M.R.O. 1—77,006—8-6-37.

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(2) Date of repair_____

(3) Initials of the Referencer_____

3081

# MADRAS RECORD OFFICE.

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## Government of Madras.

Public works **DEPARTMENT.**

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| G.O. No. 3081 | Press -Mis.- |
| 450-51 | |
| Dated 23 · 12 | 1862. |

***Not to be folded or roughly handled***

5-1-44

*Proceedings of the Madras Government, Public Works Department,*
*23rd December* 1862.

No. 450. Read the following letter from Lieutenant-Colonel S. O. E. LUDLOW, R. E., Deputy Chief Engineer, Northern Circle, to Colonel W. I. BIRDWOOD, R. E., Secretary to Government, Public Works Department, dated Chepauk, 25th November 1862, No. 488:—

Sir,

1 Letter from District Engineer, Nellore, No. 1,090, dated 2nd June 1862, with seven enclosures.
1 Estimate of 15,500 Rupees.
1 Letter from District Engineer Nellore, No. 1,989, dated 4th October 1862, with three enclosures.
1 Do. No. 1,494, dated 1st August 1862, with two enclosures.
1 Estimate of Rupees 19,140.

1. I have the honor to submit for the information of Government, a report by Captain Mullins, late District Engineer Nellore, on the subject of the roads from Nellore to Eskapilly and Kistnapatam, noticed in Mr. Dykes' letter No. 54, dated 30th December 1861, vide Order of Government No. 60, dated 24th January 1862.

Constructing a Causeway across the Kistnapatam swamp on the Dorenal road Rupees 15,500.

2. Estimates, as per margin, for the completion of the last named road (from Nellore to Kistnapatam) are also now submitted, together with a further report on that line by the present District Engineer of Nellore, Major Greenaway.

3. In paragraphs 7—10 of his letter, Captain Mullins replies to the strictures made by the Collector, on the Nellore and Eskapilly road, and the mode in which the repair funds for Trunk Road No. 6 had been applied.

4. Captain Mullins explains that the repair allowance is made, not for the old but for the new line, and that the allowance in question, which is only one-third of what is granted for parts of the road in full use, is given for the purpose of keeping the work, as far as completed, in good order.

5. From its point of divergence from the new line, the old line viâ Ulloor to Eskapilly measures 16½ miles. Up to Ulloor the road two or three years ago was pretty good, and would be so still; but nothing has been expended upon it from the "Local Funds," which have been applied (as the District Engineer thinks, improperly) to imperial roads. Rupees 4,500 were, however, sanctioned last January for the repair of this road.

6. Beyond Eskapilly the road branches off in two directions, one leading to the Salt Pans, the other crossing the backwater to Tholypollum on the sea. The District Engineer states that not a bale of Cotton has been exported from Eskapilly: that the road was especially intended for the benefit of the Salt trade, in fact, for an import road, whence the reason of its stopping at the back-water; and, moreover, it appears that from Eskapilly across the back-water to the sea the road is a very fair one. Being a District road for which provision is made in the "Local Fund" Budget of the current year, the District Engineer submits no estimate for it.

7. With respect to the Kistnapatam road, Captain Mullins says that the line, though only partially metalled, was perfectly serviceable (including the embankment across the swamp) up to the time (in 1857) when the cyclone occurred; the floods accompanying this, and those admitted through the old Survapilly Channel (left open in spite of frequent warnings) destroyed much of the road, and works on it; the damage being further increased by the floods of 1859.

8. In paragraph 3 Captain Mullins states that the swamp has never more than 3½ instead of 5 or 6 feet depth of water on it, and that the "bad scour is somewhat imaginary:" that the "high mound" is a "moderate embankment," seldom exceeding 3½ feet in height, and that in spite of the extraordinary floods above referred to, only a part of it has been washed away.

9. With respect to the greatest depth of water, what Captain Mullins says is confirmed by Major Greenaway; but the latter states that when the Ramperu brings down its flood, it is backed up before it can escape through and round the sand hills, and that there is consequently a scour across the road, to which the breaches of 1857 and 1859 were unquestionably due. I am inclined to think that Major Greenaway and Mr. Dykes are right on this point.

10. In paragraph 4, Captain Mullins explains why the work designed by Major Greenaway for crossing the swamp was, after it had been begun, stopped by him. He disapproved in some respects of the plan, found that the material being used was unfit for the purpose, and that the cost would greatly exceed the estimate. Major Greenaway is now himself of opinion that the work could not have been carried out as he proposed, and I am of opinion that Captain Mullins acted wisely in stopping it.

11. It yet remains to determine how the road shall be carried across, or rather through the swamp: a distance of from 900 to 1,200 yards; for this is the only difficulty, as Major Greenaway in paragraph 2 of his No. 1,494, says, "all the rest is a good serviceable road requiring nothing "that cannot be done out of the maintenance allowance."

12. Captain Mullins proposes to cross the swamp by a road 1,000 yards in length, raised 1 foot 6 inches above highest spring tide. A road dam of 105 yards 1'3' below spring tide level, with ramps measuring together 45 yards more, provide for the flux and reflux of the tide, and the passage of the river water during freshes. The road dam consists of side walls and retaining walls, and intermediate apron, on each side of the road, as the tidal current has to cross both ways.

13. His estimate amounts to 19,140 Rupees, of which 6,040 Rupees represent the cost of the dam, the balance being for the raised road and metalling other incomplete portions of the line, including a sum of 4,500 Rupees which might be saved by the substitution of kunkur for gravel: a substitution to which I can see no real objection, as, if properly broken, and well beaten, a sufficiently even road may be made with the latter material.

14. Major Greenaway prefers a causeway 920 yards in length, connected at each end by easy ramps with the raised road. The level of his causeway would be 6" or 9" below high water line spring tides. The floods of the river will find ample way over this causeway; but will not reach the level of the embanked road, which is 4' 6" higher.

15. The causeway will consist of a road 18 feet broad, metalled 6" to 9" deep at surface, with a beton retaining wall on each side. A rough stone or kunkur apron protects the outer side of the beton wall.

16. His estimate which amounts to 15,500 Rupees, allows also for raising and metalling other parts of the road, where necessary.

17. Of these two plans, I consider Major Greenaway's to be the safest, as it allows so ample a way for the flood waters of the river, and as it is also the cheapest of the two, recommend it for adoption, if the work is to be carried out.

18. It will be for Government to decide whether the prospective advantages to be gained by the completion of this road are such as to justify the outlay proposed. Captain Mullins has furnished a traffic return which, though certainly exhibiting no very large amount of traffic on the line, shows that it has considerably increased during the last two years. It must be remembered also, that this road will eventually form a feeder to the East Coast Canal. Under these circumstances, the present project will, I hope, meet with a favorable reception.

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No. 451. ORDER THEREON, 23rd December 1862, No. 3,081.

1. The papers forwarded with the foregoing letter are in reply to one dated 30th* December 1861, No. 54, from Mr. Dykes, the Collector of Nellore, in which certain facts were brought to notice to disprove a statement made in the "Madras Times" Newspaper that there were good roads to Kistnapatam and Eskapilly "whence produce could be exported by sea and return loads of salt obtained."

* In Proceedings Revenue Department, dated 21st January 1862, No. 89.

*Proceedings of the Madras Government, Public Works Department,*
*23rd December* 1862.

2. It is observed that the necessary steps are being taken for placing the line to Eskapilly in an efficient condition, and that in regard to the road to Kistnapatam the coast swamp is the only obstacle to be overcome. Under the circumstances represented the Government are in favor of Major Greenaway's plan of crossing the swamp at an estimated cost of Rupees 15,500. As the traffic on this line however (vide margin) is inconsiderable the Deputy Chief Engineer is requested to bring the project forward at some future time when the circumstances of the case may justify so large an outlay being incurred.

| DAILY AVERAGE. | CARTS. Going east. | CARTS. Going west. |
|---|---|---|
| From 1st Oct. 1858 to 30th Sept. 1859 .... | 1 5/6 | 2 3/6 |
| " 1st Oct. 1859 to 30th Sept. 1860 .... | 3 | 2 5/6 |
| " 1st Oct. 1860 to 30th Sept. 1861 ..... | 26 1/2 | 26 1/2 |
| " 1st Oct. 1861 to 31st March 1862 ..... | 20 1/3 | 19 1/3 |
| Daily average for 3½ years from 1st Oct. 1858 to 31st March 1862..... ..... | 14 2/3 | 14 1/3 |

(Signed) W. I. BIRDWOOD, Colonel, R. E.,
*Secretary to Government.*

5 H

No 488

Northern Circle Office
Chepauk 25th November 1862.

From,

Lieutenant Colonel J.C.B. Ludlow R.E.
Deputy Chief Engineer N.C.

To

Colonel W.P. Birdwood R.E.
Secretary to Government P.W.D.

Sir,

I have the honor to submit for the information of Government, a report by Captain Mullins, late District Engineer Nellore, on the subject of the roads from Nellore to Eskapilley and Kistnapatam, noticed in Mr Dykes' letter No 54, dated 30th December 1861, vide order of Government No 60, dated 24th January 1862.

2. Estimates, as per margin, for the completion of the last named road (from Nellore to Kistapatam) are also now submitted, together with a further report on that line by the present District Engineer of Nellore, Major Greenaway.

3. In paras 7-10 of his letter, Captain Mullins replies to the strictures made by the Collector, on the Nellore and Eskapilley road

Enclosure 17
1 Letter from Dist Engr Nellore No 1390 of 3 June 1862 with 2 Enclosures
1 Estimate of 1553 C.Y.
1 Letter from Dist Engr Nellore No 1987 of 4 July 1862 with 3 Enclosures
1 Do No 1894 of 14 Aug 62 with 2 Enclosures
1 Estimate of Rs 19140

Constructing a causeway across the Kistapatam swamp on the Doravaad road — Rs 15,500

road, and the mode in which the repair funds for Trunk Road No 6 had been applied.

4. Captain Mullins explains that the repair allowance is made, not for the old but for the new line, and that the allowance in question, which is only ½ of what is granted for parts of the road in full use, is given for the purpose of keeping the work, as far as completed, in good order.

5. From its point of divergence from the new line, the old line viâ Ullor to Sekapillay measures 16½ Miles. Up to Ullor the road 2 or 3 years ago was pretty good, and would be so still, but nothing has been expended upon it from the "Local Funds" which have been applied (as the District Engineer thinks, improperly) to imperial roads. Rupees 4,500 were, however, sanctioned last January for the repair of this road.

6. Beyond Sekapillay, the road branches off in 2 directions, one leading to the Salt Pans, the other crossing the back-water to Tholypallum on the sea. The District



District Engineer states that not a bale of Cotton has been exported from Sekapillay: that the road was especially intended for the benefit of the salt trade, in fact, for an import road, whence the reason of its stopping at the back water, and, moreover, it appears that from Sekapillay across the back water to the sea the road is a very fair one. Being a District road for which provision is made in the Local Fund "Budget of the Current year, the District Engineer submits no Estimate for it.

7. With respect to the Kistapatam road, Captain Mullins says that the line, though only partially metalled, was perfectly serviceable (including the embankment across the swamp) up to the time (in 1857,) when the cyclone occurred; the floods accompanying this, and those admitted through the old Sarvapilly Channel (left open in spite of frequent warnings) destroyed much of the road, and works on it; the damage being further increased by the floods of 1859.

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8. In para 3 Captain Mullins states that the swamp has never more than 3½ instead of 5 or 6 feet depth of water on it, and that the "bad scour is somewhat imaginary": that the "high mound" is a "moderate embankment, seldom exceeding 3½ feet in height, and that in spite of the extraordinary floods above referred to, only a part of it has been washed away.

9. With respect to the greatest depth of water, what Captain Mullins says is confirmed by Major Greenaway; but the latter states that when the Ramparee brings down its flood, it is backed up before it can escape through and round the sand hills, and that there is consequently a scour across the road, to which the breaches of 1857 and 1859 were unquestionably due. I am inclined to think that Major Greenaway and Mr Dykes are right on this point.

10. In paragraph 4, Captain Mullins explains why the work designed by Major Greenaway for crossing the swamp was, after it had been begun, stopped by him. He disapproved in some respects of the plan, found that the material being used was unfit for the purpose, and that the cost would greatly exceed the Estimate. Major Greenaway is now himself of opinion that the work could not have been carried out as he proposed and I am of opinion that Captain Mullins acted wisely in stopping it.

11. It yet remains to determine how the road shall be carried across, or rather through the swamp; a distance of from 900 to 1,200 yards, for this is the only difficulty as Major Greenaway in paragraph 2 of his No. 1494, says. "All the rest is a good "serviceable road requiring nothing that "cannot be done out of the maintenance "allowance."

12. Captain Mullins proposes to cross the swamp by a road 1,000 yards in length, raised 1-6 feet above highest spring tide. A road dam of 105 yards 1-3" below spring tide level, with ramps measuring together 45 yards more, provide for the flux and reflux of the tide, and the passage of the river water during freshes. The road dam consists of side walls and retaining walls and intermediate apron, on each

side

side of the road, as the tidal current has to cross both ways.

13. His Estimate amounts to 19,140 Rupees, of which 6,040 Rupees represent the cost of the dam, the balance being for the raised road and metalling other incomplete portions of the line, including a sum of 4,500 Rupees which might be saved by the substitution of Kunkur for gravel: a substitution to which I can see no real objection, as, if properly broken, and well beaten, a sufficiently even road may be made with the latter material.

14. Major Greenaway prefers a causeway 920 yards in length, connected at each end by easy ramps with the raised road. The level of his causeway would be 6" or 9" below high water line spring tides. The floods of the river will find ample way over this causeway, but will not reach the level of the embanked road, which is 4'-6" higher.

15. The causeway will consist of a road 18 feet broad, metalled 6" to 9" deep at surface, with a beton retaining wall on each side. A rough stone or Kunkur apron protects the outer side of the beton wall.

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16. His Estimate which amounts to 15,500 Rupees, allows also for raising and metalling other parts of the road, where necessary.

17. Of these 2 plans, I consider Major Greenaways to be the safest, as it allows as ample a way for the flood waters of the river, and as it is also the cheapest of the two, recommend it for adoption, if the work is to be carried out.

18. It will be for Government to decide whether the prospective advantages to be gained by the completion of this road are such as to justify the outlay proposed. Captain Mullins has furnished a Traffic return which, though certainly exhibiting no very large amount of traffic on the line, shews that it has considerably increased during the last 2 years. It must be remembered also, that this road will eventually form a feeder to the east coast Canal. Under these circumstances, I hope the present project will meet with a favorable reception.

I have the honor to be,
Sir,
Your Most Obedient Servant
J. O. Mullins Lieut. Col. R.E.
Deputy Chief Engineer N.C.

Chepauk
25th Nov. 1862

To
Colonel R. S. Birdwood C.B.
Secretary to Govt. P.W.D.
Fort St. George.

Pro: 24th January 1862 No 117-118

P.W. 1862 Departmt
Pro: of Jany 1862 Dept
No. 3505.

From
The Dy Chief Engineer
N.C.

To
The Secretary
to Government P.W.D.

Dated 25th } November 1862
Recd 26th }

No. 488.

Encls: 1 & Return

Forwarding a report by Captn Mullins, late Dist. Engr. Nellore, on the subject of the roads from Nellore to Askapelly and Kistapatam, noticed in Mr. Dykes letter No. 54, d/ 30th Decr 61. vide order of Govt No. 60. d/ 24th January 1862.

No. 450.

No. 3081 - 23 Decr

C. 13 Decr 1862 R. 17th

and Chapilly" whence pro-
duce could be exported by
sea and return loads of
salt obtained"

It is observed that
the necessary steps are
being taken for placing
the line to Chapilly in an
efficient condition, and that
in regard to the Road to
Trivitnapalam the coast
swamp is the only obstacle
to be overcome. and Under
the circumstances represented
the Government are in
favor of Major Green-
away's plan of crossing
the swamp at an Estimated
cost of Rs. 15,500 - On
the traffic on this line
however (vide margin) is
inconsiderable the Ch

Chief Engineer is requested
to bring the project for-
ward at some future time
when the circumstances of
the case may justify so
large an outlay being
incurred -

Carts

| | Going Each | Going Total |
|---|---|---|
| Daily average from 1st Oct 58 to 30 Sept 59 | 6/ | 2½ |
| " 1 Oct 59 to 30 Sept 60 | 3 | 2 |
| " 1 Oct 60 to 30 Sept 61 | 2½ | 2½ |
| " 1 Oct 61 to 31 March 62 | 2½ | 1½ |
| Daily average for 31 days from 1 Oct 58 to 31 March 62 | 1½ | 1½ |

13 Copies

To the Dy Chief Engr N.C. Dispd 30th with 17 Encls
Mer. Despt

Jan'y 1862 Dep.to
Pro. of Gen.l for Dec.r

Jo 3081

Pro. of the Chief Engr.r
Dep.t of Dec.r 62

Pro Eb 328/61

Requesting the
Chief Engineer to
take steps to have the Project
for the Road to Fulton
Station forwarded at
once if not done, that
when the Census taken
may justify the expendi-
ture of a large sum thereon

Ord.d

Pro 450. 457.