.

3. The Chief Engineer in his report draws attention to the unsatisfactory condition and the danger that may result from the continued use of the present line of telegraph along the extensions. It is hoped that the instructions issued by the Government of India in their letter[x] embodied in the Proceedings of Government, No 434 of the 15th ultimo, in regard to the erection of permanent lines of telegraphs will be carried into effect with as little delay as possible.

[x] No 53 T dated 25th Janry 1875.

I have the honour to be,
Sir,
Your most Obdt Servt.

Madras
23rd March
1875

Chas Cuthbert Major R.E.
for Cons Engr for Railways

South Indian Railway

Letter from the Chief Engineer to the Agent dated Trichinopoly 29th January 1875 No 1047.

Herewith I have the pleasure to forward my usual quarterly progress report for the quarter ending Decr 31st; in doing so I would remark that I am fully aware of the necessity for promptly rendering this report, and in explanation of the delay noticed in the order passed by Government on the last report I would observe that at the time we were making up the returns for the quarter ending Septr 30th we were also engaged in preparing the budget Estimate for 1876.76 a work which requires a great deal of careful supervision to ensure its being accurately completed, hence the delay complained of by the Government.

On the Southern Extension the Tabular statement shews that the Earthwork so completed is somewhat in excess of the estimated quantities; this is accounted for by our having raised the bank in various places where it was considered advisable to do so, the expenditure however will be found well within the estimated amount.

In Pasamany the work of coping is still going on and with the exception of the Salaar bridges nearly all large bridges are ready to receive the Girders.

The work of rivetting up the Girders is progressing satisfactorily both on the districts and also at Trichinopoly where as I before reported we are rivetting up the Girders for the Vygay bridge.

I am sorry to say that there is still no news of the 5.76 feet Girder for the skew bridge at M. 23 Dist No 10 being yet on the road from Rio Janeiro.

thence.

From
The Consulting Engineer
for Railways,
To
The Secretary to Government,
P. W. Department,
Fort Saint George.

Dated 23rd March 1875.
Recd 24th Ditto

No. 1765.

Forwarding Price Estimate & Plan of the proposed Bridge at the 19th mile of the Pondicherry Railway.

C-24-75

P.W.S. Rly Dept
Fort St George
24 Mar 1875

these are the only Girders for the Southern Extension
not yet Landed in India.

The platelaying is completed up to about 5 Miles
beyond Dindigul and beyond that is being laid
almost as fast as the Materials arrives from England.

The Locomotive now runs as far as Vilpatty
on the 8th Mile of District 6 and is kept fully employed
in taking P.W. Materials for District 6. from Vilpatty
the Materials is taken by Carts and strung out along
the line.

The Locomotive at Madura has been hal-
lasting and bringing in stone from the quarries
for the station buildings and in my next Report
I hope to be able to report that similar work
has been done by the Engine at Tuticorin, as she
is expected to be running in a few days.

The Tabular form will shew the progress
that has been made in Station buildings; I regret
that the Engine Shed at Trichinopoly which is ready
to receive the roof cannot be completed owing to the
iron work of the latter being still undelivered as
it was shipped in the same Vessel as the Girders
above referred to as still being required.

I would again venture to impress upon
you the very unsatisfactory state we are in as regards
Telegraph communication now that we are expecting
to have two Engines working on a single line it
is more than ever absolutely necessary that our
Telegraph Communication should be put upon a
somewhat more substantial footing than it is
at present.

With regard to the Northern Extension
I have to report that the unusually heavy rains which
fell during October and caused such disasters on the
Madras Railway also caused some very heavy floods

on

ove the line between Madras and Cuddalore, and from observations then taken I have deemed it advisable to raise the bank in many places and also to increase the waterway allowed in the original Estimate. Most of these increases both in Earthwork & in Waterway are included in my revised estimate, and I think that with a few exceptions the provisions therein estimated for will be found to be all that is required. The progress during the past three months has ove account of the rains not been so satisfactory as we could wish but every effort has been made to collect Materials ready for the approaching working season, and I hope the figures shewn in my next return will shear out my present estimated progress.

I have determined to take a Reconnaissance by road from Madras to St Thomas Mount where I expect the will be found to be of great assistance both of the latter station.

Permanent Way laying is progressing favourably on Districts 2 and 9. Some Sleepers Waggons have been lately landed at Cuddalore and will be utilized in forwarding Permanent Way Materials on Earthwarks. At present all the energies of the Staff are exerted in providing materials for the bridges which accounts for the small returns of work done under the head of Stations.

The Permanent Telegraph is being erected between Madras and Vridhachalum and will be opened up for use as each District is completed.

Between Tanjore and the Coleroon the Surveys are approaching Completion and on Districts 10. 16 & 17 some Earthwork has been executed. On the section of the line we are also engaged in the collection

collection of Materials but the last three months have not been very favourable for brickmaking however there is a good stock on hand and as soon as sanction is obtained to commence the Masonry a fair start will be made.

(True Copy)

Wm Callaghan

Chief Clerk

as fast as the Materials arrive from England.

The Locomotive now runs as far as Culpetty on the 8th Mile of District 3 and is kept fully employed in taking P.W. Materials for District 5; from Culpetty the Materials is taken by Carts and strung out along the line.

The Locomotive at Madura has been laid by, laying and bringing in stone from the quarries for the Station buildings and in my next Report I hope to be able to report that similar work has been done by the Engine at Tuticorin, as she is expected to be running in a few days.—

The tabular form will show the progress that has been made in Station buildings: I regret that the Engine Shed at Trichinopoly which is ready to receive the roof cannot be completed owing to the slow work of the latter being still undelivered as it was shipped in the same Vessels as the Girders above referred to as still being required.—

I would again venture to impress upon you the very unsatisfactory state we are in as regards Telegraph communication now that we are expecting to have two Engines working on a single line it is more than ever absolutely necessary that our Telegraph communication should be put upon a somewhat more substantial footing than it is at present.—

With regard to the Northern Extension I have to report that the unusually heavy rains which fell during October and caused such disasters on the Madras Railway also caused some very heavy floods on the line between Madras and Cuddalore, and from observations then taken I have deemed it advisable to raise the bank in many places and also to increase the Waterway allowed in the original Estimate Most of these increase both in Earthwork & in Waterway are included in my revised estimate, and I think that with a few exceptions the provisions therein estimated for

3. Rly. M.

Off. 29/7/95

for will be found to be all that is required — The progress during the past three months has an account of the same not been so satisfactory as we could wish but every effort has been made to collect Materials ready for the approaching working season, and I hope the figures shown in my next return will bear out my present estimated progress

I have determined to take a Locomotive by road from Madras to St. Thomas' Mount where I expect she will be found to be of great assistance on the latter station.

Permanent Way laying is progressing favourably on Districts 2 and 9. Some ballast waggons have been lately landed at Cuddalore and will be utilized in forwarding Permanent Way Materials on Northward. At present all the energies of the staff are exerted in providing materials for the bridge which accounts for the small return of work done under the head of Station

The Permanent Telegraph is being erected between Madras and Tindevanum and will be opened up for use as each district is completed.—

Between Tanjore and the Coleroon the Surveys are approaching completion and on districts 10. 16 & 17 some Earthwork has been executed. On this section of the line we are also engaged in the collection of Materials but the last three months have not been very favourable for brickmaking however there is a good stock in hand and as soon as sanction is obtained to commence the Masonry a fair start will be made.—

(True Copy)

Wm Callaghan
Chief Clerk

No. 233.]

SOUTH INDIAN RAILWAY.

General Progress Report of work in Erecting and Building Locomotive and Rolling Stock for quarter ending 31st December 1871

	Number Sanctioned.	Number erected as reported up to 30th Sept 1871	Number erected during current year: During quarter.	Number erected during current year: To end of quarter.	Building or under erection at end of quarter.	Arrived at Shops during quarter.	Arrived at Port during quarter.	Balance to arrive in Port.	Remarks.
Locomotive Engines and Tenders	8?	3	3	6	1		2	4?	2 to be taken to Arcot in place of those sent to Beypore
Composite Carriages	20	"	"	"	"		"	"	
1st Class do	10	"	"	"	"		"	"	
2nd Class do.	10	"	"	"	"		"	"	
3rd do. do.	176	"	"	"	"		"	"	
Passengers Brake Vans	27	"	"	"	"		"	"	
Book Office Vans	3	"	"	"	"		"	"	
Horse Boxes	20	"	"	"	"		"	"	
Carriage Trucks	4	"	"	"	"		"	"	
Goods Brake Vans	16	1	1	2	4		1		
Covered Goods Waggons	580	"	17	17	25		2		
Ballast Waggons	160	40	30	70	"		16		
Open Goods do.	80	"	"	"	"		"		
Timber Trucks	27	"	10	10	"		"		
Gunpowder Vans	8	"	"	"	"		"		
Salt Trucks	40	"	"	"	"		"		
High Sided open Trucks	229	"	29	29	41		"		
Cotton Trucks	100	"	"	"	"		"		
5 Tons Travelling crane	2	"	"	"	"		"		
Sets of Iron work (Carriages)	280	"	"	"	"		"	280	
Do. (Waggons)	1227	102	"	"	"		115	1080	
Springs	6028	1597 3/4	"	"	"		78	4350	
Wheels & Axles pairs	3014	936 1/2	"	"	"		50	2028	

15

15

15/1/1872 Y&D

G.O.S. Mem/75 dt 13 Mar 75
Bn No 143

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the

READ the following :—

From the Chief Engineer for Railways } (M.R. No. 174 dt 23 Mar 75)

The question raised by the Agent as to the distribution of expenditure in Columns 3 of Statement A will be referred for such instructions as the Government of India may direct to issue.

2. With reference to the erection of the permanent telegraph along the Railways it is observed that the Government of India have been telegraphed to on the subject, and subsequently applied

applied to by letter to send instructions for the immediate commencement of the work.

3. The Chief Engineer's report which is dated 29th January 1875 states that there is still no news of the 5-70 ft girders for the Khem bridge at 2m 23ch District No 10 being yet on the road from Rio Janeiro. These girders were shipped in the "Ellenborough" which became disabled Entrance and it is observed from the Agents letter recorded with GO No 251 dated 25 Jany 1875 that by the arrangements made for transhipping the Cargo into the "Outlaw" the materials were due at Negapatam during the month of February. The Consulting Engineer will report whether they have arrived according to Expectation.

To Chief for Rep
Resp 10-5-75

H.R. No dy

Copy of the above forwarded to the Govt of India.

Resp 10-5-75 via 308-4m.

Govt

1961

Govt. of {1875} Bombay.

PUBLIC WORKS.

To

The Surveyor

Executive Engineer

Date

Read

Sent

1961