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MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 3428 Press
~~Mis.~~

500-01

Dated 23 10 1869.

Not to be folded or roughly handled

No. 500. Read the following letter from the Acting Deputy Consulting Engineer for Railways, to the Secretary to Government, Public Works Department, dated Madras, 30th September 1869, No. 318:—

I HAVE the honour to submit the following report on the progress of the works on the North-West, and Bellary Branch Railways, an inspection of which I have lately made.

2. DISTRICT XI., SECTION 2.—Ballast trains now run up to a point six and a half miles beyond Ghooty station; at this point there is an unfinished bridge, the two 30 feet arches of which are not yet commenced; the centrings, however, have been placed and a temporary road formed over them in order to admit of waggons, with girders, being passed over them. The girders are required for a bridge of four 64 feet openings, and as soon as they are all brought to the site, the roadway will be broken up, and the arches of the double 30 turned: by this arrangement it is hoped that the line will be laid over both bridges in little more than six weeks. The rest of the masonry on this section is finished, and permanent-way materials are delivered along the line; ballast also has been laid all along. The fencing is in fair order.

3. The Ghooty station works are still in progress, the walls of the engine shed are 3 feet 6 inches high, the carriage-shed is founded, the salt-godown up to platform level, and the arches of the tank-house are being turned. The lower floor of the Assistant Traffic Manager's bungalow is built; and of the workmen's houses remaining to be constructed, two are completed up to the roof, one is founded, and one is not commenced.

4. DISTRICT XI., SECTION 2.—The embankments on this length are completed, but about 900 yards of cutting, half of which is rock, has yet to be done. About three miles of the line is still unfenced, and the length planted gives but little promise of the fencing being perfect next year.

5. The following bridges remain unfinished:—

At 13 miles 12 chains, the abutments are 1 foot 6 inches below girder level.
,, 14 ,, 18 ,, do. 2 feet ,,
,, 14 ,, 31 ,, a single 12 feet opening has not been commenced, as the foundations gave trouble; the site is now to be altered slightly, and work commenced.

6. The undermentioned bridges are up to springing level:—

At 14 miles 64 chains, a single 30 feet arch.
,, 15 ,, a do. 6 ,, ,,
,, 15 ,, 45 ,, double 20 ,, ,,
,, 15 ,, 68 ,, a double 20 feet arch is 5 feet below springing level.

It is proposed to alter the first of these bridges into a girder one, and I trust that it will be done, because an increase of headway at this spot is desirable, and the substitution of girders will materially assist the Contractor in his efforts to bring an engine on to Gondacul station by the end of this year. If the work along this section is pushed on with ordinary vigour, I see no reason why the line should not be completed to Gondacul Junction by the first week of January 1870.

7. Beyond the station the works remaining unfinished on the main line are—

At 17 miles 16 chains, where the abutments are 7 feet below springing.
„ 17 „ 37 „ do. 8 „ „ girders.
„ 17 „ 75 „ do. 2 „ „ „

8. The masonry of the portion of the Bellary Branch line included in this section is completed, with the exception of the setting of the girder stones. At Gondacul station the foundations of the passenger-shed are in; the north platform wall is two feet above rail level, and the south platform wall eight inches below rail level; the well has been sunk to a depth of 20 feet; five miles of permanent-way material have been delivered.

9. District XIV.—The earthwork and fencing on this length are completed, and ballast is laid for a distance of six miles. The masonry is in a forward state, there being only one small arch to turn, and the following is a list of girder bridg es remaining unfinished :—

At 7 miles 50 chains, the abutments are 8 feet below girder level.
„ 7 „ 45 „ „ 7 „ „
„ 6 „ 51 „ „ 4 „ „
„ 6 „ 36 „ „ 4 „ „
„ 6 „ 27 „ „ 10 „ „

There are besides this eight other bridges, the abutments of which are from 1 foot to 2 feet below girder level.

10. At Nuncherla station the foundations of the platform wall are in; and here, as at other stations, preparations are being made for constructing the station under departmental agency, the Contractor for this portion of the line having declined to accept the rates offered.

11. District XV.—The earthwork and fencing are finished, and five miles of ballast is being laid.

12. The following bridges are at present incomplete :—
0 mile 52 chains, foundation in.
0 „ 68 „ „
1 „ 36 „ „
1 „ 68 „ „
2 „ 24 „ „
3 „ 78 „ the abutments and pier are completed to within six feet of girder level.

13. The masonry at 5 miles 31 chains for a 30 feet girder bridge was finished; but it has now been found necessary to double the waterway.

14. The foundations of the platform wall at Asperi station are in.

15. District XVI.—The earthwork and fencing on this length are now finished, and three miles of ballast is laid ready for the permanent-way.

16. The masonry however is in a backward state, there being about 4,750 cubic yards remaining to be done.

17. The following list shows the state of completion at which the unfinished bridges have arrived :—

At 2 miles 30 chains, abutments are 3 feet below girder level.
„ 2 „ 38 „ „ 5 „ „
„ 3 „ 70 „ „ 9 „ „
„ 7 „ 71 „ „ 5 „ „
„ 8 „ 10 „ foundations are in.
„ 8 „ 23 „ not commenced.
„ 9 „ 11 „ foundations in.
„ 2 „ 78 „ not commenced.

In addition to this there are two 20 feet arches, three 30 feet arches, and a double 30 feet arch yet to be turned, the abutments being now up to springing level. I am informed that there is plenty of stone ready in the quarries for the construction of these bridges, and operations were to be commenced as soon as the state of the country admitted of carts working. There is no station on this district.

18. District XVII.—Earthwork and fencing are finished, and ballast is laid down for a distance of three miles.

Of the girder bridges, eight are still incomplete, but they are on an average within 3 feet of girder level.

At 9 miles 36 chains the masonry of a single 9 feet girder bridge was completed, but the late heavy rain caused floods, which showed that an increase of waterway was imperatively necessary at this site, so that operations will have to be resumed.

19. The arches of the following bridges have yet to be turned, the abutments are now up to springing level :—

A single 9 feet arch, at 3 miles 71 chains.
„ „ 9 „ „ at 4 „ 1 „
„ „ 6 „ „ at 4 „ 10 „
„ „ 9 „ „ at 6 „ 40 „

20. The earthwork for the sidings at Adony station are complete, the foundations of the passenger-shed are nearly up to the level of the floor, and the platform wall is up to formation level; the salt-godown and goods-shed are also complete so far.

The Deputy Chief Engineer's bungalow is nearly finished.

21. District XVIII.—The earthwork and bridges along this district are completed, and the first layer of ballast spread. The fencing is in a forward state.

22. At Kosjee station the platform wall is up to coping, passenger-shed three feet above flooring, and the goods-shed three feet above rail level; the earthwork for sidings is in progress.

23. District XIX.—The earthwork on this length is finished, and all the bridges are founded, and nearly completed, except the following :—

Double 30 feet arch at 1 mile 68 chains.
„ 30 „ „ at 6 „ 11 „ which are up to springing level.

24. The fencing is in a forward state.

25. All the land piers of the Toongabudra bridge are finished, except two, which are nearly up to girder level; twenty of the river piers are well up, and the remainder are founded and above low water mark.

On this work 10,243¾ cubic yards of masonry have been executed, of which 5,984 yards were done during the past season; this leaves about 7,506 cubic yards to be completed before next June. Of the possibility of doing this there is no doubt if no unforeseen misfortunes occur, such as an outbreak of cholera in the labourers' camp. The perfect immunity from cholera, which the workmen have enjoyed during the past season, may be attributed to the care taken by the Contractor's Agent with regard to sanitary matters in the camp.

26. District XX.—The earthwork along about ten miles of this district is complete; the rest of the works are now in progress, a little over 1,000 yards of masonry having been completed. The work in this district is very light.

Bellary Branch Line.

27. I have already stated that the first portion of this branch, from Gondacal Junction, which is included in District XI., Section 2, is ready for the placing of girders and permanent-way.

28. District XII—*Bellary Branch.*—This district is finished, and 1 foot of ballast laid along in readiness for the permanent-way. The fencing has also been completed, but it does not look as if it would prove efficient by the middle of next year.

29. The foundations of the platform wall and passenger-shed at Verapoor station are laid, and the work is in progress.

30. District XIII—*Bellary Branch.*—The masonry on this length is complete, with the exception of

Four 3 feet culverts.
Three 12 ,, openings.
One 6 ,, ,,
One 6 ,, arch.

the excavation for the foundations of these works has been completed.

31. The earthwork and fencing are finished, but no ballast has yet been spread.

32. The well foundations in the west abutment of the Huggry bridge have been completed, and wells are about to be sunk for the foundations of the east abutment.

33. The Bellary station works are being pushed on rapidly; the walls of the main building are four feet above platform level, and the foundations of the goods-shed and salt-godown are laid.

34. In the above description of the present state of the works on the main line and Bellary Branch, I have taken as *finished* bridges which are ready to admit of an engine passing over them, believing that that is the information which the Government are desirous of possessing. I have therefore taken no account of such work as coping, pointing, parapets, inverts, flooring, etc., which although it will have to be done, still does not prevent the line being used for the carriage of permanent-way material and girders.

Proceedings of the Madras Government, Public Works Department,
23rd October 1869.

35. I had the advantage of inspecting the works in company with the Deputy Chief Engineer, and I am glad to be able to report that I did not see a single piece of bad work in the 124 miles of line I examined. On the contrary, I found the masonry excellent, alike as to workmanship and material, and, in my opinion, the bridges on the North-west Line are models of Railway construction; all needless expenditure in fine ashlar work on the face has been avoided, and sound hearting has been considered as of paramount importance.

36. The junction with the Bombay line, as far as the Madras Railway Company is concerned, depends upon the completion of the bridge over the Toongabudra. The masonry of this work, as I have shown, is well advanced, and should be ready for the rolling of girders by the end of June next. It is in leading and fixing permanent-way and girders along the line south of the Toongabudra that the engineering department will have to direct its principal efforts, because the girders for this bridge can only be taken along the line, and it is of great importance that half of them should be taken across the river on the temporary line, before the freshes of June. If this is done successfully, I learn from the Chief Engineer that the girders can be rivetted and rolled in six months; if not, some three or four months more will be taken up in this work.

37. Permanent-way is now being conveyed to different points on the line by carts, and if this goes on as favourably as it has commenced, I see no reason to doubt about the completion of the line in time. District XVI. is the only one where the amount of masonry to be executed is considerable, and as the Contractor has one of his most active agents on this length, no delay need be feared.

38. As regards the opening up to Bellary, the Huggry bridge is the work the completion of which will fix the date.

39. At the time of my visit the leading of permanent-way material had not been commenced; if there is no delay in this, I consider that the line should be open through to Bellary by the end of September 1870; but as the delivery of girders and piles at the Huggry is dependent on the line to the east being laid, there must be no cessation in the cartage of material. I have already explained that in other respects the Bellary Branch Line is nearly completed.

No. 501. Order thereon, 23rd October 1869, No. 3,428.

RAILWAY, No. 66.

The Government are glad to learn from this report that the works of the North-west Railway beyond Ghooty, and of the Bellary Branch, are being rapidly and satisfactorily proceeded with, and that it is probable the line will be open to Bellary towards the latter part of next year, and that, as far as the Madras Railway is concerned, the junction of the North-west with the Great Indian Peninsula Railway at Raichore may be looked for by the middle of the following year, if the completion of the Bombay line be not delayed beyond that period.

Proceedings of the Madras Government, Public Works Department, 23rd October 1869.

2. Paragraphs 36 and 37 of Captain Lindsay's report will be communicated to the Government of Bombay, with a request that His Excellency the Governor in Council will urge upon the Great Indian Peninsula Railway Company the importance of completing their portion of the through communication by as early a date as that on which the Madras Railway Company hope to be prepared to open the line to Raichore:—

(Here enter No. 3,429, dated 23rd October 1869.)

(True Extract.)

Captain, R.E.,
Acting Under Secretary to Government.

To the Consulting Engineer for Railways.

Exd. S. T. Augustin.

Railway Department Consulting Engr's Office

No. 318.

From Captain P. G. Lindsay RE
Actg. Deputy Cons. Engr. for Railways

To Colonel C. A. Orr RE
Secretary to Government
Public Works Department

Sir,

I have the honour to submit the following report on the progress of the works on the North West, and Bellary Branch Railways, an inspection of which I have lately made.

2. District XI Section 2. Ballast trains now run up to a point 6½ miles beyond Ghooty station; at this point there is an unfinished bridge, the two 30 feet arches of which are not yet commenced, the centring however have been placed and a temporary road formed over them

them in order to admit of waggons with girders being passed over them. The girders are required for a bridge of four 64 feet openings, and as soon as they are all brought to the site the roadway will be broken up, and the arches of the double thirty turned: by this arrangement it is hoped that the line will be laid over both bridges in little more than six weeks. The rest of the masonry on this section is finished, and permanentway materials are delivered along the line, ballast also has been laid all along. The fencing is in fair order.

3- The Ghooty station works are still in progress, the walls of the Engine shed are 3 feet 6 inches high, the carriage shed is founded, the Salt Godown up to platform level, and the arches of the Tank house are being turned. The lower floor of the Assistant Traffic Manager's Bungalow is built; and of the workmen's houses remaining to be constructed, two are completed up to the roof, one is founded, and

and one is not commenced.

4- District XI Section 2 - The embankments on this length are completed, but about 900 yards of cutting, half of which is rock, has yet to be done. About 3 miles of the line is still unfenced, and the length planted gines but little promise of the fencing being perfect next year.

5- The following bridges remain unfinished:-

At 13 miles. 12 chains. the abutments are 1 feet 6 inches below girder level

" 14 " 18 " do

" 14 " 31 " a single 12 feet opening has not been commenced, as the foundations gave trouble, the site is now to be altered slightly, and work commenced.

6- The undermentioned bridges are up to springing level;-

At 14 miles 64 chains. a single 30 feet arch

" 15 " a do 6 " do

" 15 " 45 " double 20 " do

" 15 " 68 " a double 20 feet arch is 5 feet below springing level.

St

It is proposed to alter the first of these bridges into a girder one, and I trust that it will be done, because an increase of headway at this spot is desirable, and the substitution of girders will materially assist the Contractor in his efforts to bring on Engine on to Gondacal Station by the end of this year. If the work along this section is pushed on with ordinary vigour, I see no reason why the line should not be completed to Gondacal junction by the first week of January 1870.

7- Beyond the Station, the works remaining unfinished on the main line, are:-

At 17 miles 16 chains	where the abutments are	7 feet	below springing.
" 17 " 37 "	do	8 feet	below girders.
" 17 " 75 "	do	2 "	" "

8- The masonry of the portion of the Bellary Branch line included in this section is completed, with the exception of the setting of the girder stones. At Gondacal Station, the foundations of the Passenger

Passenger shed are in: the north platform wall is 2 feet above rail level, and the south platform wall 8 inches below rail level; the well has been sunk to a depth of 20 feet; 5 miles of permanent way material have been delivered.

9- District XIV. The earthwork and fencing on this length are completed, and ballast is laid for a distance of 6 miles. The masonry is in a forward state there being only one small arch to turn, and the following is a list of girder bridges remaining unfinished:-

At 7 miles 50 chains	the abutments are	8 feet	below girder level
" 7 " 45 "	"	7 "	"
" 6 " 51 "	"	4 "	"
" 6 " 36 "	"	4 "	"
" 6 " 27 "	"	10 "	"

There are besides this, 8 other bridges, the abutments of which are from 1 foot, to 2 feet, below girder level.

10- At Nuncherla Station, the foundations of the platform wall are in; and here, as at other Stations,

stations, preparations are being made for constructing the station under departmental agency, the Contractor for this portion of the line having declined to accept the rates offered.

11- District XV. The earthwork and fencing are finished and 5 miles of ballast is being laid.

12 The following bridges are at present incomplete:-

0 mile	52 chains	Foundation in	
0 "	68 "	do	
1 "	36 "	do	
1 "	68 "	do	
2 "	24 "	do	
3 "	78 "	do	

The abutments and pier are completed to within 6 feet of girder level.

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The

14- The foundations of the platform wall at Asperi station are in.

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16- The masonry however is in a backward state there being about 4,750 cubic yards remaining to be done.

17- The following list shows the state of completion at which the unfinished bridges have arrived:-

At 2 miles	30 chains	abutments are	3 feet below girder level.
" 2 "	38 "	"	5 " "
" 3 "	70 "	"	4 " "
" 7 "	71 "	"	5 " "
" 8 "	10 "	foundations are in	
" 8 "	23 "	not commenced	
" 9 "	11 "	foundations in	
" 2 "	78 "	not commenced	

in addition to this there are two 20 feet arches, three 30 feet arches, and a double 30 feet arch, yet to be turned, the abutments

ments being now up to springing level. I am informed that there is plenty of stone ready in the quarries for the construction of these bridges, and operations were to be commenced as soon as the state of the country admitted of carts working. There is no station on this District.

18- District XVII. Earthwork and Fencing are finished, and ballast is laid down for a distance of 3 miles.

Of the girder bridges, 8 are still incomplete, but they are on an average within 3 feet of girder level.

At 9 miles 36 chains, the masonry of a single 9ft girder bridge was completed, level. The late heavy rain caused floods,

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" " 9 " " at 4 " 1 "
" " 6 " " at 4 " 10 "
" " 9 " " at 6 " 40 "

20- The earthwork for the siding at Adoni station are complete: the foundations of the Passenger shed are nearly up to the level of the floor, and the platform wall is up to formation level: the Salt godown and Goods shed are also complete so far.

The Deputy Chief Engineer's Bungalow is nearly finished.

21- District XVIII. The earthwork and Bridges along this district are completed, and the first layer of ballast spread. The fencing is in a forward state.

22 At Hosjee station the Platform wall is up to coping, Passenger shed 3 feet above flooring, and the Goods shed 3 feet above rail

rail level: the earthworks for sidings is in progress.

23. District XIX. The earth-work on this length is finished, and all the bridges are founded, and nearly completed, except the following:-

Double 30 feet arch at 1 mile 68 chains.
" 30 " " at 6 " 11 "

which are upto springing level.

24 The fencing is in a forward state.

25 All the land piers of the Toongabbra bridge are finished except two, which are nearly upto girder level; twenty of the river piers are well up, and the remainder are founded, and above low water mark.

On this work 10243 3/4 cubic yards of masonry have been executed, of which 5,984 yards was done during the past season, this leaves about 7,506 cubic yards to be completed before next June. Of the

the possibility of doing this there is no doubt, if no unforeseen misfortunes occur such as an outbreak of Cholera in the Labourer's Camp. The perfect immunity from cholera which the workmen have enjoyed during the past season, may be attributed to the care taken by the Contractor's Agent, with regard to sanitary matters in the Camp.

26. District XX. The earthwork along about 10 miles of this district is complete; the rest of the works are now in progress, a little over 1,000 yards of masonry having been completed. The work in this District is very light.

Bellary Branch Line.

27. I have already stated that the first portion of this Branch, from Gondacal Junction, which is included in District 11 Section 2, is ready for the placing of Girders, and

and permanent way -

28. District XII. Bellary Branch - This district is finished, and one foot of ballast laid along in readiness for the permanent way - The fencing has also been completed, but it does not look as if it would prove efficient by the middle of next year.

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30 District XIII. Bellary Branch - The masonry on this length is complete, with the exception of

4	-	3 feet	culverts
3	-	12 "	openings
1	-	6 "	do
1	-	6 "	arch

the excavation for the foundations of these works has been completed.

31 - The earthwork and fencing are finished, but no ballast has yet been spread -

The

32 - The well foundations in the west abutment of the Huggry Bridge have been completed, and wells are about to be sunk for the foundations of the east abutment.

33. The Bellary station works are being pushed on rapidly: the walls of the main building are 1, feet above platform level, and the foundations of the goods shed, and salt godown, are laid -

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35. I had the advantage of inspecting the works in company with the Deputy Chief

Engineer

Engineer, and I am glad to be able to report that I did not see a single piece of bad work in the ~ hundred and twenty four miles of line I examined - on the contrary, I found the masonry excellent alike as to workmanship, and material, and in my opinion the bridges on the North West Line were models of Railway construction; all needless expenditure in fine rock=lar work on the face has been avoided, and sound hearting has been considered as of paramount importance -

36 The junction with the Bombay line, as far as the Madras Railway Company is concerned, depends upon the completion of the bridge over the Toongabudra - The masonry of this work, as I have shown, is well advanced, and should be ready for the rolling of girders by the end of June next - It is in leading and fixing permanent way & girders along the line south of the Toongabudra, that the

the Engineering Department will have to direct its principal efforts, because the girders for this bridge can only be taken along the line, and it is of great importance that half of them should be taken across the river on the temporary line, before the freshes of June - If this is done successfully, I learn from the Chief Engineer, that the girders can be riveted, and rolled, in 6 months; if not, some three or four months will be taken up in this work -

37 - Permanent way is now being conveyed to different points on the line by carts, and if this goes on as favourably as it has commenced, I see no reason to doubt about the completion of the line in time - District XVI is the only one, where the amount of masonry to be executed is considerable, and as

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the Contractor has one of his most active Agents on this length, no delay need be feared -

38- As regards the opening upto Bellary, the Huggry Bridge is the work the completion of which will fix the date.

39- At the time of my visit the leading of permanent way material had not been commenced; if there is no delay in this, I consider that the line should be open through to Bellary, by the end of September 1870; but as the delivery of girders and piles at the Huggry, is dependent on the line to the east being laid, there must be no cessation in the cartage of material - I have already explained that in other respects the Bellary Branch Line is nearly completed.

I have

I have the honour to be
Sir
your most obedient Servant
J. Lyall Captain RE
Actg. Dy. Cons. Engr. for Railways

Madras
30th September
1869

9
23

Rec. of Govt. for Oct. 1869.

RAILWAY DEPARTMENT.

From Gge 4145.

The Consg. Engineer for Railways,

To

The Secretary to Government,
P. W. Dept.

Dated 30th Sept. 1869.
Received 1st October

No. 318.

Enclosures, No,

Reporting on the progress of the works on the North west, and Bellary Branch Railways.

Nos 3428-3429. 23rd Oct. 69

No 500
C. to 2nd Oct. 69. R. 9th

Con: Engr. for Railways

recorded.

P. G. Department.

No 3428

3428 77

Proceedings of the Madras Government.

Under date the 23rd October 1869.

Read the following.

From The Con: Engr. for Rys. (Ag. Gge. 318 of 30th Sept. 1869)

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at Raichore may be looked for by the middle of the following year, if the completion of the Bombay line be not delayed beyond that period.

Paras 36 and 37 of Capt. Lindsay's report will be communicated to the Govt. of Bombay, with a request that His Excellency the Governor in Council will urge upon the Great India Peninsula Railway Company the importance of completing their portion of the through communication by as early a date as that in which the Madras Railway Company hope to be prepared to open the line to Raichore.

25/2

To the Chief Engineer Gt. Rly.

Desp. 26/10/69

Cue 4145

Govt. of {1869} Madras.

PUBLIC WORKS.

To The Consulting Engr.
for Railways

Dated

Rec'd.

Encl.

G. O. 23rd Oct 1869, No. 3428

Nos. 500-501

Works (By) Passing orders on the
letter from the Chief Engr. re-
porting the progress of works on
the Nor and Bellary Branch Lines
respectively.