1. Number of pages 10
2. Date of [illegible] 19-7-
3. Initials of [illegible]

M.R.O. 1—82,400—28-11-30.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Gen. 4.5.57

G.O. No. 1473 Press Mis.

31-32

Dated 30-7- 1857

Not to be folded or roughly handled

No. 31. Read the following letter from Colonel C. E. FABER, Chief Engineer; to H. FORBES, Esq., Acting Secretary to Government, dated 8th July 1857, No. 1863,

SIR,

I have the honor in obedience to instructions conveyed in Extract Minutes Consultation No. 953, dated 18th May 1857, to submit the accompanying plans and estimates for that portion of the branch Railway to the Salt Cotaurs at Madras, the cost of which is likely to be borne by the Government.

2. I propose to commence the branch line from the main line of Railway at one chain to the east of the viaduct over the road to the Powder Mills, see A in Plan, and that it be carried in the direction marked on the Plan to the point C, a distance of 1602 feet, with a curvature to a radius of 14 chains or 924 feet, and with a gradient of 1 foot in 267 feet, and from the point C to the Salt platform a distance of 32 chains or 2112 feet, it will be constructed without slope and at the same level as the Salt platforms themselves, and so on to the point Z at the southern extremity of the Cotaurs, a further distance of 52 chains equal to 1144 yards or 3432 feet.

3. From A to B a distance on the curve of 8 chains, the line is within the limits of the ground belonging to the Railway Company, and which extends in a direct line 160 feet from the centre of the line of Railway on each side, and this portion of the rail together with switches crossing points and a siding as A * * * Q should be constructed at the expense of the Railway Company as is the custom in England when private accommodative lines are constructed.

4. I have laid down the line in the direction on the Plan, because I am of opinion, see my letter to Board of Revenue No. 8388, dated 26th November 1856, that it will be necessary eventually to store salt as also perhaps other articles of import between it and the canal; hereafter as trade increases it may be necessary to run branch lines over this space, but this does not immediately affect the question.

5. In my former communication I proposed that rails of a lighter description than those on the Railway which are 64 lbs. to the yard should be used, the heavier rail being used only as far as the Cotaurs, and I intended that the Railway waggons should be moved about on these lighter rails by coolies or bullocks and that they should be placed on a siding S S to remain there until a sufficient load was collected for a locomotive to be run down to carry it away, but it has occured to me, that a merchant wishing to send only 4 or 5 tons may not choose to wait till a full load has been got ready, and then so heavy a rail would not be necessary, because it would not pay to run a locomotive down for so small a quantity.

6. I have for the above reasons prepared two or I might rather say three estimates, the first for the whole line, with the heaviest rail Rupees (54,400) fifty-four thousand and four hundred, the second with the whole line with the lighter rail Rupees (43,760) forty-three thousand, seven hundred and sixty, and the third with the line to the Cotaurs of the heavy rail, and the continuation to Z of a lighter rail Rupees (49,300) forty-nine thousand and three hundred, I have omitted an estimate for a siding at S S, because, if it be determined that the siding is to be at A * * * Q it should be borne by the Railway Company and if at S S it I think ought to be so also.

7. In order that I may not be misunderstood with reference to the estimate I originally sent in, I may here mention that that estimate was merely an estimate for a line as far as the Cotaurs. No estimate whatever having been made for the rail in the Cotaurs themselves and it will be understood that I have in this estimate only calculated the embankments for a single rail the ballasting however has been increased from one foot to two feet in depth and the former inadequate rate of 12 annas raised to 1 Rupee 8 annas.

8. I consider it necessary to draw up for the information of Government a comparison of the cost of working the traffic by means of heavy rails and a locomotive and by means of a light rail, the waggon being pushed to the siding A. Q. by manual labour.

9. The gradient at its steepest is 1' in 267 and a man can push up such a slope a gross weight of 1900 lbs. the average journey is 1980 yards there, and the same back equivalent to 2

miles, 2 furlongs and 100 yards, he may be able to make 4 such journeys a day, so that at the rate of hire of 2 annas 6 pice a day, each trip will cost 7-5 pice and as the waggons on this line are to their load as 2 to 1, the net weight pushed is 660 lbs. equal to 2-5 pice per mile equal 8-8 pice per ton per mile gross of actual cost, against 5-6 pice the cost by locomotive a difference in favour of the latter of 3-2 pice, this divided over the miles of the whole journey of from 60 to 80 miles, is perhaps hardly worth taking into account still it is appreciable and should be deducted from the tariff fixed per ton per mile to be paid by the person sending the goods.

10. I have said that it is appreciable because the sum of 3-2 pice per ton per mile would on a traffic of 30 tons a day for 300 days represent an outlay of 150 Rupees a mile and would at 5 per cent. represent a capital of 5,000 Rupees a mile, a sum which I should be justified in recommending to be expended above the cost of the light rail could a constant load be ensured which however I believe cannot be trusted to, or be considered to be likely to be often the case.

11. Taking all the circumstances of the case into consideration however, I am still inclined to recommend the adoption of the heavier rail as upon the whole the most convenient, and as not entailing any particular loss even suppose a locomotive has to be run down for a portion only of a road, and would strongly advise the Government to request the Railway authorities to execute the work themselves they have plant and Executive Officers skilled in the work ready at hand and could do the work in much less time and more efficiently than the D. P. W. could hope to do. I have no doubt that the Railway authorities would promptly undertake the work on my estimate and would in all probability complete it in 3 months from this date.

No. 32. ORDER THEREON, No. 1179; dated 30th July 1857.

The Chief Engineer submits three estimates of the probable cost of constructing a branch line of Railway from the limits of the ground belonging to the Railway Company to the Madras Salt Cotaurs, and extending it afterwards through the Cotaurs to a point on the main road, leading from the Elephant Gateway. The estimates are—

1st.	For a branch line with heavy rails throughout.....	Rs. 54,400
2nd.	For a do. light do.	„ 43,760
3rd.	For a do. with heavy rails to the commencement of the Cotaurs, and thence after with light rails.....	„ 49,300

2. In paras. 8 to 11, the Chief Engineer, after discussing the cost of working the traffic by means of heavy rails and a locomotive, compared with that by means of a light rail and propelling the waggon by manual labor, is disposed to prefer the heavier rail, as being the most convenient and best suited upon a consideration of all circumstances; he recommends accordingly that it may be adopted, and that the execution of the work be left to the Railway authorities, who, having plant and a staff of skilled executives, are most likely to do it efficiently and expeditiously.

3. As however the question put by the Chief Engineer, regarding the weight of rails, depends on the view taken by the Railway Company regarding the use of Locomotive Engines, the Government resolve, before passing orders on the present application, to forward the Chief Engineer's letter and its enclosures to Colonel Pears, and to request that he will, in communication with the Railway authorities, advise Government on the whole matter at an early date, reporting at the same time, with reference to para. 11 of Extract Minutes of Consultation 18th May 1857, No. 953, on the share of the cost of constructing the branch rail, that should be borne by the Railway Company.

(Signed) H. FORBES.
Acting Secretary to Government.

Central Office of P. Works.

No. 1863. Fort Saint George, 8th July 1857.

From The Chief Engineer

To The Secretary to Government G. M. D.

Sir,

Branch Line of Rail from the Main Line to the Salt Cotaurs at Madras.

Enclosures 5.
3 Estimates.
2 Plans.

I have the honor in obedience to instructions conveyed in Extract Minutes Consult. No. 953 dated 18th May 1857. to submit the accompanying Plans and Estimates for that portion of the branch Railway to the Salt Cotaurs at Madras, the cost of which is likely to be borne by the Government.

2 I propose to commence the branch line from the Main line of Railway at one chain to the east of the viaduct over the roads to the Powder Mills, see A in Plan, and that it be carried in the direction marked on the Plan to the point C, a distance of 1602 feet, with a curvature to a Radius of 16 Chains or 924 feet, and with a gradient of 1 foot in 267 feet, and from the point

point C to the Salt platform a distance of 32 Chains or 2112 feet, it will be constructed without Slopes and at the same level as the Salt platforms themselves, and so on to the point D, at the Southern extremity of the Colaun; a further distance of 52 Chains equals to 1144 Yards or 3432 feet.

3 From A to B a distance on the curve of 8 Chains, the line is within the limits of the ground belonging to the Railway Company, and which extends in a direct line 1100 feet from the Centre of the line of Railway on each side, and this portion of the Railway together with switches crossing points and a siding as A * * * D, should be constructed at the expense of the Railway Company, as is the custom in England, when private Accommodation lines are constructed.

4 I have laid down the line in the direction on the plan, because I am of opinion, see my letter to Board of Revenue N° 8388 dated 26th November 1856, that it will be necessary eventually to store Salt and also perhaps other Articles of import between it and the Canal; hereafter as trade increased it may be necessary to run branch lines over this space, but this does not immediately affect the question.—

5 In my former communication I proposed that Rails of a lighter description than those in the Railway which are to be laid to the Yards should be used, the heavier Rails being used only as far as the Colaun, and I intended that the Railway Wagons should be moved about on these lighter Rails by Coolies or Bullocks and that they should be placed on a siding S S to remain there until a sufficient load was collected for a Locomotive to be run down to carry it away, but it has occurred to me, that a merchant wishing to send only 4 or 5 Tons may not choose to wait till a full load had been got ready, and then so heavy a Rail would not be necessary, because it would not pay to run a Locomotive down for so small a quantity.

F

6 I have for the above reasons prepared two or I might rather say three Estimates. The first for the whole line with the heaviest rail Rupees (5,41,00) Fifty four thousand and four hundred —. The Second with the whole line with the lighter rail Rupees 43,760) Forty three thousand seven hundred and Sixty —, and the third with the line to the Colaurs of the heavy rail, and the continuation to L. of a lighter rail Rupees 49300) Forty Nine thousand and three hundred —. I have omitted an Estimate for a siding at S S. because, if it be determined that the siding is to be at A * * * Q it should be borne by the Railway Company and if at S S it I think ought to be so also.

7 In order that I may not be misunderstood with reference to the Estimate I originally sent in, I may here mention that that Estimate was merely an Estimate for a line as far as the Colaurs. No Estimate whatever having been made for the rail in the Colaurs themselves and it will be understood that I have in this Estimate only calculated the embankments for a single rail the ballasting however has been increased from one foot to two feet in depth and the former inadequate rate of 12 Annas raised to 1 — 8. P. R.

8 I consider it necessary to draw up for the information of Government a comparison of the cost of working the traffic by means of heavy rails and a locomotive and by means of a light rail, the Wagon being pushed to the siding A. Q. by manual labour.

9 The gradient at its steepest is 1 in 267 and a man can push up such a slope a gross weight of 1900 lbs. the averages journey is 1980 Yards there and the same back equivalent to 2 Miles 2 furlongs and 100 Yards, he may be able to make 6 such journeys a day, so that at the rate of hire of 2 R. a day, each trip will cost 7. 5 pice and the Wagons on this line are to their load as 2 to 1, the net weight pushed is 6 60 lbs equal to 2.5 pice per mile. 8.8 pice per ton per mile, of gross actual cost, against 5. 6 pice the cost by locomotive a difference in favor of the latter of 3. 2. Pice this divided over the miles of the whole journey of from 60 to 80 miles, is perhaps hardly worth taking into account still it is appreciable and should be deducted from the tariff fixed per ton per mile to be paid by the person sending the goods.

10 I have said that it is appreciable because the sum of 3. 2 pice per ton per mile would on a traffic of 30 tons a

r day for 300 days represent an outlay of 150 Rupees a mile and would at 5 per cent represent a Capital of 5000 Rupees a mile, a sum which I should be justified in recommending to be expended above the cost of the light rail could a constant load be ensured. Which however I believe cannot be trusted to, or be considered to be likely to be often the case.—

11 Taking all the circumstances of the case into consideration however, I am still inclined to recommend the adoption of the heavier rail as upon the whole the most convenient, and as not entailing any particular loss even suppose a Locomotive had to be sent down for a portion only of a Road, and would strongly advise the Government to Request the Railway Authorities to execute the work themselves they have plant and Executive Officers skilled in the work ready at hand and could do the work in much less time & more efficiently than the P. W. could hope to do. I have no doubt that the Railway Authorities would gladly undertake the work on my Estimate and would in all probability complete it in 3 Months from this date.—

I have the honor to be,
Sir,
Your most Obt Servt
M Walker Colonel
Chief Engineer

Central Office of P. W.
Fort Saint George,
8th July 1857.

Pub. Works 185 Department
2nd to Court 4th Augt. No 1402

From The Chief Engineer

To The Secretary to Government
G. M. D.

Dated 8th
Received 11th } July 1857

No 1865.

Enclosures to
S. G. No 1179. 30th July

Forwards Estimates for the branch line from the Railway to the East Coast at Madras, offers some observations on the cost of working the line & suggests that a Heavy line be used, that the Railway Company be requested to be the Executive the Government paying them for the work.

Copy with Chief Engr & the Consulting Engr for Railways —
30 July 57
S 1179

No 31.

C 23d July R 25th

Public Work 1857 Dep.t
Cons.n 4.th August

№ 1402.

From the Chief Engineer
D/ 8.th July 1857.

E.B.C.3.d Cons/57.
R. 2028.

From the Chief Engr. D/ 24 Dec/57.
№ 2533 in Cons.

№ 31732.

Forwards Estimates for the branch line from the Railway to the Salt Colany at Madras, offers some observations on the cost of working the Line and suggests that a heavy Line be used, that the Railway Company be requested to be the Executive the Government paying them for the work.

With an Order
D/ 30.th July 1857 №1479.

P.W.D.

№ 1479.

Extract from the Minutes of Consultation
Under date the 30.th July, 1857.

Read the following
Letter from the Chief Engr.

/ Hereenter 8.th July 1857 №1863 /

The Chief Engineer
Submits three Estimates of
the probable cost of construct
ing a branch line of railway
from the limits of the ground
belonging to the Railway Company
to the Madras Salt Coturs,
and extending it afterwards
through the Coturs to a point
on the main road, leading
from the Elephant Gateway.
The Estimates are.

1st For a branch line with heavy rails throughout R. 57,400.
2 For do. do. light do. " 43760.
3 For do. do. with heavy rails to the
commencement of the Coturs, and
thence after with light rails " 49,300

In

2. In paras 8 & 11, the Chief Engineer, after discussing the cost of working the traffic by means of heavy rails and a locomotive, compared with that by means of a light rail and propelling the waggon by manual labor, is disposed to prefer the heavier rail, as being the most convenient and best suited upon a consideration of all circumstances; he recommends accordingly that it may be adopted, and that the execution of the work be left to the Railway authorities, who, having ~~a~~ plant and staff of skilled executives, are most likely to do it efficiently and expeditiously.

As in answer the question put by the Chief Engineer, regarding the weight of rails, depends on the view taken by the Railway Company, regarding ~~of~~ with reference to the use of locomotive engines, ~~or not~~, the Government resolve, before passing orders on the present application, to forward the Chief Engineer's letter and its enclosures to Colo Pears, and to request that he will, in communication with the Railway authorities, advise Government on the whole matter at an early date, reporting at the same time, with reference to para 11 of Extract Minutes of Consultation 18th May 1857, No 953, on the share of the cost of constructing the branch rail, that should be borne by the Railway Company.

GZ

9 Copies to the Chief Engr. Dist. 3rd.
3 — Consulting Engr. for Railways with Copy of the Chief Engr's letter & 5 Engr. Enclosures
3 — Civil Railway Depts

Public Works 1857 Sept.
Dy to Govt: 4th Augt

No. 1479.

Extract Mins: of Govt.
Dy 30th July 1857.

Requesting the Chief Engineer communication with the Railway Authorities to advise Govt of the probable cost of constructing a branch line of Railway from the limits of the grounds belonging to the Railway Company to the Madras Salt-Stores, and extending it afterwards through the Colgeurs, to a point on the Main Road, leading from the Elephant Gateway.

No. 31 & 32.

C23 July 1857