

P. W. CURRENT No. 4653

Govt. of {1894} Madras.

LOCAL AND MUNICIPAL.

no 2427 w 8 21. 9. 93
" 3017 w 8 21. 11. 93
" 1410 c 8 30. 3. 94

No: 1627 w. d 29 June 94

Recorded

S. 116

Issued

85.2

Recd.

21. 6. 94

Encl.

G.O., 28th May 1894, No. 665 M.

MAY.

Water-supply.

Approving, with remarks, the proposals of the Sanitary Engineer in connection with the Kurnool — scheme, and sanctioning a revised estimate amounting to Rs. 2,22,440.

20 June 1894

For information
29/6/94

MS 152

MS 152

27/6

20/7

4/7

Note by the Chief Engineer, Public Works Department, dated 29th March 1894.

The objections raised to the proposed site for the head-works of the Kurnool water-supply scheme by the Collector have much force. It is almost certain that the free flow of the subsoil water to the Handri river will be interfered with by the construction of the works on the site selected, with the result that the houses to the north of the site will be rendered unhealthy. The Acting Sanitary Engineer is strongly of opinion that the site now proposed has, from a sanitary point of view, an advantage over the original site. From an engineering point of view there is little to choose between the two sites, apart from the difference in cost. The extra cost that will be entailed by the adoption of the site now proposed is about Rs. 20,000, and as this is not considered to be too much to pay for the advantages that will be obtained, the adoption of the site now proposed is recommended.

No. 1410-C.

Transferred to the Local and Municipal Department with reference to its endorsement, No. 225, dated 20th March 1894, herewith returned with enclosures.

MADRAS,
30th March 1894.

(Signed) J. PENNYCUICK, Col., R.E.,
Secretary to Government, P.W.D.

Order—dated 4th May 1894, Mis. No. 577 M., Local and Municipal.

It appears that the level of the floor of the settling reservoir under the new scheme will be the same as under the old scheme, i.e., 9 feet below the inlet, which is 3 feet below the ordinary level of the water in the canal. That is to say, the additional height of the new site—some 4 feet—will not enable the settling reservoir to be on a higher level so as to command the outlying suburbs of Roza, Jollarpet and Budapest mentioned in paragraph 4 of Dr. King's inspection report and in paragraph 4 of the Collector's letter, No. 95-Eng., dated 11th February 1894. The additional excavation will be above the top level formerly and now apparently proposed for the water in the settling reservoir. If this is so, it is not understood why it is necessary to line with masonry this additional height of bank which will not be required to hold water; it appears sufficient merely to slope this off and turf it.

2. It should further be stated why no set-off is allowed for the anticipated saving by the cheaper site.

(True Extract.)

(Signed) J. F. PRICE,
Chief Secretary.

To the Sanitary Engineer.

READ—also the following paper:—

From R. E. ELLIS, Esq., A.M.I.C.E., Acting Sanitary Engineer to Government, to the Chief Secretary to Government, dated Fort St. George, 8th May 1894, No. 1034.

With reference to G.O., dated 4th May 1894, Mis. No. 577 M., Local and Municipal, I have the honour to state that the height of the floor of the settling reservoir of the new scheme will be the same as that of the sanctioned scheme. The question of supplying the suburbs of Roza, Jollarpet and Budapest is not one of levels but of expense; pipes could be laid to these suburbs whenever funds are available, as the head provided in the sanctioned scheme is sufficient and will not be affected by the present proposal.

2. The question of sloping the excavation which is above water line was considered at the time the estimate was prepared and could be adopted if it is important to

make a small saving, the difference between the cost of lining with stone and plastering on the one hand and sloping back and turfing on the other being Rs. 2,960.

3. With reference to paragraph 2 of the Government Order, I notice that the Collector states that the new site will be cheaper, but inasmuch as only Rs. 600 has been provided for land I do not think it advisable to reduce the estimate in this respect.

ORDER—dated 28th May 1894, No. 665 M., Local and Municipal.

The proposed change of site will now be approved and the revised estimate will be sanctioned with the modification suggested in G.O., dated 4th May 1894, No. 577 M., viz., the partial substitution of sloping turf for stone and plaster lining.

2. The alteration will reduce the additional cost from Rs. 19,850 to Rs. 16,890. This will necessitate a further grant of Rs. 12,670 from Provincial funds, which will be sanctioned in the Financial Department.

3. The municipal council will be requested to state whether it is willing to provide the remaining sum of Rs. 4,220, and, if so, to indicate from what source it can be met or to submit an application in the prescribed form for the loan of that amount.

(True Extract.)

Under Secy., P.W.D.,
for Chief Secretary.

To the Chairman, Municipal Council, Kurnool.
" Collector of Kurnool.
" Sanitary Commissioner.
" Sanitary Engineer.
" Public Works Department.
" Financial Department.
Editors' Table.

ENCLOSURES.

From C. M. MULLALY, Esq., Acting Collector of Kurnool, to the Sanitary Engineer to Government, dated Kurnool, 30th January 1894, Ref. C. No. 95-Eng.

With reference to the correspondence ending with your letter, No. 187, dated 23rd January 1894, I have the honour to inform you that the land proposed to be taken for the water-supply scheme for Kurnool has the following disadvantages:—

- Its cost will be high, being inam land.
 - It takes up a large portion of the camping ground for troops.
 - It takes up the best building sites available for the extension of the civil station.
 - It will interfere greatly with the houses of the Collector and District Forest-officer.
 - The reservoir will be liable to contamination from various sources, the stables and out-houses of the District Forest-officer being quite close.
 - Impossibility of extension of present site.
2. I would propose, as an alternative, that land on the other side of the Kurnool-Cuddapah canal may be taken up.
- It will be cheaper and can be extended on all sides. The reservoir will be less liable to contamination, and there will be no interference with any of the existing buildings. If my suggestion is approved, water can be brought to the town either over or under the canal.
3. The plan is herewith sent and an early reply is solicited.

From R. E. ELLIS, Esq., A.M.I.C.E., Acting Sanitary Engineer to Government, to the Acting Collector of Kurnool, dated Fort St. George, 2nd February 1894, No. 265.

With reference to your letter, No. 95-Eng., dated 30th January 1894, raising certain objections against the proposed site of the head-works for the Kurnool water-supply, I have the honour to reply as follows:—

- The site proposed by you is so high that deeper excavation will be necessary for the settling tank, and the extra cost of doing so will be many times more than the difference in value of the lands in question.
 - The troops can be camped equally well on the other side of the canal.
 - This consideration must give way before the question of the best site for the water-works.
 - It is not understood how any houses will be interfered with.
 - The reservoir will not be open to any contamination, as the sides will be banked above the surrounding ground.
2. Your proposal involves an alteration of plans and estimate, increased cost and a reference to Government, which means a delay of perhaps a year.
3. The Municipality of Kurnool and you yourself are anxious for the early completion of the works, so I return the plan with the hope that you may reconsider your letter.

From C. M. MULLALY, Esq., Collector of Kurnool, to the Sanitary Engineer to Government, dated Camp, Nandyal, 11th February 1894, 2nd Ref. on C. No. 95-Eng.

With reference to your letter, No. 265, dated 2nd February 1894, I have the honour to state that after inspection again I am still of opinion that the site selected is objectionable. One important thoroughfare will be closed and one gate of the District Forest-officer's house blocked up. My house, that of the District Forest-officer and our little club will all be seriously prejudiced and considerable inconvenience caused to the civil station. While on the other hand there is no objection to the site on the other side of the canal. It may be a trifle higher, but from what I could see of the ground the additional cost would be small.

- The land on the other side of the canal is not suitable for a camping ground because the only means of crossing the canal at this point is across the lock gates, which are not suitable for the passage of artillery such as camped here a few days ago.
- It is true I was most anxious for the commencement of the work, but this was before I had seen the plan and known how extremely inconvenient it would be. I therefore request that some duly-qualified person may be deputed to investigate the matter again.
- This is all the more necessary as Dr. King in his inspection notes points out that, although the cost of the scheme is very heavy, the suburbs of Roza, Budarpet and Jollarpet do not derive any benefit whatever. He suggests an investigation being made as to whether the sub-stream of the Tungabhadra above Roza could not be utilized by means of an infiltration gallery. He says—"If, as I think, the site is above the town level, it ought to be possible to convey the

water by a masonry conduit even if the contour of the river were followed to a point near the town where pumping could be employed. I am quite prepared to be told my scheme is impracticable, either from an engineering or financial point of view, but the expenditure contemplated on this scheme seems to me so heavy that it is desirable that every possibility of reducing it should be investigated before proceeding to work. The taking of a few levels and the calculation of the cost of conduit would be all the trouble involved."

5. As to the value of this suggestion I am unable to speak, having received the inspection notes from the municipality only a few days ago. But there can be no harm done in taking the levels and framing a rough estimate as proposed.

6. There are several other points mentioned in the notes which deserve your attention, chiefly those connected with drainage and the market. I accordingly forward a copy for your information.

ENCLOSURE.

INSPECTION Notes of the Sanitary Commissioner on the Kurnool Municipality, dated 23rd December 1893.

Kurnool Water Works.

Estimate showing the excess due to change of site of head-works.

Quantity.	Description of work.	Rate.			Per			Amount.			Total.		
		RS.	A.	P.				RS.	A.	P.	RS.	A.	P.
CUBIC FT. 528,995 15,007 375 sq. FT. 9,344	Settling Reservoir.												
	Earthwork excavation	13	11	8	1,000	cubic ft		7,268	0	0			
	Roughstone in chunam	16	0	0	100	" "		2,400	0	0			
	Brick in chunam	25	0	0	100	" "		94	0	0			
TONS. 30 1/2 NO. 1 TONS. 7	Plastering with cement	9	2	0	Square			853	0	0			
	Petty charges							265	0	0			
	Supply and Delivery of Pipes.												
	C. I. pipes	125	0	0	Ton			3,781	0	0			
TONS. 30 1/2 NO. 1 TONS. 7	12" sluice valve	176	0	0	Each			176	0	0			
	C. I. special pipes to lay under the Irrigation canal	250	0	0	Ton			1,750	0	0			
	Petty charges							143	0	0			
	Laying and Jointing.												
CUBIC YDS. 663 sq. YDS. 267 NO. 66 NO. 1	Excavation	0	4	0	Cubic yard.			166	0	0			
	Laying and jointing turned and bored pipes	0	14	0	Square yard.			234	0	0			
	Spigot and faucet pipes	1	12	0				83	0	0			
	Fixing 12" valve				Sum			33	0	0			
TONS. 30 1/2 NO. 1 TONS. 7	Petty charges							14	0	0			
	Total												
	Contingencies at 15 per cent.												
	Grand total of estimate												

FORT ST. GEORGE,
15th March 1894.

(Signed) R. E. ELLIS,
Ag. Sany. Engineer to Govt.

No. 225.

Referred to the Public Works Department, for remarks.

FORT ST. GEORGE,
20th March 1894.

(Signed) L. DAVIDSON,
Ag. Asst. Secretary.

Govt. of {1894} Madras.

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G.O., 28th May 1894, No. 665 M.

MAY.

Water-supply.

Approving, with remarks, the proposals of the Sanitary Engineer in connection with the Kurnool — scheme, and sanctioning a revised estimate amounting to Rs. 2,22,440.

No. 1627 W. of 29 June 1894.

Recorded.

(2d) J. P.

W

S.E. III circle
for information.

28TH MAY 1894, No. 665 M., LOCAL AND MUNICIPAL.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—again the following paper:—

G.O., dated 4th May 1894, Mis. No. 577 M., Local and Municipal.

Read—the following paper:—

From R. E. ELLIS, Esq., A.M.I.C.E., Acting Sanitary Engineer to Government, to the Chief Secretary to Government, dated Fort St. George, 15th March 1894, No. 612.

In forwarding copies of the marginally-noted correspondence between myself and the Collector of Kurnool relating to the proposed site for the head-works of the Kurnool water-supply, I have the honour to report that I have visited Kurnool with the Assistant Sanitary Engineer and have inspected the site originally proposed and the site now suggested by the Collector. These sites are marked on the accompanying plan. The objections raised by the Collector against the site originally proposed appear to me to be sound. The site is bounded on one side by the canal, but on all other sides it is surrounded by houses occupied by the European residents of the place. It is feared that by placing the works at the sanctioned site the subsoil drainage to the Hindri may be interfered with, which would render the two houses on the north of the works unhealthy.

2. I have no hesitation in saying that the site suggested by the Collector is preferable to the original site from a sanitary point of view. The only difficulty in adopting this site is the extra cost, which is approximately estimated at Rs. 19,850. This increase in cost is due to (1) longer distance of the site from town, (2) deeper excavation for the reserve tank, as this site is 4 feet higher than the original site.

3. If Government contribute towards this extra cost in the same proportion as the contribution to the original scheme (i.e., 75 per cent.), the municipality will have to find Rs. $\frac{19,850}{4} =$ Rs. 4,962, which involves an annual expenditure of only Rs. 296 for interest and sinking fund. I can only repeat that I favour the change of site, and with these remarks I leave Government to decide whether the new site should be adopted. I beg Government will be pleased to pass early orders on this. In the meantime tenders for materials and work will be called for, as the alteration of site if approved of will not materially affect the tenders, and thus the alteration will not cause any great delay.

4. I have also considered Dr. King's suggestion of the Tungabhadra as a source of supply. The cost of this scheme will be more than that of the sanctioned scheme. This scheme was considered by Mr. Jones and rejected on account of its prohibitive cost: vide Sanitary Engineer's letter to Government, dated 10th April 1891, No. 272.

Note by the Chief Engineer, Public Works Department, dated 29th March 1894.

The objections raised to the proposed site for the head-works of the Kurnool water-supply scheme by the Collector have much force. It is almost certain that the free flow of the subsoil water to the Handri river will be interfered with by the construction of the works on the site selected, with the result that the houses to the north of the site will be rendered unhealthy. The Acting Sanitary Engineer is strongly of opinion that the site now proposed has, from a sanitary point of view, an advantage over the original site. From an engineering point of view there is little to choose between the two sites, apart from the difference in cost. The extra cost that will be entailed by the adoption of the site now proposed is about Rs. 20,000, and as this is not considered to be too much to pay for the advantages that will be obtained, the adoption of the site now proposed is recommended.

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Chief Secretary.

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- (c) It takes up the best building sites available for the extension of the civil station.
- (d) It will interfere greatly with the houses of the Collector and District Forest-officer.
- (e) The reservoir will be liable to contamination from various sources, the stables and out-houses of the District Forest-officer being quite close.
- (f) Impossibility of extension of present site.

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It will be cheaper and can be extended on all sides. The reservoir will be less liable to contamination, and there will be no interference with any of the existing buildings. If my suggestion is approved, water can be brought to the town either over or under the canal.

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Estimate showing the excess due to change of site of head-works.

Quantity.	Description of work.	Rate.	Per	Amount.	Total.
CUBIC FT.	Settling Reservoir.	RS. A. P.		RS. A. P.	RS. A. P.
528,995	Earthwork excavation	13 11 8	1,000 cubic ft	7,268 0 0	
15,007	Roughstone in chunam	16 0 0	100 " "	2,400 0 0	
375	Brick in chunam	25 0 0	100 " "	94 0 0	
SQ. FT.	Plastering with cement	9 2 0	Square ..	853 0 0	
9,344	Petty charges			265 0 0	
					10,880 0 0
TONS.	Supply and Delivery of Pipes.				
30 1/2	C.I. pipes	125 0 0	Ton ..	3,781 0 0	
1	12" sluice valve	176 0 0	Each ..	176 0 0	
7	C.I. special pipes to lay under the Irrigation canal	250 0 0	Ton ..	1,750 0 0	
	Petty charges			143 0 0	
					5,850 0 0
CUBIC YDS.	Laying and Jointing.				
663	Excavation	0 4 0	Cubic yard.	166 0 0	
SQ. YDS.	Laying and jointing turned and bored pipes	0 14 0	Square yard.	234 0 0	
267	Spigot and faucet pipes	1 12 0		83 0 0	
66	Fixing 12" valve		Sum ..	33 0 0	
1	Petty charges			14 0 0	
					530 0 0
	Total				17,260 0 0
	Contingencies at 15 per cent.				2,590 0 0
	Grand total of estimate				19,850 0 0

FORT ST. GEORGE,
15th March 1894.

(Signed) R. E. ELLIS,
Ag. Sany. Engineer to Govt.

No. 225.

Referred to the Public Works Department, for remarks.

FORT ST. GEORGE,
20th March 1894.

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