

(1) Number of pages_____

(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	803-804.	Press
B.P. No.		Mis.
Dated	29 - 3	195
		6276

Not to be folded or roughly handled

1 W

*Proceedings of the Madras Government, Public Works Department,
29th March 1876.*

Read the following papers :—

No. 481. From Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 4th February 1876, No. 71.

WITH reference to the Proceedings of Government, dated 22nd December 1874,

No. 3,666, I have the honor to forward, for the consideration of Government, the accompanying papers relating to the conversion of the Arconum-Conjeveram branch of the South Indian Railway from the 3' 6" gauge to the metre gauge, and its extension to Chingleput. I regret that there has been such great delay in furnishing this information, but it will

1 Book of revised estimates for line from Chingleput to Conjeveram, and for the conversion of the Arconum-Conjeveram branch.
1 Memorial from the inhabitants of Conjeveram.
1 Letter from the Agent, South Indian Railway, dated 19th June 1875, No. 675.
1 Do. do., dated 19th October 1875, No. 915.
1 Do. do., do. 1st Nov. 1875, No. 951.
1 Do. do., do. 12th Jan. 1876, No. 1,146, with report from Locomotive Superintendent.

be observed that some essential details have only lately been received from the Agent.

2. With regard to the question of conversion, three engineering estimates are submitted; the first (a) showing the expenditure which it will be necessary to incur in

(a)	Rupees 1,13,827
(b)	" 1,33,202
(c)	" 1,75,438

putting the existing line into good order, retaining the 3' 6" gauge; the second (b) the amount necessary to convert the existing line to the metre gauge, and work it

as a branch; and the 3rd (c) the amount required to make the present line as far as possible equal to the other portions of the metre gauge system, on the supposition that it will become a portion of the main line by the construction of the Chingleput-Conjeveram link.

3. In the second estimate it is not proposed to alter the location of the line at any point; but the third provides for the removal of a 10 chain curve in the 17th mile, and for other minor improvements in the alignment. The removal of this curve will necessitate the rebuilding of a small bridge, and carrying the line more directly across the Poonady tank. The object of the curve in the first instance was to serve a proposed station at Great Conjeveram, which was afterwards considered to be unnecessary and has never been built. In the last estimate 2 miles of rails and 6½ miles of new sleepers have been allowed. In the approximate estimate first framed, quantities largely in excess of these were entered, but on a reference from this office the reductions now shown were made. The existing rails weigh 35½ lbs. to the yard, and are of the ordinary metre gauge section. The engines now working the line weigh 14 tons, with 6½ tons on the driving axle; and, as the rails have been down for upwards of eleven years, it is probable that some renewals will be required.

4. Estimates framed by the Locomotive Department for three alternatives are also submitted; (1) for putting the existing locomotives and stock into good working

(1)	Rupees 60,100
(2)	" 93,100
(3)	" 2,50,400

order, the 3' 6" gauge being retained; (2) for converting to the metre gauge the present rolling stock, and providing new engines; (3) for furnishing the line alto-

gether with metre gauge stock of the descriptions now being supplied.

*Proceedings of the Madras Government, Public Works Department,
29th March 1876.*

5. Taking together the amounts under Engineering and Locomotive, the three estimates thus compare :—

(a) Line to be put in good order on the existing gauge—

	RS.
Engineering	1,13,827
Locomotive	60,100
	<u>1,73,927</u>

(b) Line to be converted to metre gauge, but kept as a branch, and worked with converted rolling stock and new engines—

	RS.
Engineering	1,33,202
Locomotive	93,100
	<u>2,26,302</u>

(c) Line to be converted to the metre gauge, made a portion of the main line, and furnished entirely with new description of engines and rolling stock—

	RS.
Engineering	1,75,438
Locomotive	2,50,400
	<u>4,25,838</u>

6. The last estimate of rolling stock is based on the numbers now employed ; but, as explained by the Locomotive Superintendent, these quantities will suffice to work the whole of the line up to Chingleput. As a fact only a small portion of the existing stock is in general use, the remainder being required to meet heavy festival traffic. The amount entered provides a little over Rupees 6,000 per mile for 41 miles ; and about Rupees 1,30,000 should, in case the Chingleput-Conjeveram link is sanctioned, be debited to that estimate. This would reduce the estimate for conversion from Rupees 4,25,838 to Rupees 2,95,838, and a further reduction will also be effected by the value of the old stock. The amount, Rupees 15,000, set down by the Locomotive Superintendent on this account seems small.

7. Comparing the three estimates it may be said that, supposing the Chingleput-Conjeveram link to be undertaken, the cost of converting the existing line and making it almost equal to other portions of the metre gauge system, will exceed by about one lakh of Rupees the sum required to put the line in fair working order on the present gauge, and by about half-a-lakh the sum required to convert the line and work it as a branch with the existing stock and new engines. The latter the Locomotive Superintendent considers absolutely necessary ; and, from the report made by Mr. Sheward on a representation from this office, it will be seen that the present engines are not worth alteration. A portion of the cost of renewals of permanent-way and rolling stock should, it is thought, form a charge against Revenue.

8. For the proposed extension from Conjeveram to Chingleput, a revised estimate, amounting to Rupees 9,57,485, is submitted ; but, taking the proper proportion of rolling stock at Rupees 1,30,000,* instead of Rupees 1,05,700, the total

* Vide paragraph 6.

*Proceedings of the Madras Government, Public Works Department,
29th March 1876.*

becomes Rupees 9,81,785, or Rupees 46,750 per mile, and it is thought that the line can be constructed for this amount. The principal reduction is under permanent-way, which is taken at Rupees 8 per lineal yard as against Rupees 9-11-8 in the original estimate. Some revisions have also been made in the rates for masonry.

9. With regard to the financial prospects of the line, the Agent explains that the 18,469 laden carts alluded to in the Secretary of State's Despatch, No. 151, of the 22nd October 1874, represent only the *local* traffic between Conjeveram and Chingleput. The traffic to Madras goes chiefly by the direct road, a small fraction only taking the rail to Arconum and thence by the Madras Railway. The books of the Toll Collector at Conjeveram go to show that, from April 1871 to March 1872, the traffic passing to and from Madras was 54,487 loaded carts and 12,216 animals. There seems every probability that, by quoting reasonable rates, the bulk of this traffic might be carried by rail *via* Chingleput ; in which case, besides contributing to the revenue of the proposed link, it would materially benefit the main line. The proposed line would, it is thought, be a valuable feeder to the main line to the south, as well as to the north ; while the provision of a direct route for traffic to the north and west by the Madras Railway will be a great public advantage. The saving in distance to traffic taking this route will be 38 miles, as follows :—

Chingleput to Madras	35 miles.
Madras to Arconum	43 "
	<u>78 "</u>
Chingleput to Arconum <i>via</i> Conjeveram	40 "
Saving by branch line	38 "

Under this arrangement too the whole of the through goods traffic with the Madras Railway will be dealt with at Arconum, where every facility for the interchange already exists ; whereas, if the connecting link be not constructed, some extra expenditure will be necessary in order to provide for this at Madras.

10. As explained in my letter of the 9th June 1874, No. 344,* the construction of the line from Chingleput to Conjeveram has always been looked upon as a necessary portion of the narrow gauge system.

The Agent bases the financial prospects of the line upon the weekly mileage receipts which may be expected. The cost being Rupees 46,750 per mile, and working expenses 50 per cent., the earnings required to pay the guaranteed interest will be Rupees 90 per mile per week. Looking at the productive nature of the country which will be traversed, this does not appear too favorable a view to take of the prospects of the link itself ; while the benefit which it would confer on other parts of the system must be considerable.

11. The condition of the locomotives on the Arconum-Conjeveram branch gives cause for considerable anxiety, and steps should be taken to remedy the present state of matters with as little delay as possible. In connection with the proposal to retain the line on the present gauge, it is explained by the Locomotive Superintendent that a good deal of delay and extra expense would be involved in repairing the locomotives, owing to the isolated position of the line ; and it seems in any case better to convert the line to metre gauge, even should it remain a branch as at present. The third proposal, however, involving the extension to Chingleput is, in my opinion, the proper one to adopt, and in this view I trust the Government will concur.

*Proceedings of the Madras Government, Public Works Department,
29th March 1876.*

12. It may be urged that the Madras Railway will suffer by the construction of the Chingleput link, but this can only be the case to a very limited extent. During the half-year ending 30th June 1874, the amount of goods traffic passing through Arconum Station was 2,267 tons; and, supposing two-thirds of this to have been to or from Madras, the revenue obtained therefrom by the Madras Railway Company, at the through rate of 6 Pies per ton per mile, would be Rupees 1,983. There would be a certain loss of passenger traffic, but this could never amount to anything considerable. The break of gauge at Arconum is now the great obstacle to goods traffic between Conjeveram and Madras; and, so far as Government interests are concerned, the loss incurred on the Madras Railway, as shown above, would be more than met by the extra traffic which the main line of the South Indian would obtain by the construction of the Chingleput link. This would also attract a large festival traffic from the south, which would probably not otherwise be obtained.

13. In conclusion, it is thought that fair grounds have been shown for the construction of the connecting link between Chingleput and Conjeveram; both as affecting the interests of through and local traffic, and as regards its own financial prospects. The estimates to which sanction is recommended are as follow:—

	RS.
Construction of new line	9,81,785
Conversion of Arconum-Conjeveram section after deducting proportion of rolling stock due to new line, and allowing for sale of old rolling stock	2,80,838
	<u>12,62,623</u>

From W. S. BETTS, Esq., Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Negapatam, 19th June 1875, No. 675.

UPON receipt of your letter, No. 412, of the 24th December last, I called upon the Chief Engineer to furnish an estimate for the cost of converting the gauge of the Arconum-Conjeveram section from 3 feet 6 inches to 3 feet 3½ inches.

Mr. Logan reports as follows in reply thereto:—"To frame a detailed estimate of the cost of converting the Arconum-Conjeveram line would entail a complete new survey and section of the line, and I have no one on my staff at present whom I could spare for that work. I have, from the information available in my office, prepared an approximate estimate sub-divided under the various sub-heads of account, which I believe, if the conversion is carried out, will be found to be very near indeed to the actual expenditure required."

The Chief Engineer has included in this estimate (which amounts to Rupees 2,72,575-7-8) the cost of erecting a permanent telegraph and the expenditure upon way and works which must be incurred, without reference to any alteration of gauge if the line is to continue to be worked for public traffic.

Extensive repairs are required to the rolling stock in use upon the Arconum-Conjeveram section, and these must be executed at once if the 3 feet 6 inches gauge is not altered within a few weeks time. Mr. Lea Hair estimates that at least Rupees 24,000 will be required on this account; but the Locomotive Superintendent is of opinion that this sum is too low, and that when the engines are stripped, it may be found that much more requires to be done than is estimated for.

In consequence of the lower prices ruling in the iron market, Mr. Logan has been able to revise his estimate for the construction of the line between Chingleput and Conjeveram, the total cost of which is now entered at Rupees 9,57,485.

*Proceedings of the Madras Government, Public Works Department,
29th March 1876.*

With regard to the financial prospects likely to attend the construction of that section, I wish to offer the following remarks:—

The 18,469 full carts quoted in the Secretary of State's letter represents the local traffic between Chingleput and Conjeveram, and this is so stated in paragraph 34 of Mr. Dibblee's letter, dated 12th January 1871. No traffic from Conjeveram to Madras passes through Chingleput; it travels by the direct road. Mr. Lea Hair reports to me he has examined the books of the late Toll Contractor of Conjeveram, and he finds that, from April 1871 to March 1872, the traffic passing to and from Madras was 54,487 loaded carts and 12,216 laden animals.

If the section between Conjeveram and Chingleput be made, this traffic would be diverted to the main line thence to Madras and to the south, so that in addition to the earnings which it would produce to the new section, it would form a valuable addition to the other portions of the Company's system.

I see no reason why, looking to the unremunerative character of some of the districts through which the Negapatam-Erode section passes, the section between Chingleput and Conjeveram should not show an equal mileage receipt to that realised on the open line. I allude more particularly to the lengths between Tanjore and Trichinopoly and between Caroor and Erode. That mileage rate is not by any means a high figure, and it is much below the rate realised on the Madras Railway. The last statement I have received shows their average rate for this half-year to be Rupees 137 against our rate of Rupees 91.

The gross annual receipts of the Conjeveram-Chingleput section, taking as a basis the result of working the Negapatam-Erode section, would be £12,120, equal to 12 6 per cent. upon the estimated Capital cost. If the working expenses are to be taken at 3 per cent. on Capital, then we should have a net return of upwards of 9½ per cent. If calculated on gross revenue according to the usual English rate of 50 per cent., the net return would be above 6 per cent. The working expenses on the Negapatam-Erode section last year were a little over 60 per cent. of the gross receipts; taking that rate the net return would be about 5 per cent.

The connection by railway of Conjeveram with Chingleput is earnestly desired by the people of the district, and, as an evidence of this desire, I forward herewith a memorial which has been addressed to me.

From D. LOGAN, Esq., Acting Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Trichinopoly, 19th October 1875, No. 915.

WITH reference to your No. 709 of 16th instant, I have the honor to inform you that the Locomotive Superintendent has reported as follows on the rolling stock of the Arconum-Conjeveram branch:—"I made a hurried and superficial examination of the rolling stock that stood at Arconum on my way down from Madras a few days since, stopping there three hours. The whole of the stock is convertible to the 3 feet 3½ inches gauge, with the exception of the engines. The carriage and wagon stock that came out from home has iron sole bars; the other Indian built vehicles have wooden under-frames. For the conversion alone, altering gauge of wheels, &c., roughly, I should say Rupees 60 per vehicle would suffice, but the whole of the stock is in a very shaky condition. The goods wagons require practically rebuilding. The carriage stock from its dimension gives a very unfavorable carrying capacity; some of the third-class holding only twenty-five passengers. All the stock has the usual centre draw gear and outside buffers. The tyres of the goods stock I saw were worn down very thin and require renewal; some of them I pointed out to Mr. Lea Hair as dangerously thin in the flanges. The engines I saw were in a very much worse condition than the wagon stock. I really think the two I saw standing at Arconum are quite unfit to run; they are emphatically all to pieces. Mr. Lea Hair admitted that with the two engines he had working the traffic, it was a constant source of anxiety to him after they left with their trains until he heard of their safe arrival at the end of their 19 miles run. I am of opinion that it would be both politic and economical to restock the line with the metre gauge type of stock. The carriage and wagon stock might be made use of for some time on a branch

line until it fell quite to pieces. The engines I fear are quite beyond any advantageous manipulation. No temporary repairs can be effected to ensure safety; they must come to pieces entirely, when I fancy they will develop a greater want of repairs than they seem to require from external view."

2. With reference to the foregoing, I have requested Mr. Sheward to arrange at once for such a detailed inspection of the locomotives as will enable him to say decisively whether the best engines available for working the traffic are really unfit for use as being too dangerous, or whether they may be used with any degree of safety until the conversion of the line to metre gauge can be effected.

From the Acting Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Trichinopoly, 1st November 1875, No. 951.

With reference to your No. 441 of the 1st July last, I have the honor to forward the following estimates:—

No. 1.—Estimate for putting Arconum and Conjeveram branch into better working order, supposing it to remain on the 3 feet 6 inches gauge and not to be converted to the metre (3 feet 3½ inches) gauge, amounting to Rupees 1,13,827.

No. 2.—Estimate for converting line to metre gauge, supposing location to remain as it is, instead of straightening sharp curves, &c., and not allowing for the extra accommodation required if Conjeveram-Chingleput connection is made Rupees 1,33,202.

No. 3.—Estimate for converting line to metre gauge, straightening line, and allowing extra accommodation, &c., on assumption that Chingleput-Conjeveram line is to be sanctioned, when a heavier traffic may be expected and more accommodation required, Rupees 1,75,438.

With reference to your paragraph 2, the Chief Engineer remarks,— "The amount of Rupees 87,125 entered in my original estimate provided only for the construction of one bridge on the 17th mile.

"Para. 3. At the time when my estimate was submitted, I calculated on the extension of the line from Conjeveram to Chingleput being carried out, and in anticipation of increased traffic, I considered it advisable to provide the amount entered in my estimate under the head of permanent-way.

"The rate for this permanent-way might certainly have been taken at eight instead of at ten, but in making up the estimate the fact of our having received later advice from England than those on which the ten rate was fixed, was inadvertently lost sight of."

Relative to paragraph 4, the Locomotive Superintendent will be at Arconum on the 4th or 5th instant; he will then inspect the rolling stock, and his report thereon shall be forwarded as speedily as possible.

From W. S. BETTS, Esq., Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Negapatam, 12th January 1876, No. 1,146.

I FORWARD herewith copy of a letter from the Locomotive Superintendent, in which he answers the questions put by you (No. 790 of the 9th November last) regarding the cost of replacing the rolling stock which has been in use on the Arconum-Conjeveram section.

From the Locomotive and Carriage Superintendent, to the Agent of the South Indian Railway, dated 6th January 1876, No. 52.

YOUR No. 23. I am sorry you should have had to call my attention again to your No. 790. This latter letter reached me on 10th November, at a time when my attention was entirely absorbed

in the push to get out the new stock for opening on 1st January and also the Prince's saloons. You are aware that I have been very much away from head-quarters the last two months arranging for the opening of the new line south. Early in November I met Major Smith in a special going south, and told him verbally that my examination of the Arconum engines had cleared up any immediate doubt of their safety from explosion, which point I understood the Consulting Engineer was most anxious upon. I made a personal examination of the fire-boxes and boilers, and found them in a tolerable condition considering the time they had been at work, the metal had of course reduced by scaling and wear, but for the pressure in them I do not consider that any actual danger of explosion is to be apprehended as yet. As pieces of machinery, they are in a very bad condition and require a total and thorough renewal, including new boilers, new fire-boxes, two new cylinders and others boring out and all motion renewing, new tanks, new smoke-boxes and funnels, new tyres, &c. Major Smith made a note of my remarks, and I concluded the estimates called for could wait until I had time to go into them. I now send you the information called for—

	RS.
(a) Amount required for putting present rolling stock in good working order, the line remaining on the 3 feet 6 inches gauge.	Engines ... 55,000 Carriages ... 600 Wagons ... 4,500
	60,100
(b) Amount required to put in thorough working order and to convert to the metre gauge the present rolling stock.	Engines ... 84,000 Carriages ... 2,600 Wagons ... 6,500
	93,100

and to provide such additions and replacements of engines and vehicles as the Locomotive Superintendent may consider necessary for working the line on the metre gauge. RS.

(c) Estimate for stocking the line with new description of engines and vehicles for the metre gauge allowing for the value of the present stock the materials of which could perhaps be utilized or sold.	Engines ... 84,000 Carriages ... 1,16,500 Wagons ... 49,900
	Total ... 2,50,400
Allowances for old stock	15,000

2,35,400

In the case of proposition (a), a collateral expenditure which I have not represented in the estimate would have to be incurred in either, (1) sending the requisite machinery to Arconum to carry out the repairs; (2) asking the Madras Railway to do the machine work in their shops at Madras, a very costly process; (3) bring the work down here to Negapatam to do, also expensive in the item of transit charges on Madras Railway. The repairs to the engines I have put at Rupees 55,000. I do not think the work could be done in this country under two years, and in the mean time those engines at work would fail and a general stoppage occur. I would advocate their being placed upon the scrap heap, or sold for whatever will fetch as soon as possible.

In the case of proposition (b), the engines are not readily convertible to the metre gauge even if their condition warranted the attempt. They are too far gone to repay such a thorough remodelling as would be needful. My figures under the head engines represent the value of four new engines in place of the existing four now on the line. The carriage and wagon stock is convertible, but the major portion requires entire new timber work, and, as I before stated in my report on this line's stock, the carriages give an unfavorable carrying capacity as compared with our own vehicles on this line. In the items wheels and axles and axle-boxes these would all work in again for the metre gauge at the expense of cutting the axle in the centre and welding up to the right gauge, the axle-boxes would then come in again for use on this branch line until

they wore out and were replaced by our own type of box and wheel; these boxes are mostly of the old grease pattern and are not adapted to the use of oil as our own are (the journals are $5 \times 2\frac{1}{4}$ as compared with our $6\frac{1}{4} \times 3$.)

In the case of proposition (c), this appears by far the most practical and in the end the most economical and satisfactory course to adopt. The distances from Conjeveram to Chingleput the junction with our main line is 21 miles, so that the branch Arconum to Chingleput would be 41 miles, about the same amount of stock now upon the 19 miles would be sufficient for the whole 41 miles supplemented at any feast or press of traffic from the stock of the main line. As I have said, I think new engine power imperative. If the line be converted to metre gauge, I can at once provide the locomotive power from Madras, where I have thirteen engines put together, only one of which is in use. All the engine power up to the end of 1876 likely to be required upon the Northern Line between Tanjore and Madras can be easily performed by ten engines. I have thirteen at Madras and four at Cuddalore, equal to seventeen; four can therefore be at once spared for this branch, although three would do the work. I think we should be able to spare carriages enough and stock for the branch. I noticed the trains consisted of four or five carriages and the same number of trucks. Under condition (b) I have not included any alteration to the draw and buffing gear which is now the usual side buffers and central drag chain. Tyres are badly needed both for engines and wagon stock; whatever conclusion is arrived at I think the sooner some action is taken the better.

No. 482. From Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 17th March 1876, No. 143.

In continuation of my letter, dated 4th February 1876, No. 71, I have the honor to submit a sketch map showing the lines of the Madras and South Indian Railways and the proposed connecting link between Chingleput and Conjeveram. This will probably be found an assistance in forming a just appreciation of the proposed scheme, and I regret it was not sent with the other papers.

No. 483. From the same officer, dated Madras, 23rd March 1876, No. 148.

In reply to your memorandum, No. 530, dated 22nd March 1876, I have the honor to inform you that the cost of the land required for the extension of the Arconum-Conjeveram line to Chingleput will not, in my opinion, exceed Rupees 40,000.

2. This estimate is arrived at from the actual measurement of land needed, the rate per acre allowed being that estimated by the Collector.

No. 484. ORDER THEREON, 29th March 1876, No. 803.

RAILWAY, No. 51.

ORDERED that the above papers be communicated to the Government of India, with reference to despatch from the Secretary of State for India, No. 151, of 22nd October 1874; copy of the letter to the Government of India being sent to the Secretary of State for information.

2. The Government of India have already supported this Government in recommending the extension of the Arconum-Conjeveram line to Chingleput at a cost of Rupees 10,37,616, being 49,504 per mile for 21 miles including stations, sidings, and rolling stock; the ruling gradient being 1 in 200, as on the line from Madras to Tanjore which it joins at Chingleput. But the sanction of the Secretary of State for India was withheld on the grounds of incompleteness of the information furnished, as regards cost of conversion of the existing line from Arconum to Conjeveram from the $3\frac{1}{2}$ feet gauge to the metre gauge, and as regards probable traffic returns.

3. It will now be intimated that this Government recommend the conversion of the existing line at a net cost of Rupees 2,80,838, of which Rupees 1,75,438 is the amount of the engineering estimate, and Rupees 1,05,400 that of the locomotive estimate, Rupees 1,30,000 of the gross locomotive estimate being chargeable against the extension to Chingleput, and Rupees 15,000 recoverable by value of old stock. A reduction of the original estimate for extension is also proposed to Rupees 9,81,785, including the above locomotive charge; but excluding the cost of land, viz., Rupees 40,000. If this item be taken into account the grand total for the whole line from Arconum to Chingleput will amount to Rupees 13,02,623. It will be noted that, if this undertaking be not carried out at an early date, an expenditure of Rupees 1,73,927 on the existing line will have to be incurred; whereof the locomotive charge of Rupees 60,100 is an urgent one, calling for speedy settlement of the question.

4. The financial prospects are laid down generally in the petition from the inhabitants of Conjeveram, and more specifically in the reports of the railway officers. And the Government of India will be requested to communicate early authority to the immediate conversion of the existing portion to metre gauge on the estimate of Rupees 2,80,828, as emergently demanded by the state of the line and its rolling stock.

(Here enter No. 804, dated 29th March 1876.)

(True Extract.)

Major-General, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Exd. E. C. Shunker.
Spare Copies

112
PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 29th March 1876.

No. 485.

No. 804.

FROM

MAJOR-GENERAL G. W. WALKER, R.E.,
Secretary to the Government of Madras,
Public Works Department,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

RAILWAY, No. 52.

SIR,—In the despatch from the Government of India to the Secretary of State, No. 159 R., of 15th August 1874, the proposal of the Madras Government for the extension of the Arconum-Conjeveram line to Chingleput, at a cost of Rupees 10,37,616, was recommended for sanction.

2. The Secretary of State, however, in his despatch, No. 151 R., dated 22nd October 1874 to the Government of India withheld his approval to the undertaking, on the grounds that the information furnished as regards cost of conversion of the existing line and the probable traffic returns was incomplete.

3. I am now directed to forward the accompanying papers, with the Proceedings of Government thereon, which contain such information as will, it is hoped, enable the Government of India to recommend to the Home Government the project for the conversion of the existing line from the $3\frac{1}{2}$ feet to the metre gauge, and for its extension to Chingleput.

4. It will be seen from the papers submitted that the condition of the existing line and rolling stock is such that, if the conversion to the metre gauge be not decided on at once, a large immediate outlay equal to nearly one-half the amount proposed to be spent in the conversion will be necessary to maintain the line in working order. I am accordingly to request that early authority may be communicated to the execution of the work on the estimate of Rupees 2,80,828, in anticipation of orders on the extension project, sanction to which may possibly be delayed.

I have the honor to be,

Sir,

Your most obedient servant,

Major-General, R.E.,
Secretary to Government.

Exd. E. C. Shunker.

Spare Copies

South Indian Railway. Letter from the Locomotive and
Carriage Superintendent, to the Agent, dated 6th January 1876
N^o 52. 13W

Your N^o 23.

I am sorry you should have had to call my attention
again to your N^o ~~7382~~⁷³¹⁵. This latter letter reached me on 10th
Nov^r, at a time when my attention was entirely absorbed in the
push to get out the new stock for opening on 1st January and also
the Prince's Saloons. You are aware that I have been very much
away from Head Quarters the last two months arranging for
the opening of the new line south. Early in November I met
Major Smith in a special going south and told him verbally
that my examination of the Arcum engines had cleared up
any immediate doubt of their safety from explosion which
point I understood the Consulting Engineer was most anxious
upon. I made a personal examination of the fire boxes and tubes
and found them in a tolerable condition considering the time they
had been at work. The metal had of course, reduced by scaling
and wear but for the pressure in them I do not consider that any
actual danger of explosion is to be apprehended as yet. As
pieces of Machinery they are in a very bad condition and require
a total and thorough renewal, including new boilers, new fire
boxes, two new cylinders and others boring out and all motion
renewing, new tanks, new smoke boxes and funnels new
types &c. Major Smith made a note of my remarks and I
concluded the estimates called for could wait until I had
time to go into them. I now send you the information called for.

(A) Amount required for putting present Engines N^o 55,000
Rolling Stock in good working order. Carriages . 600
the line remaining on the 3'6" gauge. Wagons . 4,500

(B) Wagons . 4,500
Trucks . 60,100.

Amount required to put in thorough Engines N^o 84,000
working order and to convert the metric Carriages . 2,600
gauge the present Rolling Stock Wagons . 6,500
93,100.

and to provide such additions and replacements of engines and vehicles as the Local Transport may consider necessary for working the line on the metre gauge.

(C) Estimate for stocking the line with new description of engines and vehicles for the metre gauge allowing for the value of the present stock the materials of which could perhaps be utilized or sold.

Engines Rs 84,000
Carriages 116,500
Wagons 49,900
Rs 2,50,400
Allowances for old stock 15,000
Rs 2,35,400.

In the case of proposition (a) a collateral expenditure which I have not represented in the Estimate would have to be incurred in either (1) sending the requisite machinery to Arcotum to carry out the repairs (2) asking the M. Ry to do the machine work in their shops at Madras (a very costly process) (3) bringing the work down here to Negapatnam also expensive in the item of transit charges in M. Ry. The repairs to the engines I have put at Rs 55,000. I do not think the work could be done in this country under 2 years and in the meantime those Engines at work would fail and a general stoppage occur. I would advocate their being placed upon the scrap heap or sold for whatever will fetch as soon as possible.

In the case of proposition (b) the engines are not readily convertible to the metre gauge even if their condition warranted the attempt. They are too far gone to repay such a thorough re-modelling as would be needful. My figures under the head engines represent the value of 4 new engines in place of the existing four now on the line. The carriage and wagon stock is convertible, but the major portion requires entire new timber work and as I before stated in my report on this line's stock, the carriages give an unfavorable carrying capacity as compared with our own vehicles on this line. On the steam wheels and axles and axle boxes

15W
these would all work in again for the metre gauge at the expense of cutting the axle in the centre and welding up to the right gauge. The axle boxes would then come in again for use on this branch line until they wore out and were replaced by our own type of box and wheel. These boxes are mostly of the old grease pattern and are not adapted to the use of oil, as our own are (the journals are $5 \times 2\frac{3}{16}$ as compared with our $6\frac{7}{16} \times 3$).

In the case of proposition (c) this appears by far the most practical and in the end the most economical and satisfactory course to adopt. The distances from Coimbatore to Chingleput the junction with our main line is 21 miles so that the branch Arcotum to Chingleput would be 41 miles about the same amount of stock now upon the 19 miles would be sufficient for the whole 41 miles supplemented at any least or frost of traffic from the stock of the main line. As I have said I think new engine power imperative. If the line be converted to metre gauge I can at once provide the locomotive power from Madras where I have 13 engines put together only one of which is in use. All the engine power up to the end of 176 likely to be required upon the Southern line between Tanjore and Madras can be easily performed by 10 engines. I have 13 at Madras and 4 at Cuddalore equal to 17. Four can therefore be at once spared for this branch altho' three would do the work. I think we should be able to spare carriages enough and stock for the branch. I noticed the train consisted of 4 or 5 carriages and the same number of trucks. Under condition (b) I have not included any alteration to the draw and buffing gear which is now the usual axle buffers and central drag chain. Tyres are badly needed both for engines and wagon stock. Whatever conclusion is arrived at I think the sooner some action is taken the better.

(The Cpt.)
Agent's Office
Negapatnam
6 February 1906

W. L. B. B. B.
Agent

8929/3/76 N° 804

of the South Indian Railway from the 3'6" gauge to the metre gauge, and its extension to Chingleput. I regret that there has been such a great delay in furnishing this information, but it will be observed that some essential details have only lately been received from the Agent.

2 With regard to the question of conversion, three Engineering estimates are submitted; the first, (a) showing the expenditure which it will be necessary to incur in putting the existing line into good order, retaining the 3'6" gauge; the second, (b) the amount necessary to convert the existing line to the metre gauge, and work it as a branch; and the third, (c) the amount required to make the present line as far as possible

(a) 1,13,527

(b) 1,33,202

(c) 1,75,438

possible equal to the other portions of the metre gauge system, on the supposition that it will become a portion of the main line by the construction of the Chingleput-Coimbatore Link.

3. In the second estimate it is not proposed to alter the location of the line at any point; but the third provides for the removal of a 10-chain curve in the 17th mile, and for other minor improvements in the alignment. The removal of this curve will necessitate the rebuilding of a small bridge, and carrying the line more directly across the Poondy tank. The object of the curve in the first instance

was

was to serve a proposed station at great Conjeeveram, which was afterwards considered to be unnecessary and has never been built. In the last estimate 2 miles of rails and $6\frac{1}{2}$ miles of new sleepers have been allowed. In the approximate estimate first framed, quantities largely in excess of these were entered; but on a reference from this office the reductions now shown were made. The existing rails weigh $35\frac{1}{2}$ lbs to the yard, and are of the ordinary metre gauge section. The engines now working the line weigh 14 tons, with $6\frac{1}{2}$ tons on the driving axle; and, as the rails have been down for upwards of 11 years, it is probable that some renewals will be required.

required.

4. Estimates framed by the Locomotive Department for three alternatives are also submitted; (1) for putting the existing locomotives and stock into good working order, the 3' 6" gauge being retained, (2) for converting to the metre gauge the present rolling stock, and providing new engines: (3) for furnishing the line altogether with metre gauge stock of the descriptions now being supplied.

5. Taking together the amounts under Engineering and Locomotive, the three estimates thus compare:

(a)

- (1) 60,100
(2) 93,100
(3) 2,50,400

21W³

(a) Line to be put in good order on the existing gauge:—

Engineering—1,13,827

Locomotive—60,100

Rs 1,73,927

(b) Line to be converted to metre gauge, but kept as a branch; and worked with converted rolling-stock and new engines:—

Engineering 1,33,202

Locomotive—93,100

Rs 2,26,302

(c) Line to be converted to the metre gauge, made a portion of the main

23W⁴
line, and furnished entirely with new description of engines and rolling-stock.

Engineering—1,75,438

Locomotive—2,50,400

Rs 4,25,838

6. The last estimate of rolling-stock is based on the numbers now employed; but, as explained by the Locomotive Superintendent, these quantities will suffice to work the whole of the line up to Chingleput. As a fact only a small portion of the existing stock is in general use, the remainder being required to meet heavy festival traffic. The amount entered

provides a little over Rs 6,000 per mile for 41 miles; and about Rs 1,30,000 should, in case the Chingleput-Conjeveram link is sanctioned, be debited to that estimate. This would reduce the estimate for conversion from Rs 4,25,838 to Rs 2,95,838, and a further reduction will also be effected by the value of the old stock. The amount, Rs 15,000, set down by the Locomotive Superintendent on this account seems small.

7. Comparing the three estimates it may be said that, supposing the Chingleput-Conjeveram link to be undertaken, the cost of

of converting the existing line and making it almost equal to other portions of the metre gauge system, will exceed by about one lac of Rupees the sum required to put the line in fair working order on the present gauge, and by about half a lac the sum required to convert the line and work it as a branch with the existing stock and new engines. The latter the Locomotive Superintendent considers absolutely necessary; and, from the report made by Mr. Sheward on a representation from this office, it will be seen that the present engines are not worth alteration. A portion of

of the cost of renewals of permanent way and rolling-stock should, it is thought, form a charge against Revenue.

8. For the proposed extension from Conjeveram to Chingleput, a revised estimate, amounting to Rs 9,57,485, is submitted; but, taking the proper proportion of rolling-stock at Rs 1,30,000, ^{*}instead of Rs 1,05,700, the total becomes Rs 9,81,785, or Rs 46,750 per mile; and it is thought that the line can be constructed for this amount. The principal reduction is under permanent way, which is taken at Rs 8 per lineal yard as against Rs 9.11.8 in the original estimate. Some revisions have also been made in the rates

rates for masonry.

9. With regard to the financial prospects of the line, the Agent explains that the 18,469 laden carts alluded to in the Secretary of State's despatch No 151 of the 22^d October 1874, represent only the local traffic between Conjeveram and Chingleput. The traffic to Madras goes chiefly by the direct road, a small fraction only taking the rail to Arcotum and thence by the Madras Railway. The books of the toll-collector at Conjeveram go to show that, from April 1871 to March 1872, the traffic passing to and from Madras

Madras was 54,487 loaded carts, and 12,216 animals. - There seems every probability that, by quoting reasonable rates, the bulk of this traffic might be carried by rail via Chingleput; in which case, besides contributing to the revenue of the proposed link, it would materially benefit the main line. The proposed line would, it is thought, be a valuable feeder to the main line to the south, as well as to the north; while the provision of a direct route for traffic to the north and west by the Madras Railway will be a great public advantage. The saving in distance to traffic taking this route will be 38 miles, as follows: -

Chingleput

297

Chingleput to Madras — 35 miles

Madras to Arcunum — 43 "

————— 78

Chingleput to Arcunum }
via Conjeeveram } 40 miles

Saving by branch line — 38 "

Under this arrangement too the whole of the through goods traffic with the Madras Railway will be dealt with at Arcunum, where every facility for the interchange already exists; whereas if the connecting link be not constructed, some extra expenditure will be necessary in order to provide for this at Madras.

10. As explained in my letter of the 9th June 1874, N^o 344, the construction of the line from Chingleput to Conjeeveram has always been looked upon

Pro: of Govt:
15th July 1874
N^o 1899.

upon as a necessary portion of the narrow gauge system. The Agent bases the financial prospects of the line upon the weekly mileage receipts which may be expected. The cost being Rs 46,750 per mile, and working expenses 50 per cent, the earnings required to pay the guaranteed interest will be Rs 90 per mile per week. Looking at the productive nature of the country which will be traversed, this does not appear too favourable a view to take of the prospects of the line itself; while the benefit which it would confer on other parts of the system must be considerable.

11. The condition of the locomotives

Locomotives on the Arcotam-^{31/10} Conjeeveram branch gives cause for considerable anxiety, and steps should be taken to remedy the present state of matters with as little delay as possible. In connection with the proposal to retain the line on the present gauge, it is explained by the Locomotive Superintendent that a good deal of delay and extra expense would be involved in repairing the locomotives, owing to the isolated position of the line; and it seems in any case better to convert the line to metre gauge, even should it remain a branch as at present. The third proposal, however, involving

involving the extension to Chingleput, is in my opinion the proper one to adopt, and in this view I trust the Government will concur.

12. It may be urged that the Madras Railway will suffer by the construction of the Chingleput link, but this can only be the case to a very limited extent.

During the half-year ending 30th June 1874, the amount of goods traffic passing through Arcotum station was 2267 tons; and, supposing two-thirds of this to have been to or from Madras, the revenue obtained therefrom by the Madras Railway Company, at the through rate of 6 pice per

per ton per mile, would be Rupees 1983. There would be a certain loss of passenger traffic, but this could never amount to any thing considerable. The break of gauge at Arcotum is now the great obstacle to goods traffic between Conjeeveram and Madras; and, so far as Government interests are concerned, the loss incurred on the Madras Railway, as shown above, would be more than met by the extra traffic which the main line of the South Indian would obtain by the construction of the Chingleput link. This would also attract a large festival traffic from the south, which would probably not otherwise

otherwise be obtained.

13. In conclusion, it is thought that fair grounds have been shewn for the construction of the connecting link between Chingleput and Conjeveram; both as affecting the interests of through and local traffic, and as regards its own financial prospects. The estimates to which sanction is recommended are as follow —

Construction of new line — ^{To} 9,81,785

Conversion of Arcunum-Conjeveram section after deducting proportion of rolling stock due to new line, and allowing for sale of old rolling stock.

Rupees 12,62,623

10
135W
I have the honour to be,

Sir,

Your most Obedt Servant

Wm. Thomas Black
Comd'g for Railway

and I regret it was not sent with
the other papers

I have the honour to be

Sir

Your Most obedt Servt.

Wm. Stewart Esq. R.E.

Cons. Engineer for Railways

Railway Department

Cons Engineer's office

Madras 23 March 1876

No 148

From

Lt. Col. J. H. M. Shair Stewart R.E.

Railways

alter R.E.

ent

ment

of

to your

& 22nd

now to

of the

ension

of the Arcot-Bangalore line
to Chingleput, will not, in my

opinion,

Railway Department.

Com Engineer's office
Madras 23 March 1876.From *Mr. J. H. M. Shaw Stewart R.E.*
No 148.To *Major General G. W. Walker R.E.*

Consulting Engineer for Railways

Secretary to Government

Public Works Department

Fort Saint George.

Sir,

In reply to your
Memorandum No 530 dated 22nd
March 1876, I have the honour to
inform you that the cost of the
land required for the extension
of the Arcotum-Coriveram line
to Chingleput, will not, in my
opinion,

PM 1876 Deptt

RAILWAY DEPARTMENT.

From

The Consulting Engineer
for Railways,

To

The Secretary to Government,
P. W. Department,
Fort Saint George.

Dated 23 March 1876.

Recd.

Enclures 1

No. 148.

Forwarding a
sketch map showing
Madras and South
Arcotum Railways
and the proposed
connecting line
between Chingleput
and Arcotum

No 182.

opinion, exceeds Rs 44000.

This estimate is arrived at from the actual measurement of land needed, the rate per acre allowed being that estimated by the Collector.

I have the honour to be
Sir

Yours most obedt Servt
Munniwar D. H. C. R.
Comd Engineer for Rys.

No 530
Memorandum

The Estimates for the extension of the Arcium - Conjeram line to Chingleput submitted with the Consulting Engineer's letter No 71 dtd Feby 1876 contain no provision for the cost of land; but as, in order to arrive at a fairly correct estimate of the cost of the project, it is necessary that some information on this point should be supplied, the undersigned is directed to request that an approximate estimate may be framed from such materials survey &c, as are at present available.

Yours respectfully
Secy to Govt P.W.D.

Govt St George
22nd March 1876

Yours faithfully
The Consulting Engineer

№ 83 -

[illegible]

new design

[illegible]

Вагнер.

[illegible]

7. Երկարացիր զանոսեցիքն Բուրձ Իմե Իմ
 առաջինը և համարես Բորչիքն Բուրձի Զոհ
 Ծովոր Զոհ և Երկարացիր Կողմերն
 Երկար Կողմերն Բուրձի Զոհ

1. Богословский институт. 19 лет. 20 лет. 21 лет. 22 лет. 23 лет. 24 лет. 25 лет. 26 лет. 27 лет. 28 лет. 29 лет. 30 лет. 31 лет. 32 лет. 33 лет. 34 лет. 35 лет. 36 лет. 37 лет. 38 лет. 39 лет. 40 лет. 41 лет. 42 лет. 43 лет. 44 лет. 45 лет. 46 лет. 47 лет. 48 лет. 49 лет. 50 лет. 51 лет. 52 лет. 53 лет. 54 лет. 55 лет. 56 лет. 57 лет. 58 лет. 59 лет. 60 лет. 61 лет. 62 лет. 63 лет. 64 лет. 65 лет. 66 лет. 67 лет. 68 лет. 69 лет. 70 лет. 71 лет. 72 лет. 73 лет. 74 лет. 75 лет. 76 лет. 77 лет. 78 лет. 79 лет. 80 лет. 81 лет. 82 лет. 83 лет. 84 лет. 85 лет. 86 лет. 87 лет. 88 лет. 89 лет. 90 лет. 91 лет. 92 лет. 93 лет. 94 лет. 95 лет. 96 лет. 97 лет. 98 лет. 99 лет. 100 лет.

2. The Government of India have already supported this Government in its views regarding the extension of the Aramun Con-
fession in due to Chingle-
put at a cost of Rs 10,37,516,
being 49,500 per mile
for 21 miles including
stations, sidings and
rolling stock; the
rolling of a mile being
1 in 200 as on the line
from Madras to Tanjore
which it joins at Chingle-
put. But the sanction
of the Secretary of State
for India was with-
held on the grounds
of incompleteness of
the information fur-
nished; as regards
cost of conversion
of

12
the existing line
from Aramun to
Chingleput from
the 3 1/2 feet gauge to
the present gauge; and
as regards probable
traffic probable.
I have now been
informed that the
Government have
sanctioned the conversion
of the existing line
at a cost of
Rs 2,20,000; of which
Rs 1,75,000 is the a-
mount of the Engineer-
ing Estimate and
Rs 45,000 that of the
Locomotive Estimate,
Rs 30,000 of the gross
Locomotive Estimate
being chargeable
against the extension
to Chingleput, and
Rs 15,000 recoverable
by

key material of old stock.
 A reduction of the
 original estimate
 for extension is also
 proposed to Rs. 8,173,5
 including the above
 but excluding the
~~the~~ ^{the} ground
 total for the whole
 line for an extension
 to Chingpet amount
 to Rs. 13,07,552.
 It will be noted
 that if this undertaking
 be not carried out
 at an early date
 an expenditure of
 Rs. 1,73,924 on the
 existing ~~project~~
 line will have to be
 incurred; whereof
 the Rs. 60,000 is an urgent
~~urgent~~ one, calling
 for

It is the intention
 the estimate for the
 extension is only for
 the land - 17-50 -
 the land is land
 pending revenue
 that amount must
 certainly be taken into
 account in estimating
 the cost of extension
 part of the estimate
 I think this draft
 should be sent to show
 the whole cost including
 value of land -
 This does not affect the
 letter to Sir J. & reply
 amount of existing line
 which I have passed
 for

for speedy settle-
 ment of the question
 4. The financial pro-
 posals as laid down
 generally in the
 petition from the
 inhabitants of
 Compton and
 more especially
 in the reports of the
 Railway Officers
 will be stated as
 appearing to this
 Government as grounds
 for believing that the
 extension of the
 Port of London & Rail
 will be greatly ac-
 commodated in itself
 and a useful guide
 to both the London
 and Indian and Madras
 Companies' lines
 And the Government

of India will be
 requested to commu-
 nicate early author-
 izing to the immediate
 intervention of the
 existing portions to
 metro gauge on the
 estimate of Rs 2,50,828.
 as immediately demand-
 ed by the State of
 the price and its
 rolling stock.
Y.M.V.

804
 (H.E. No. ~~129~~ 129th March 1876)

C. E. Smith
 despatch - 4th April

20
 59W

Public Works Dept.

No 894 of 29th March 1876

S,
 The Secretary to the
 Government of India,
 Public Works Dept.

Br C
 16/3

Sir,
 In the despatch
 from the Government
 of India to the Secretary
 of State to 15th of
 15th August 1876 the
 proposal of the Madras
 Government for the
 extension of the Free-
 runn Campervam line
 to Chingleput at a cost
 of Rs 10,37,616 was
 commended for sanction
 The

20

11/4

The Secretary of
State however in
his despatch of 19th
of 22nd October 1944 to
the Government of India
withheld his approval
to the tender asking
on the grounds that
the information
furnished as regards
cost of a conversion
of the existing line
and the probable
traffic returns
was incomplete.

Amman
directed to forward
the accompanying
papers with the
Proceedings of Govern-
ment thereon which
contain such infor-
mation

11 21
12 21
13 21
14 21
15 21
16 21
17 21
18 21
19 21
20 21
21 21
22 21
23 21
24 21
25 21
26 21
27 21
28 21
29 21
30 21
31 21
32 21
33 21
34 21
35 21
36 21
37 21
38 21
39 21
40 21
41 21
42 21
43 21
44 21
45 21
46 21
47 21
48 21
49 21
50 21
51 21
52 21
53 21
54 21
55 21
56 21
57 21
58 21
59 21
60 21
61 21
62 21
63 21
64 21
65 21
66 21
67 21
68 21
69 21
70 21
71 21
72 21
73 21
74 21
75 21
76 21
77 21
78 21
79 21
80 21
81 21
82 21
83 21
84 21
85 21
86 21
87 21
88 21
89 21
90 21
91 21
92 21
93 21
94 21
95 21
96 21
97 21
98 21
99 21
100 21
101 21
102 21
103 21
104 21
105 21
106 21
107 21
108 21
109 21
110 21
111 21
112 21
113 21
114 21
115 21
116 21
117 21
118 21
119 21
120 21
121 21
122 21
123 21
124 21
125 21
126 21
127 21
128 21
129 21
130 21
131 21
132 21
133 21
134 21
135 21
136 21
137 21
138 21
139 21
140 21
141 21
142 21
143 21
144 21
145 21
146 21
147 21
148 21
149 21
150 21
151 21
152 21
153 21
154 21
155 21
156 21
157 21
158 21
159 21
160 21
161 21
162 21
163 21
164 21
165 21
166 21
167 21
168 21
169 21
170 21
171 21
172 21
173 21
174 21
175 21
176 21
177 21
178 21
179 21
180 21
181 21
182 21
183 21
184 21
185 21
186 21
187 21
188 21
189 21
190 21
191 21
192 21
193 21
194 21
195 21
196 21
197 21
198 21
199 21
200 21
201 21
202 21
203 21
204 21
205 21
206 21
207 21
208 21
209 21
210 21
211 21
212 21
213 21
214 21
215 21
216 21
217 21
218 21
219 21
220 21
221 21
222 21
223 21
224 21
225 21
226 21
227 21
228 21
229 21
230 21
231 21
232 21
233 21
234 21
235 21
236 21
237 21
238 21
239 21
240 21
241 21
242 21
243 21
244 21
245 21
246 21
247 21
248 21
249 21
250 21
251 21
252 21
253 21
254 21
255 21
256 21
257 21
258 21
259 21
260 21
261 21
262 21
263 21
264 21
265 21
266 21
267 21
268 21
269 21
270 21
271 21
272 21
273 21
274 21
275 21
276 21
277 21
278 21
279 21
280 21
281 21
282 21
283 21
284 21
285 21
286 21
287 21
288 21
289 21
290 21
291 21
292 21
293 21
294 21
295 21
296 21
297 21
298 21
299 21
300 21
301 21
302 21
303 21
304 21
305 21
306 21
307 21
308 21
309 21
310 21
311 21
312 21
313 21
314 21
315 21
316 21
317 21
318 21
319 21
320 21
321 21
322 21
323 21
324 21
325 21
326 21
327 21
328 21
329 21
330 21
331 21
332 21
333 21
334 21
335 21
336 21
337 21
338 21
339 21
340 21
341 21
342 21
343 21
344 21
345 21
346 21
347 21
348 21
349 21
350 21
351 21
352 21
353 21
354 21
355 21
356 21
357 21
358 21
359 21
360 21
361 21
362 21
363 21
364 21
365 21
366 21
367 21
368 21
369 21
370 21
371 21
372 21
373 21
374 21
375 21
376 21
377 21
378 21
379 21
380 21
381 21
382 21
383 21
384 21
385 21
386 21
387 21
388 21
389 21
390 21
391 21
392 21
393 21
394 21
395 21
396 21
397 21
398 21
399 21
400 21
401 21
402 21
403 21
404 21
405 21
406 21
407 21
408 21
409 21
410 21
411 21
412 21
413 21
414 21
415 21
416 21
417 21
418 21
419 21
420 21
421 21
422 21
423 21
424 21
425 21
426 21
427 21
428 21
429 21
430 21
431 21
432 21
433 21
434 21
435 21
436 21
437 21
438 21
439 21
440 21
441 21
442 21
443 21
444 21
445 21
446 21
447 21
448 21
449 21
450 21
451 21
452 21
453 21
454 21
455 21
456 21
457 21
458 21
459 21
460 21
461 21
462 21
463 21
464 21
465 21
466 21
467 21
468 21
469 21
470 21
471 21
472 21
473 21
474 21
475 21
476 21
477 21
478 21
479 21
480 21
481 21
482 21
483 21
484 21
485 21
486 21
487 21
488 21
489 21
490 21
491 21
492 21
493 21
494 21
495 21
496 21
497 21
498 21
499 21
500 21
501 21
502 21
503 21
504 21
505 21
506 21
507 21
508 21
509 21
510 21
511 21
512 21
513 21
514 21
515 21
516 21
517 21
518 21
519 21
520 21
521 21
522 21
523 21
524 21
525 21
526 21
527 21
528 21
529 21
530 21
531 21
532 21
533 21
534 21
535 21
536 21
537 21
538 21
539 21
540 21
541 21
542 21
543 21
544 21
545 21
546 21
547 21
548 21
549 21
550 21
551 21
552 21
553 21
554 21
555 21
556 21
557 21
558 21
559 21
560 21
561 21
562 21
563 21
564 21
565 21
566 21
567 21
568 21
569 21
570 21
571 21
572 21
573 21
574 21
575 21
576 21
577 21
578 21
579 21
580 21
581 21
582 21
583 21
584 21
585 21
586 21
587 21
588 21
589 21
590 21
591 21
592 21
593 21
594 21
595 21
596 21
597 21
598 21
599 21
600 21
601 21
602 21
603 21
604 21
605 21
606 21
607 21
608 21
609 21
610 21
611 21
612 21
613 21
614 21
615 21
616 21
617 21
618 21
619 21
620 21
621 21
622 21
623 21
624 21
625 21
626 21
627 21
628 21
629 21
630 21
631 21
632 21
633 21
634 21
635 21
636 21
637 21
638 21
639 21
640 21
641 21
642 21
643 21
644 21
645 21
646 21
647 21
648 21
649 21
650 21
651 21
652 21
653 21
654 21
655 21
656 21
657 21
658 21
659 21
660 21
661 21
662 21
663 21
664 21
665 21
666 21
667 21
668 21
669 21
670 21
671 21
672 21
673 21
674 21
675 21
676 21
677 21
678 21
679 21
680 21
681 21
682 21
683 21
684 21
685 21
686 21
687 21
688 21
689 21
690 21
691 21
692 21
693 21
694 21
695 21
696 21
697 21
698 21
699 21
700 21
701 21
702 21
703 21
704 21
705 21
706 21
707 21
708 21
709 21
710 21
711 21
712 21
713 21
714 21
715 21
716 21
717 21
718 21
719 21
720 21
721 21
722 21
723 21
724 21
725 21
726 21
727 21
728 21
729 21
730 21
731 21
732 21
733 21
734 21
735 21
736 21
737 21
738 21
739 21
740 21
741 21
742 21
743 21
744 21
745 21
746 21
747 21
748 21
749 21
750 21
751 21
752 21
753 21
754 21
755 21
756 21
757 21
758 21
759 21
760 21
761 21
762 21
763 21
764 21
765 21
766 21
767 21
768 21
769 21
770 21
771 21
772 21
773 21
774 21
775 21
776 21
777 21
778 21
779 21
780 21
781 21
782 21
783 21
784 21
785 21
786 21
787 21
788 21
789 21
790 21
791 21
792 21
793 21
794 21
795 21
796 21
797 21
798 21
799 21
800 21
801 21
802 21
803 21
804 21
805 21
806 21
807 21
808 21
809 21
810 21
811 21
812 21
813 21
814 21
815 21
816 21
817 21
818 21
819 21
820 21
821 21
822 21
823 21
824 21
825 21
826 21
827 21
828 21
829 21
830 21
831 21
832 21
833 21
834 21
835 21
836 21
837 21
838 21
839 21
840 21
841 21
842 21
843 21
844 21
845 21
846 21
847 21
848 21
849 21
850 21
851 21
852 21
853 21
854 21
855 21
856 21
857 21
858 21
859 21
860 21
861 21
862 21
863 21
864 21
865 21
866 21
867 21
868 21
869 21
870 21
871 21
872 21
873 21
874 21
875 21
876 21
877 21
878 21
879 21
880 21
881 21
882 21
883 21
884 21
885 21
886 21
887 21
888 21
889 21
890 21
891 21
892 21
893 21
894 21
895 21
896 21
897 21
898 21
899 21
900 21
901 21
902 21
903 21
904 21
905 21
906 21
907 21
908 21
909 21
910 21
911 21
912 21
913 21
914 21
915 21
916 21
917 21
918 21
919 21
920 21
921 21
922 21
923 21
924 21
925 21
926 21
927 21
928 21
929 21
930 21
931 21
932 21
933 21
934 21
935 21
936 21
937 21
938 21
939 21
940 21
941 21
942 21
943 21
944 21
945 21
946 21
947 21
948 21
949 21
950 21
951 21
952 21
953 21
954 21
955 21
956 21
957 21
958 21
959 21
960 21
961 21
962 21
963 21
964 21
965 21
966 21
967 21
968 21
969 21
970 21
971 21
972 21
973 21
974 21
975 21
976 21
977 21
978 21
979 21
980 21
981 21
982 21
983 21
984 21
985 21
986 21
987 21
988 21
989 21
990 21
991 21
992 21
993 21
994 21
995 21
996 21
997 21
998 21
999 21
1000 21

It will be seen
from the papers
submitted that the
condition of the
existing line and
rolling stock is
such that if the con-
version to the metric
gauge be not de-
cided on at once

a large immediate
 outlay will be
 necessary for
 their preservation
 in working order.
 I am accordingly
 to request that
 early authority
 may be commu-
 nicated to the ex-
 ecution of the work
 on the estimate
 of Rs. 2,80,828. in
 anticipation of
 orders in the inter-
 vention proper, and
 time to which may
 possibly be delayed.

One Estimate &
 one Map referred to
 in letter 20/4/76
 for Govt. for Rs.
 2,80,828
 B. Singh
 4 - April /76
 bsc of letter + 50 SC
 order with Petition - bsc. 4 April

Civ. 12-2-76
 bsc. 12-2-76

984
2160
2044
Govt. of 1876 Madras.
PUBLIC WORKS.

To

Chengalpet
24/3
Chengalpet
Chengalpet

Dated

Issued

Recd

Encl.

G. O.

1876, No.

803
804
803
804

Nos. 481-484.

Submitting paper on the
subject of the conversion
of the Arcot
Congress line from the
3 1/2 feet to the metre gauge
and for its extension to Ch
-depul.

Conversion of the Arcot
Congress line from the
3 1/2 feet to the metre gauge
P. S. R. — Passing orders
in papers submitted by the
by Mr. J. R. for the

hd. in Neg.
6/4.

order will return