M.R.O. 1—77,006—8-6-37.

(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. 3049-51 36-37.	Press / Mis.
Dated 3-12-	1871.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 2nd December 1871.

No. 36. Read the following letter from the Secretary to the Government of Bombay, to the Secretary to the Government of Fort St. George, Public Works Department, (Railway,) dated Bombay Castle, 31st October 1871, No. 1,343 :—

I AM directed to forward copy of letter from the Bombay Government, No. P. 1 R, dated 9th September, and of the reply of the Government of India, No. 2,025-R., dated 12th instant, from which you will observe that it is proposed to employ the survey staff, recently engaged on the Carwar Railway, on the survey of a line to connect Gudduk with Bellary.

2. In their letter No. 2,968, dated 19th September 1868, the Government of Madras suggested that the railway between Bellary and the Dharwar Districts should follow the line of the existing road by Hospett, Ballahoonsy, and Humpsagur, crossing the Toongabuddra at the last-named place, and being carried thence by Dumol to Hooblee or Dharwar. It appears to this Government that, on the whole, it will be preferable to adopt the direct route from Hospett to Gudduk *via* Hooliji and Copul. The latter route is shorter by about ten miles. It presents no engineering difficulties, and will probably cost less mile by mile than the longer route, while it will pass through a productive country for the whole of its length. The only objection to it is that for about thirty-one miles, *i.e.*, between the Toongabuddra and the boundary of the Dharwar Collectorate, it will be in the territory of His Highness the Nizam. Copy of a memorandum by the Acting Consulting Engineer for Railways to this Government, who went over the ground in February last, is appended. If the Government of Madras consider it advisable, the Chief Engineer in charge of the Survey will be directed to examine both routes, and furnish comparative estimates.

From the Secretary to the Government of Bombay, to the Secretary to the Government of India, Public Works Department, (Railway), dated Bombay Castle, 9th September 1871, No. P. 1 R.

I AM directed to request instructions in regard to the work to be given to the Engineers who have been engaged on the survey of the proposed Carwar and Gudduk Railway.

2. The plans and estimates for this work are nearly completed, and will be forwarded to the Government of India early next month. There are parts of the line that will require revision; but work of this character will not require the services of the whole staff at the disposal of this Government.

3. It is understood the Carwar Railway is only intended to be the outlet to the sea of a system of narrow gauge lines converging on Hooblee or some point close to that place from Sholapore, Bellary, Bangalore, and perhaps Hyderabad.

4. I am directed to suggest that the Engineers could be usefully employed while waiting for orders in surveying some of these proposed railways. The lines which this Government recommend for first survey are the extension from Gudduk, through Copul, Hooliji, and Kurreekoompa, to Bellary, and the connection to the Great Indian Peninsula Railway system at Sholapore by Beejapore, Begulkote, and Bodanee to Anegurrie, half way between Hooblee and Gudduk.

5. If fresh surveying operations are not undertaken, it will be necessary very largely to reduce the staff now employed, unless the Government of India are prepared, on receipt of the plan and estimate, to authorize an immediate commencement of the work. Very early orders are

therefore solicited, so that the necessary steps may be taken to prevent a waste of public money by the retention of an establishment for which there is no adequate employment.

From the Deputy Secretary to the Government of India, (Railway), to the Secretary to the Government of Bombay, Public Works Department (Railway), dated Simla, 12th October 1871, No. 2,025-R.

In continuation of my telegram of the 7th instant, approving of the employment of the Carwar Railway Staff on the survey of a line of railway from Gudduk to Bellary, I am directed to request that the Government of Madras and the Resident at Hyderabad may be communicated with before any surveys are commenced in His Highness the Nizam's territory, or in the provinces included in the Madras Presidency.

2. The views which were formerly entertained by the Madras Government as to the direction which a railway should take in order to connect Bellary with Dharwar, will be found in the reprint No. 14 of records in the Public Works Department of the Government of India, (see page 146 of the supplement and the papers there referred to), and these opinions should be well considered; but, as subsequent events may have led to some modification, the Governor-General in Council desires that the Government of Madras may be asked for a full expression of their present views after a clear statement has been afforded them of the grounds on which the Bombay Government advocated the particular direction which has been recommended in the letter now under reply.

3. The Government of India will consider the propriety of conducting additional and alternative survey operations during the current season by means of the Carwar Railway Staff, and a further communication on this subject will probably follow.

Memorandum on Route from Gudduk to Bellary.

The distance by the direct route from Gudduk to Bellary *via* Copul and Hospett is about ninety miles. From Gudduk to Copul, thirty-three miles, there is a good country road. From Copul to Hooliji, on the left bank of the Toongabuddra, thirteen miles, there are the remains of a second-class road drained and metalled in some places. This road is very good, in others it degenerates into a track; most of the built drains have fallen to pieces. There is a ferry across the Toongabuddra at Hooliji, and a rough piece of road between the right bank and Hoosoor, from which place there is a very good road through Chitwaddy to Hospett. The total distance from Copul to Hospett is about seventeen and a half miles. From Hospett there is a first-class road drained and bridged to Bellary, distance about thirty-nine and a half miles.

The best line for a railway will, I expect, be found at no great distance from the road above described. It will run nearly on a water-shed for the first thirty miles or so from Gudduk, and thence falls towards Copul. The works will be light, and the waterways insignificant in size and number. There will be a little bridging near Copul, to the westward of which a large shallow nullah some 300 feet wide and two or three nullahs of from 50 to 60 feet are crossed. The larger nullah is said to have 6 or 7 feet of water in it occasionally during the monsoon. The ground rises again gently to the eastward of Copul, and the works thence to the Toongabuddra will be very light. The soil between Gudduk and the thirtieth mile is chiefly red soil on the high ground, and black in the village; a coarse granite is to be found generally at no great depth below the surface occasionally cropping out above it. There is plenty of coarse sand and gravel for ballast in some of the nullah beds. In the vicinity of Copul, which is a town of some 10,000 inhabitants, the country is studded with hillocks composed of granite boulders, and Copul itself is built at the foot of a picturesque group of rocky hills, on one of which the Fort stands. The granite in these hills is much of very fine quality, and the colour varies from gray to rich warm tints of red and yellow. Water is scarce, and the wells in the villages are deep. Between Gudduk and Copul the supply is better at Copul itself, and there are some tanks or gheels to the north of the road between Copul and Hooliji. The soil between Copul and Hooliji is chiefly hard, red soil, granite

hillocks cropping up in places; there is plenty of stone and excellent ballast. The undulations of the ground are gentle till near Hooliji, where it is rougher and more rocky. There is a band of rich cultivation on the river bank, irrigated from a bund higher up the river.

A good site for a bridge may be found close to Hooliji, where the Toongabuddra appears to be about 600 yards wide. The whole bed of the river is granite rock, studded with islands of enormous granite boulders. The best point for a crossing appeared to me to be opposite two little temples on the left bank, a little further up the river than the village, where the bank consists of a smooth sheet of rock; there is a similar face of rock on the opposite bank. The approach on the Hooliji side may give a little trouble, and entail some rock-cutting and a sharpish curve, and possibly a better site may be found on closer examination up or down stream; but it looks the best on a cursory view, the highest flood of which there is any record is said to have just lapped the plinth of the small temple on the bank. If this flood-line is reliable the height of the bridge above low water-level need not exceed thirty-five feet, and if it is judiciously designed to take advantage of the higher portions of the rock in the river bed, the height of the piers should average much less. It ought not to cost more than five lakhs or about £ 28 per foot run.

From the Toongabuddra to Hospett the road passes, for the first three miles, through a belt of rich soil artificially irrigated, planted with sugar-cane, cocoanuts, soopari, etc. It joins the main road from Humpsagra and Damal near Hospett. I think the railway line should leave Hospett about half a mile to the south, and pass between it and the Annantion temple. The road to Bellary runs up a narrow valley varying in width from two to five miles as far as Guddiganon (15th mile) where the valley widens out. I expect the best route for a railway will be found to the south of the road a little lower down the valley; there are numerous small nullahs to be crossed. The soil is hard along the road, chiefly moorum, but there is some black soil in the valley. The range of hills to the westward is of considerable extent. The cultivation is poor for the first ten or twelve miles, but there are wells and irrigated land about Darmsagur and Guddiganon. The road bends to the southward and back again between Guddiganon and Koodatunny (27th mile) in order to get through a pass in the spur of the hills which crosses the valley from the south nearly at right angles. There is a large tank formed by an artificial bund which has been constructed across the valley from the end of the spur to the foot of the range of the hills forming the boundary of the valley to the north. I think the railway, instead of following the road through the pass in this spur, might probably be taken round its northern extremity, but the ground may be bad near the tank; but there will at all events be a good deal of bridging, as the nullahs are numerous, and two of them fifty or sixty yards wide. To get through the hills on the other hand would entail some heavy cutting, possibly a tunnel. The soil along the road where it approaches the hills is chiefly moorum. There is black soil to the northward towards the tank, and after the hills are passed the road enters on a broad black soil plain which extends to Bellary.

There is another route from Hospett to Bellary, *via* Camlapoor and Daregee, in a valley on the further side of the range of hills which forms the boundary of the valley above described, but from what I heard I do not think it will give such a favourable line. There will be no large bridge or heavy work between Hospett and Bellary; in fact, there is no difficulty at all, except at the range of hills between Guddiganon and Koodatunny. There is plenty of building materials of all kinds.

Bellary is built at the foot of a cluster of low granite hills. In laying out the line the approach to the junction into the Madras Railway Company's branch will probably be a matter of some difficulty.

There will be no difficulty in obtaining ordinary labour all along the line. The local supply of skilled labour is small, but skilled labourers of all kinds can be obtained at Bellary.

Including the cost of the bridge across the Toongabuddra, I roughly estimate the probable cost of a narrow gauge line, between Gudduk and Bellary, at about £ 5,000 a mile including rolling stock.

(Signed) H. F. HANCOCK, Captain, R.E.,
Acting Consulting Engineer for Railways.

19th October 1871.

No. 1343 of 1871

Railway Department

To,

The Secretary to the Government
of Fort Saint George P.W. Deptt
(Railway) Madras.

Sir,

I am directed to forward copy of letter from the Bombay Government No. P.-12 dated 9th September and of the reply of the Government of India No. 2026 dated 12th instant, from which you will observe that it is proposed to employ the survey staff recently engaged on the Kanara Railway on the survey of a line to connect Guddak with Bellary.

2. In their letter No. 2968 dated 19th September 1868 the Govt. of Madras suggested that the Railway between Bellary and the Kanara districts should follow the line

line of the existing road by Cossipett Gollahoonsy and Kumpsagur crossing the Tungabudra at the last named place and being carried thence by Amalet Hoobbee or Shanwar — It appears to this Government that on the whole it will be preferable to adopt the direct route from Cossipett to Guddak via Koolipi and Gopul — The latter route is shorter by about 10 miles — It presents no Engineering difficulties, and will probably cost less mile for mile than the Tungabudra route, while it will pass through a productive country for the whole of its length — The only objection to it is that for about 21 Miles, i. e. between the Toongabudra and the boundary of the Shanwar Collectorate it will be in the territory of His Highness the Nizam — Copy of a Memorandum

by the Acting Consulting Engineer for Railways to this Government who went over the ground in February last is appended — If the Government of Madras consider it advisable the Chief Engineer in charge of the Survey will be directed to examine both routes and furnish comparative estimates —

Bombay Castle 31st October 1871.

I have the honor to be
Sir
Your most obedt servt
Hamilton Captain R.E.
for Secretary to Govt

No 11 R.

Railway Department

To

The Secretary to the Govt of Bombay
P.W. Secrt Railways Simla

Sir,

I am directed to request
that a statement in regard to the work to be
taken in hand by Government who have been
given to the Engineers who have been
engaged in the survey of the proposed
Kanara and Gundluk Railway
2. The plans and estimates
for this work are nearly completed
and will be forwarded to the Govt of
Bombay early next month. There are
twelve sets of the plans that will require Commun
sets of the line that will require
but work of this character will not require
the services of the whole establishment of the Superi

of this Government
3 This understood the Commun

Railway is only sanctioned to be the metho
to the head of a system of main lines
lines converging on Castle Rock

Bombay

P.W. 1871 Report.
Pol. of Govt of Bombay
No 5270.

From.

The Secretary to the
Govt of Bombay.

Dated 31st Octr 1871
Read: 6th Novr 1871
Encl: 3 No 1343.

Forwarding
with remarks, Copy
& correspondence re-
garding the survey
& direction of the
proposed line of
Railway to connect
Bellary with the
Shapur districts.
No 3049-3040. 2 Dec 1871

Pol Dept Letter No 353 & 359
- 3 - Nov - 171 - 42 - 48
- 20 - Dec - - - 327 - 30

No 26

315 Jan

some point close to the Line from
Sholapoor, Bellary, &c. &c. and
perhaps Hyderabad.

2. I am directed to suggest that the Engineers could be usefully employed while waiting for orders on surveying some of the proposed Railways – The lines which this Govt recommend for first survey are the Extension from Guddak through Gopul Doodgi and Kunneekoompa to Bellary and the Connection to the Great Indian Peninsula Railway system at Sholapore by Bezapore, Begulkote and Badamee to Anegurie, half way between Hoobly and Guddak –

3. If fresh surveying operations are not undertaken, it will be necessary very largely to reduce the staff now employed, unless the Govt of India are prepared on receipt of the plan and estimate to authorize an immediate commencement of the work, very early

I have &c

Bombay Castle
9 Sept 1871.

(Signed) W. K. Kennedy.
Colonel R.E.
Secretary to Govt.

orders are therefore solicited, so that the necessary steps may be taken to prevent a waste of public money by the retention of an establishment for which there is no adequate employment.

P.W. 2291/1

S P 5
153

No. 2025 R.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY.

To

THE SECRETARY TO THE GOVERNMENT OF BOMBAY,
PUBLIC WORKS DEPARTMENT (RAILWAY.)

Simla, 12th October 1871.

SIR,

In continuation of my telegram of the 7th instant, approving of the employment of the Carwar Railway staff on the survey of a line of Railway from Gudduk to Bellary, I am directed to request that the Government of Madras, and the Resident at Hyderabad, may be communicated with before any surveys are commenced in His Highness the Nizam's Territory, or in the provinces included in the Madras Presidency.

2. The views which were formerly entertained by the Madras Government as to the direction which a railway should take in order to connect Bellary with Dharwar, will be found in the Reprint No. 14 of Records in the Public Works Department of the Government of India, (see page 146 of the supplement and the papers there referred to), and these opinions should be well considered; but, as subsequent events may have led to some modification, the Governor General in Council desires that the Government of Madras may be asked for a full expression of their present views after a clear statement has been afforded them of the grounds on which the Bombay Government advocate the particular direction which has been recommended in the letter now under reply.

3. The Government of India will consider the propriety of conducting additional and alternative survey operations during the current season by means of the Carwar Railway staff, and a further communication on this subject will probably follow.

I have, &c.,

(Signed) E. C. S. WILLIAMS, Major, R. E.,
Deputy Secretary.

P. W. 529/1

Memorandum on Route from Guddak to Bellary.

The distance by the direct route from Guddak to Bellary viâ Gopal and Hospett is about 90 miles - From Guddak to Gopal 33 miles there is a good country road. From Gopal to Hooliji on the left bank of the Toongabudra 13 miles there are the remains of a 2nd class road drained and metalled in some places this road is very good in others it degenerates into a track, most of the built drains have fallen to pieces - There is a ferry across the Toongabuddra at Hooliji and a rough piece of road between the right bank and Kowcoor from which place there is a very good road through Chetwaddy to Hospett. The total distance from Gopal to Hospett is about 17½ miles.

From

From Wospett there is a first class road drained and bridged to Bellary distance about 39½ miles

The best line for a railway will I expect be found at no great distance from the road above described. It will run nearly on a water shed for the first 30 miles or so from Guddick and thence falls towards Copal, the works will be light and the waterways insignificant in size and number - there will be a little bridging near Copal to the westward of which is a large shallow nullah some 300 feet wide and two or three Nullahs of from 50 to 60 feet are crossed - The large nullah is said to have 6 or 7 feet of water in it occasionally during the monsoon. The ground rises again gently to the eastward of Copal and the works thence to the Toongabudadra will be very light. The soil between

Guddick

Guddick and the 30 mile is chiefly red soil on the high ground and black in the villages, a coarse granite is to be found generally at no great depth below the surface occasionally cropping out above it - There is plenty of coarse sand and gravel for ballast in some of the nullah beds. In the vicinity of Copal which is a town of some 10,000 inhabitants the country is studded with hillocks, composed of granite boulders piled and Copal itself is built at the foot of a picturesque group of rocky hills on one of which the fort stands - The granite in these hills is much of it of very fine quality, and the color varies from gray to red warm tints of red and yellow - Water is scarce and the wells in the villages are deep between Guddick Copal the supply is better at Copal itself and there are some tanks

or

on wheels to the north of the road between Copal and Coolije — The soil between Copal and Coolije is chiefly hard red soil, granite hillocks cropping up in places — There is plenty of stone and excellent ballast The undulations of the ground are gentle till near Coolije where it is rough & and more rocky — There is a band of rich cultivation on the river banks, irrigated from a bund higher up the river —

A good site for a bridge may be found close to Coolije where the Tongabuddra appears to be about 600 yards wide — The whole bed of the river is granite rock studded with islands of enormous granite boulders — The best point for a crossing appeared to me to be opposite two little temples on the left bank a little further up the river than the village, where the bank consists of a smooth sheet of rock, there is a similar face of rock on the opposite bank — The approach on the Coolije side may give a little trouble and entail some rock cutting and a sharp curve and possibly a better site may be found on closer examination up or down stream, but it looks the best on a cursory view, the highest flood of which there is any record is said to have just lapped the plinths of the small temple on the bank — If this flood line is reliable the height of the bridge above low water level need not exceed 35 feet and if it is judiciously designed to take advantage of the higher portions of the rock in the river bed, the height of the piers should average much less — It ought not to cost more than 5 lakhs @ about £28 per foot run —

From the Tongabuddra

to Hospett the road passes for the first three miles through a belt of rich soil artificially irrigated planted with Sugar Cane, Cocoanuts, Soopari &c. It joins the main road from Humpsagra and Daroul near Hospett. I think the Railway line should leave Hospett about half a mile to the south and pass between it and the Hanuman temple. The road to Bellary runs up a narrow valley varying in width from 2 to 5 miles as far as Gudekagunon (15 miles) where the valley widens out. I expect the best route for a Railway will be found to the south of the road a little lower down the valley. There are numerous small nullahs to be crossed. The soil is hard along the road, chiefly moorum but there is some black soil in the valley. The range of hill to the westward is of considerable

extent

poor

extent. The cultivation is for the first 10 or 12 miles but there are wells and irrigated land about Darmsagur and Gadeganon. The road bends to the southward and back again between Gadeganon and Koodatanny 27 miles in order to get through a pass in the spur of the hills which crosses the valley from the south nearly at right angles. There is a large tank formed by an artificial bund which has been constructed across the valley from the end of the spur to the foot of the range of the hills forming the boundary of the valley to the north. I think the Railway instead of following the road through the pass in this spur might probably be taken round its northern extremity but the ground may be bad near the tank but there will at all events be a good deal of bridging as the nullahs are numerous and two of them so

or

or 60 yards wide — To get through the hills on the other hand would entail some heavy cutting probably a tunnel — The soil along the road where it approaches the hills is chiefly moorum — There is black soil to the northward towards the tank, and after the hills are passed the road enters on a broad black soil plain which extends to Bellary —

There is another route from Hospett to Bellary via Sandapoor and Daregee in a valley on the further side of the range of hills which forms the boundary of the valley above described but from what I heard I do not think it will give such a favorable line — There will be no large bridge or heavy work between Hospett and Bellary in fact there is no difficulty at all except at the range of hills between Gadigainoor and Koodatanny — There is plenty of building

building materials of all kinds

Bellary is built at the foot of a cluster of low granite hills — In laying out the line the approach to the junction into the Madras railway Company's branch will probably be a matter of some difficulty —

There will be no difficulty in obtaining ordinary labour all along the line, the local supply of skilled labour is small, but skilled labourers of all kinds can be obtained at Bellary —

Including the cost of the Bridge across the Tungabuddra I roughly estimate the probable cost of a narrow guage line between Guddak and Bellary at about £5,000 a mile including Rolling stock —

(signed) H. F. Hancock
C. Plan R.E.
Acting Consulting Engineer
for Railways
19/10/71

P. Y. 5290/71

Rec'd at Bombay Sept. 1871

Public Works Depart.

No 3049

Proceedings of the Madras Govt.

Read the following

From

The Secretary to the Govt. of Bombay } H.E. No 1343 dt 31st October 1871

Ordered that the following letter be sent

H.E. No 3950.

To

The Secretary to the Government of Bombay.

Sir

I am directed to acknowledge the receipt of your letter of the 31st October 1871, No 1343 with its accompaniments on the subject of

of the direction of the proposed line of Railway to connect Bellary with the Bombay frontier, and in reply I am to forward for the information of the Right Honorable the Governor in Council a copy of the Proceedings noted in the margin which explain the present views of the Madras Government on the general question of Railway extensions.

His Excellency in Council, I am to say, will be glad to be favored with the Comparative Estimates of the alternative Routes referred to in the concluding portion of your letter together with any trial surveys that may be made, when the Government will no doubt be in a better position to judge of the relative merits of the two lines.

13 Nov

No 2396 & 20th September 1871.
" 2397 — " — " —"

Resp. 4/12/71 with No:
No 2396 & 2397 dated 15/11/71.

No. 529

Govt. of {1871} Madras.

PUBLIC WORKS.

To The Secretary to the Govt of Bombay

Dated

Recd. Feb. 3

G. O. 2 "Ellore" No. 3049-3050

Nos. 36-37 & 38

Railway to connect Kellary with the Bombay frontier. Passing orders on the letters from the Govt of Bombay forwarding with remarks &c &c Copy & Extracts regarding the survey & direction of the proposed line of Ry to connect Kellary with the Bombay frontier.

Replying to letter No. 1363 of 1871 on the subject of the proposed line of Ry to connect Kellary with the Bombay frontier.