Read the following papers :—

No. 236. From W. A. GOODCHAP, Esq., District Engineer, Kurnool, to Colonel G. W. WALKER, R.E., Chief Engineer, Public Works Department, dated Kurnool, 23rd September 1874, No. 92.

WITH reference to your memorandum, No. 447, dated 19th June 1874, I have the honor to report that I inspected, on the 29th and 31st August 1874, the incomplete foundations to the Koilgoontla Taluq Cutcherry, lately built under the personal superintendence of the late District Engineer.

1 Statement A.
1 Abstract Estimate.
1 Specification.
1 Detailed data.
1 Plan marked B.
1 Statement C.
2 Copies of letters.

From 12th January to 29th March 1874.

2. Work was stopped by order of the Acting District Engineer on the 31st May 1874. The foundations rest on a bed of concrete 3½ feet in depth and 6 feet in breadth, laid in four layers, each 10½ inches thick, upon which is built one course of large stones in mortar 4½ feet in breadth and 9 inches thick, and four courses of hammer-dressed stone in mortar, average 3 feet in breadth and 1½ feet in height (as shown on the section marked B), making the total depth of foundation actually constructed 5½ feet, leaving 1 foot to be built to complete the estimated depth of 6½ feet.

3. The materials used, both in the concrete and masonry, are of the best description, and the workmanship good.

4. The revised estimate, amounting to Rupees 54,710, now submitted for the Taluq Cutcherry, out-offices, and compound wall, has been prepared agreeably to the standard plan of July 1874, and in accordance with G. O., No. 1,871, dated 13th July 1874.

5. It will be seen, on referring to the statement marked A, that Rs. 10,172-5-3 will have to be struck off to Profit and Loss, which added to the estimate amount makes the total sum required to be sanctioned Rupees 64,882-5-3.

6. On a reference to the comparative statement of rates marked C, it will be observed that the prices entered in the original estimate of 1868-69 for masonry and concrete foundations were exceeded in that year, which the late District Engineer in his letter* classed as "uncoursed rubble with undressed stones."

* No. 715 of 13th October 1873, to Inspecting Engineer for Buildings.

7. I beg to enclose a copy of a letter† which bears on the subject of discrepancies of rates in this district.

† From the late District Engineer, Kurnool, to the Inspecting Engineer for Buildings, No. 796, of 30th October 1873.

8. From inquiries made regarding the price paid for work executed this year from 12th January to 31st May 1874 to foundations, I am convinced that the high rates charged is owing to the large sum expended on labor under the different sub-heads of work; for instance, Rupees 2,012 is charged for labor for mixing 705 cubic yards of concrete, whereas Rupees 1,150 were ample, being fully 50 per cent. more than allowed in the Chingleput District for the same quantity of work; the same remarks apply to

It is stated that great pains were taken to spread concrete in four horizontal layers, 10½ inches thick, well consolidated.

ripping up old concrete, 450 $\frac{24}{64}$ cubic yards at 1-6-9$\frac{1}{2}$ = Rupees 641-1-2; it ought not to have exceeded 12 Annas a cubic yard, Rupees 337-8-0, seeing that for demolishing stone-in-chunam on the same work 5 Annas 4$\frac{1}{4}$ Pies a cubic yard is the rate charged. Again, excavating foundations, 1,401 cubic yards at 0-7-3$\frac{1}{4}$ = Rs. 636-10-0, is excessive, as Annas 4 per cubic yard, = Rupees 351, would be, under any circumstances, a high price. The puddling 474$\frac{1}{2}$ cubic yards at Rupees 1-0-8$\frac{11}{12}$ a cubic yard, Rupees 495-15-0, is also very costly, considering that the outside rate allowed is 8 Annas per cubic yard, Rupees 237-4-0. Rupees 1,555 have been expended on labor for building 273 cubic yards of hammer-dressed stone to foundations, while Rupees 742-8-0 ought to have been ample; this, in my opinion, shows the hap-hazard sort of way that the work-people were employed.

It is urged that no Wudders were available, and that the coolies employed were not accustomed to the work. It is however admitted that it was difficult to obtain a fair day's work from each man and woman, owing to the difficulty to superintend and control such a large body of work-people.

9. I beg to state that, in my opinion, the accounts show an excess expenditure of Rupees 2,522 on labor for work executed from 12th January to 31st May 1874, which is equal to about 32 per cent. on outlay.*

* Rupees 8,089.

10. There is no doubt that the station books for labor are correct as to the number of work-people employed, but there appears to have been no attention paid to an economical distribution of labor on the different portions of work in progress. I have to observe that to employ 1,280 work-people daily on such a limited area, as the foundations to the Taluq Cutcherry occupy, was reprehensible. I called upon the Nundial Range Officer for an explanation as to the large number of work-people employed daily, as I was under the impression that he superintended the work with the late District Engineer. A copy of that officer's reply is enclosed.

11. The rates charged for materials purchased are, I believe, correct, inasmuch as they are of the best description, some of the stones used in the foundation being of an unusual size, and the stone lime of the best quality. The distances given to the different quarries are correct, viz.*

* Stone quarry, 2$\frac{1}{2}$ miles.
Lime-stone, 16 ,,
Sand-stone, 1 ,,
Water, $\frac{1}{4}$ ,,

12. I have after careful inquiries entered in the estimate Moulmein Teak (which will have to be brought from Madras) for the scantling of roof, using of course, as far as it will go, the seasoned jungle timber collected in 1868-69, for which credit has been given in statement A.

13. I beg to quote an extract from the late District Engineer's letter* regarding timber, as I am aware that Government are anxious for this department to use wood supplied by the Forest Department for buildings:—

* No. 954—960, dated 4th January 1874.

"I would willingly use teak, or the best kinds of jungle timber from the Nallamala Hills, if I could get it seasoned; but the Forest Department keeps no stock on hand, and cuts down only when an order is given. The jungle timber prepared for Deputy Tashildars' Cutcherries at Patticondah and Almakur, some four years ago, is now perfectly useless, some rotten, some split and cracked. The

*Proceedings of the Madras Government, Public Works Department,*
*12th December* 1874.

timber prepared for Cumbum Cutcherry was of the best description of Nullumuddi, but is all now twisted, bent, and split.

14. As so many chiselled and hammer-dressed stones are tooled and stacked on the work, it was necessary to frame the estimate in accordance with the late District Engineer's proposed style of work, *i.e.*, chisel-dressed stone to face of outer walls, neatly pointed, and hammer-dressed stone to face of inner walls, plastered.

Quantity stacked on the work 1,798 cubic yards; 5,400 bond stones and 240 footing stones.

15. I have carefully gone into detail data with the Range Officer and Overseer on the work, and I am satisfied that the rates entered in the estimate cannot, seeing the class of work required, be reduced.

16. As a large quantity of materials has been collected, orders are requested to proceed with the work as soon as possible.

17. A reference is respectfully solicited to the revised estimate submitted for the Nundial Taluq Cutcherry. The style of work estimated for is nearly equal to the Koilgoontla Taluq Cutcherry, only instead of chisel-dressed stone, hammer-dressed is substituted. The cost would bear more favorable, but unfortunately the foundations have to be sunk to a depth of 9 feet, and the stone quarries are double the distance, viz., six miles.

This office No. 93, dated 23rd September 1874.

18. The accounts of the Koilgoontla Taluq Cutcherry stand thus, but there will be further recoveries on account of materials not required, if sanction is accorded for them to be sold by public auction:—

| | Rs. | A. | P. |
|---|---|---|---|
| Value of materials, etc., collected in 1868-69, available for the new building as per design of 13th July 1874, *vide* statement A ... ... ... ... ... ... ... | 4,425 | 12 | 9 |
| Value of materials collected in 1872-73, 1873-74, up to end of August 1874, and work executed up to date, *vide* statement A ... ... ... ... ... ... ... | 17,328 | 10 | 0 |
| Cost of work remaining to be done (not including materials at site), *vide* estimate ... ... ... ... ... | 32,955 | 9 | 3 |
| Amount to be struck off to Profit and Loss, *vide* statement A. | 10,172 | 5 | 3 |
| Amount to be sanctioned ... ... ... ... ... | 64,882 | 5 | 3 |
| Deduct expenditure up to date from all sources ... ... | 31,926 | 12 | 0 |
| Total... | 32,955 | 9 | 3 |
| Deduct actual sum available from current year's grant ... | 4,926 | 14 | 5 |
| Money grant required to complete the Cutcherry ... ... | 28,028 | 10 | 10 |

No. 794.

No. 237.

## MEMORANDUM.

TALUQ CUTCHERRY, KOILGOONTLA.

*Revised Estimate—Data for Rates.*

*Masonry in foundation, coursed rubble.*—The rate for masonry in foundation is made out to be about—

| | Rs. | A. | P. |
|---|---|---|---|
| For materials, per cubic yard ... ... ... ... ... | 5 | 15 | 0 |
| Labor ... ... ... ... ... ... ... ... | 5 | 12 | 0 |
| Total... | 11 | 11 | 0 |

But the District Engineer in his report admits that, although that amount of labor had been expended on the work done, it should not have exceeded Rupees 742-8-0 for 273¾ yards, which is equivalent to about Rupees 2-12-0 per cubic yard *for work to be done*, therefore the rate ought not to exceed Rupees 5-15-0 + 2-12-0 = Rupees 8-11-0 per cubic yard.

2. *Masonry in "chisel-dressed stone."*—The rate for masonry with chisel-dressed stone includes—

1*st.*—A charge of—

| | RS. | A. | P. |
|---|---|---|---|
| 1¼ Cubic yards quarrying and carting stone ... ... | 1 | 14 | 0 |
| Five bond stones (size not given) ... ... ... | 1 | 1 | 6 |
| | 2 | 15 | 6 |

2*nd.*—A charge of—

| | | | |
|---|---|---|---|
| 1 Cubic yard chisel-dressed stone, actual expenditure ... | 3 | 2 | 7 |
| Total... | 6 | 2 | 1 |

In stone alone.

These charges are not understood. The second is apparently the value of a cubic yard of stone at site as given in statement A. This value should include all charges for quarrying, carting, and dressing. If it does, the first charge is inadmissible. The size of the bond stones should be given. Added to the 1¼ cubic yards the estimate of material to make up the cubic yard of masonry seems excessive.

3. *Masonry—"Hammer-dressed stone-in-chunam."*—The size of the bond stones, or the cubical contents of five bond stones, should be given.

The proportion of sand to lime in the mortar is too great, two sand to one lime is as much as it will bear.

4. *Flooring with stone slabs 3" thick.*—The charge of Annas 10 for each cart load of stone, a distance of 2½ miles, is very high.

In the estimate a charge is made for—

| | RS. | A. | P. |
|---|---|---|---|
| Demolishing old foundation ... ... ... ... ... | 285 | 13 | 6 |
| Ripping up old concrete ... ... ... ... ... ... | 641 | 1 | 2 |
| Total... | 926 | 14 | 8 |

But these items are included in the sum written off to Profit and Loss and separately charged for as part of the Rupees 10,172 loss by former work. They should not, therefore, be again included in the revised estimate.

5. The District Engineer is requested to afford early explanation on the points above noted. The abstract estimate, detailed data for rates, and statement A, are returned for reference.

17*th October* 1874. (Signed) A. DEC. SCOTT, Major, R.E.,
*Under Secretary, P.W.D.*

To the District Engineer, Kurnool, with three enclosures.

No. 237-A. From W. A. GOODCHAP, Esq., District Engineer, Kurnool, to Colonel G. W. WALKER, R.E., Chief Engineer, Public Works Department, dated Kurnool, 27th October 1874, No. 110.

WITH reference to your memorandum, dated 17th instant, I have the honor to observe that the data calculated by you *to complete* the masonry in foundation is correct, viz., Rupees 8-11-0. The estimate has been corrected accordingly.



2. Under the head of Materials at site in statement A for building stone, Rupees 5,702-12-4 is entered as actual expenditure under that head, which is correct. The rate, however, was struck with reference to the quantity at site, and the expenditure which gave Rupees 3-2-9 per cubic yard; but, as the 500 cubic yards of loose stone was included, for which credit had already been given in sheet No. 1 of statement A, the entry ought to have appeared thus :—

Building stone, cubic yards 1,298, at about Rupees 4-6-4 per cubic yard = Rupees 5,702-12-4. The stone at site is not completely dressed, but the difference between Rupees 4-6-4 in statement A and Rupees 5-0-7 as per data will provide for the stone being dressed to specification.

3. Revised data for masonry "hammer-dressed stone-in-chunam" is enclosed, in which the size of bond stones is noted. The one parah of chunam entered in the data for this work was *unslaked*; the proportion of sand was correct, viz., two to one *slaked lime.*

4. Revised data for flooring with stone slabs 3 inches thick is herewith submitted, and the estimate rate has been corrected accordingly.

5. The charges, amounting to Rupees 926-14-8, for demolishing old foundation and ripping up old concrete have been struck out of the revised estimate, as instructed.

6. The abstract estimate, detailed data for rates, (original and revised), and statement A, are herewith returned.

7. When the work is re-commenced, I will make it a point to ascertain the actual cost of each description of work, both as to material and labor.

No. 238. ORDER THEREON, 12th December 1874, No. 3,490.

## CIVIL WORKS, No. 17.

G. O., No. 888, dated 30th March 1874.
" " 1,025, " 21st April "
" " 1,831, " 9th July "
" " 2,080, " 31st " "
" " 2,546, " 9th Sept. "

THE circumstances connected with the failure of the foundations of the Koilgoontla Cutcherry have been already commented on in the Government Orders noted in the margin. It was also brought to the notice of the Government that the expenditure of the late District Engineer on the re-construction of the building was, to the last degree, extravagant, and by their orders of the 3rd July 1874, No. 1,786, all work was stopped pending the submission of revised estimates accompanied by a full report. These are now forwarded by the present District Engineer.

2. This Officer confirms the information already conveyed in previous reports to the effect that all idea of economy in the distribution of labor and use of material was lost sight of when the construction of the buildings was re-commenced.

3. It appears from the statements now submitted that the actual loss incurred amounts to Rupees 10,172. The present value of work done and materials collected up to date is estimated at Rupees 21,754, and the prospective expenditure necessary to complete the building at Rupees 31,236. Thus when the Cutcherry is ready for occupation there will have been an outlay of Rupees 63,162.

4. An analysis of the items composing the sum of Rupees 10,172 proposed to be written off to Profit and Loss shows that they may be classed under the following heads:—

| | Rs. |
|---|---|
| Failure of foundations owing to defective construction... ... ... | 7,221 |
| Alterations in design after construction had commenced ... ... | 2,005 |
| Deterioration of materials from lapse of time ... ... ... ... | 946 |
| Total... | 10,172 |

The District Engineer further reports that there has been a loss from waste of labor and consequent high rates for work done by the late District Engineer, which he estimates at Rupees 2,517.

5. It is evident that there has been an unfortunate display of incompetence on the part of the officers who have previously been concerned in the construction of this building, and it would be useless to enter into these details if the Government did not express at the same time their intention in future similar cases of reducing the responsibilities and also the position of those who fail so glaringly in executive duties.

6. The rates in the estimate forwarded by the District Engineer are high, but this is partly owing to the fact that the cost of the material on the ground has been enhanced in the manner already alluded to.

7. His Excellency in Council expects Mr. Goodchap to watch carefully the progress of the work and take every opportunity of effecting savings when compatible with good workmanship.

The estimate is now sanctioned.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
*Secretary to Government.*

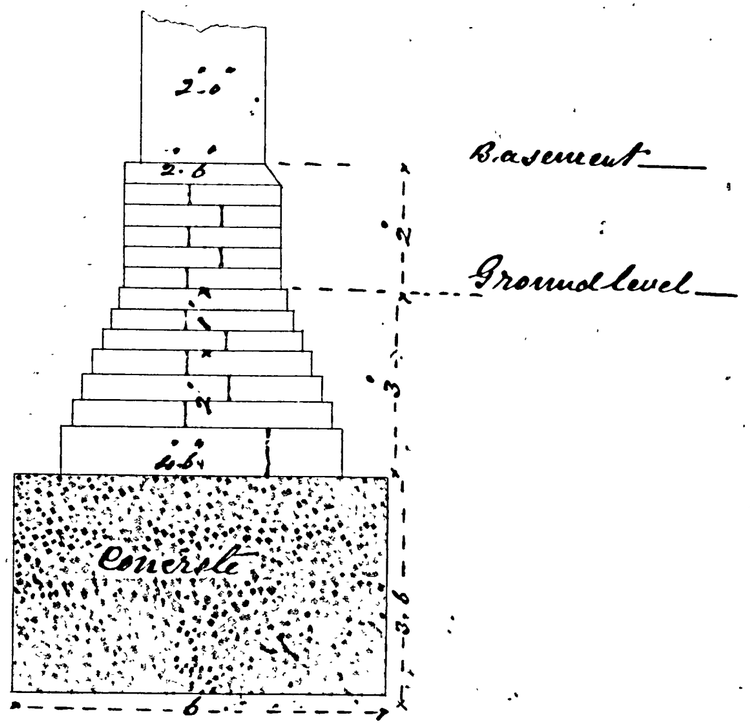
To the District Engineer, Kurnool.
„ Controller of Public Works Accounts.
„ Judicial Department.

Erd. E. C. Shunker.
Spare Copies

Nandial Range — B — Kurnool District

Kovila Kuntla Taluq Cutcherry

Sketch Showing work executed to foundation —




To be done —

already done —

Scale 2 feet to an inch

Distt Engineers office
Kurnool 23rd Septr 1874

E. Goodchap
District Engineer

G. A. Vardon
Range Officer

Sketch showing the
work executed to
foundation of Kavilagoodla
Saling Kutcheery.—

Enclosure to letter
No 92 dated 23d
September 1874.—

P.W. 6038/74
5

Kavilagoodla 12-12-74
Dr B.T. 236.

Specification to accompany the ~~estimate for~~ constructing a Taluq Kutcheri ~~without buildings~~ and Compound wall at Koilagoottla, Koilagoottla Taluq, Nandial Range, Kurnool District.

1. Excavating for foundations & filling in basement.

After the work has been marked out the trenches to be sunk to the proper level; the sides of the trenches should be so sloped that the banks shall not break in, and damage the concrete or the masonry works; the bottom of the trench should be of one level, which should be checked by the Range Officer or the Overseer before the Masonry work is commenced—

After the basement has been brought up to its proper level, the spoil from the foundation, or other earth which the Range Officer or Overseer may select, shall be laid in thin layers of not more than 6 inches thick, well watered, and rammed, and the surface levelled to receive the flooring.—

## Concrete

The stones for the concrete to be of the blue slaty stone used for building purposes, and broken to sizes from ½" to 4" inch cubes; the concrete is to consist of 4 parts of broken stones, 2 parts of sand and one part of slaked lime; the whole to be properly mixed on a flat-form of stone; then thrown into the trench; the first layer is to be well rammed which should be reduced as the layers increase in number; the top surface of the concrete will be brought to one uniform level, as it should receive the stones for the foundations, each layer will not exceed one foot in thickness.

## Masonry in foundations

After the Range Officer or the Overseer has approved of the finishing layer of concrete, then the masonry shall be commenced with large footing stones of the size here undermentioned, viz. 3.0' × 1.3" × 9" for the first layer, and all other successive layers to be built of large stones



2½" × 2" × 4", the bond to be properly attended to, and the beds carefully prepared

## Masonry in basement & superstructure, Circular and flat arch work

The stones already collected at site of the building should be used for the above work, all the neatly chisel dressed stones to be used for the face work, where pointing alone is allowed, and those for the interior where plastering is allowed, the stones may be roughly hammer-dressed; the deficiency in the chisel dressed stone, to be replaced, so that the whole of the exposed works outside shall be of one uniform appearance and workmanship; the top level of the basement when ready to receive the superstructure shall be truly level, and be checked by a levelling instrument; the face joint of the stones shall be hammer dressed back for a distance of not less than 4 inches, from the face of the work, and no joint whether horizontal or vertical shall exceed ½ an inch;

a bond stone to be inserted both in the base-
ment and superstructure at every 6 feet in
the clear, the thickness of which should be
equal to that of the layer in which it is
inserted and the length equal to the width
of the wall: In the corners of the basement
for every 3rd layer stone flags not less than 3
feet in length and 1 foot in breadth should be
used to form good bindings, and in the super-
structure the same course is to be adopted but,
the stones are to be used for every layer instead
of for every 3rd layer, as in the basement.

In the superstructure the masonry shall be
brought up in even courses and the quoins are
on no account to be raised higher than the
centre of the walls during construction: the
facing stones are to be those already chisel
dressed and kept ready at site of the building;
all the corner stones of the building to be
neatly first dressed, and the sides of the doors
and windows to be splayed 4 inches on each side;

The stones used for the arch work shall be
selected from those already collected at site of
the building, and so dressed that their beds
shall radiate to the same centres, the face of
the stones should be chisel dressed to agree
with those of the superstructure, and the bed
joints shall be hammer dressed back for the
full breadth of the arch, and no joints are to be
broader than ½ of an inch: there shall not be
more than 2 stones in the whole thickness of the arch.

## Lintels and slabs over steps.

The stones used for this work to be brought
solely from the quarry to the west of the village
of Kalagantla, about 6 miles from the site;
the description being blue slaty stone; the face
of these stones shall be very neatly chisel
dressed; those for the steps are to be brought
from Kalagantla quarry, and the face shall
be neatly chisel dressed.

## Plastering.

Before this work is commenced the wall

should be well cleaned of all the dust and before the first coat is put on the wall should be well sprinkled with water. the 1st Coat should be allowed to dry for 2 or 3 days and then the 2nd coat shall be put on, and well smoothed with pumice stone. The mortar for the 1st coat to consist of 1 part of slaked lime to 1½ part of sand and that for the 2nd Coat to be prepared as per the 3rd Coat of plastering in the terracing.

## Pointing.

Before this work is executed, the mortar in the joints should be raked out ½ inch deep & fresh mortar used to fill in the crevices, and then the wall pointed with mortar which is to Consists of 1 part of lime to 1¼ parts of sand, ground to a very fine paste; The breadth of the pointing not to exceed the breadth of the mortar joints of the wall, and should be well polished with round iron hooks made of 3/8 in diameter and bent as per diagram No 3.



## Teak Wood

All the Teak wood work to be finished by 1st Class carpenters with English tools; the wood being well seasoned Rangoon or Moulmain Teak to be brought from Madras. All the posts are to be well seasoned Sramiaddi or Jagee wood brought from the Nallamala hills and to be neatly worked out by good carpenters.

## Jungle Wood

This is to be the old Nallamaddi wood purchased from the Forest Department and lying in the Range stores, and should be used for the uprights only of the verandah all round.

## Pucka Terrace.

This to Consists of brick on edge (bricks to be 9"x4½"x1½" a levelling Course with common bricks; 2 inches of Jelly; 3 Courses of flat tiles (flat tiles 5"x4"x¾"); & 3 Coats of plastering at top of Terrace and 2 Coats for ceiling; The terrace brick and flat tiles are to be made of such

earth as may be selected by the Range Officer and well burnt, so that they give a good ringing sound; the mortar to consist of 1 part of slaked lime to 2 parts of sand and ground in a mill and brought to a good consistency; the jelly to be composed of 2 parts of brick jelly and 1 part of slaked lime to be laid on some hard ground and after which the mixture should be well saturated with water; in plastering the first & second coats to consist of 1 part of slaked lime to 2 parts of sand; the 3rd and last coat to consist of equal parts of fine river sand & slaked lime, the sand should be very fine and washed free of all earthy particles and well dried, the lime should be made into a thin paste and passed through some rough cloth and then the dry sand and pasty lime should be mixed and ground well like paint, till the sand is not felt in the mortar and then used on the work and well polished with quarty stone, whereas 2 coats only are



provided for the ceiling, which is the finishing Coat.

## Bengal Terrace

The flat tiles to be 5" × 4" × 3/4", rafters to be 2 1/2" × 3/4"; the tiles of the first Course to be dipped in Chunam water and laid parallel to the rafters and the 2nd & 3rd Courses diagonal to each other and plastered over with 3 coats of Chunam.

## Doors, Windows &c

These to be made of well seasoned Rangoon or Moulmain Teak according to the plan furnished by the Government Architect.

## Flooring with 18" Square Slabs.

The stone for this work are to be of the same description as those used for the walls, viz, blue slaty stone, the minimum size of the stones to be 2 feet Square and 2 inches thick, the filling in of basement should be brought to a proper level and well rammed, over which 3 inches Concrete should be spread and then the stones neatly set in mortar over the concrete the joints not to exceed

3/8 of an inch in thickness, which should be neatly pointed ~~into the joint~~ mortal.

## Flooring with Asphalte.

Flooring with Asphalte., 18 parts mineral pitch, 18 parts rosin, boiled in an iron pot then stir in 66 parts of sand sacced & of slaked lime when thoroughly mixed and of a proper Consistency to be spread on the floor, of the thickness noted in the detail estimate, ~~of~~ one inch in rectangular iron moulds without bottoms, the narrow joints left must be filled with hot Composition, pressed in and smoothed over with a hot soldering iron. the iron moulds should be previously greased ~~over~~ with a thin paste of loam.

## Dressed stone Cantilevers.

Dressed stone Cantilevers & stone flags over them. Piece to be of blue slate stone dressed as per plan, Those for the Cantilevers to be 4" thick and those over them to be 3" thick neatly ~~dressed~~ chisel dressed

## Wood Oiling.

All the wood work except doors & windo

of the lower and upper floors to be wood oiled

Coats, the oil to be boiled with a proper pro

portion of white rosin, and wood oil, and to

put on while hot.

## White Washing.

The whole of the interior to be white-

washed with 2 Coats of fresh lime water.

## Carsons paint.

The doors and windows of upper story

to be painted with this paint according

to the directions sold with the paint.

## Lead Flashing.

The sheet lead (8 lbs to a foot superficial) to be inserted into the walls of the main building 6" deep, just over the verandahs and 9" to project outwards over the roof of the same, in places where pieces are to be

joined they should overlap each other

[illegible]

Distt Supts Office
Kurnool 23 Octr 1874.

J. H. Goodchap
District Engineer.

To
The Secretary
to Government
P.W.D.
Madras.

Sir,

Reference your Memo No 6387/74 dated 13th Octr 1874 forwarding a copy of letter No 936 dated 15th Octr 1874 from the Superintending Engineer for Buildings Madras.

I have the honor to acknowledge receipt of the above mentioned letter and to state that I am not aware of any such discrepancies in the rates for Buildings and Communications as are mentioned in the letter under reply.

The rates were framed with the utmost care and I am confident that they are correct.

I have the honor to be
Sir
Your most obedient servant
J. H. Goodchap
District Engineer.

Copies
To D12 Engineer
Do Cuddapah
Do Bellary
Do Nellore
Do Chingleput
Do Coimbatore
Do Salem
Do Trichinopoly
Do Madura
Do Tinnevelly
Do Malabar
Do Canara
Do Vizagapatam
Do Kistna
Do Nellore
Do Chingleput
Do Coimbatore
Do Salem
Do Trichinopoly
Do Madura
Do Tinnevelly
Do Malabar
Do Canara
Do Vizagapatam
Do Kistna

Dated 23rd
Received
Speedy disposal is necessary
Heavy
Contractors
Railway
Buildings
Canal
Communications
Tanks
Roads
Bridges
Irrigation
Electric Telegraph
Forests
Steam Vessels
Miscellaneous

No 796.

11

District Engineer's Office,
Kurnool, 31st October 1874.

From,
The District Engineer,
Kurnool.

To
The Superintending Engineer,
for Buildings
Madras.

Sir,

I have the honor to acknowledge the receipt, this morning of your letter No 1345 dated the 27th Instant as also a copy of your letter No 936 and of a statement showing discrepancies of rates in this Presidency.

2. The table of rates sent in by me in June last for the half year ending 30th September 1874 was prepared before I took charge of the District and I stated that I had no confidence in its accuracy: the rates are not based on regular data, which are generally unknown in this District. They are now being prepared but it will be a considerable time before they are ready.

3. There are nothing in the papers to show what increase there has been in prices during

the last 10 or 12 years; but they have, no doubt, been increased from several causes: On the South side of the District we have had the Madras Railway under construction, and for 140 Miles in length through the District, the Irrigation Company's Canal has been under construction for more than 10 years: when the Canal works were commenced prices rose up at once and they have not come down again: Another cause of increase is the rise in the price of food of all kinds: within the last twenty years the price of food has risen probably from 5 to 250 per cent:-

The following information regarding the principal actual of food I have obtained from some of the old Inhabitants of Kurnool: I have not had time to check it by reference to Official records.

| | | Twenty years ago | Now |
|---|---|---|---|
| 1 | Clean rice used by Natives | 20 to 25 measures for Rupee | 9 to 12 measures |
| 2 | Cholam | 40 to 45 do | 15 do |
| 3 | Kambu | 40 do | 12 do |
| 4 | Kora | 60 do | 24 do |



Before the Canal-works were commenced the following rates were paid.

Mason or Coolies then 1/- to 1/8 to 2/- Now 4 annas

Women Coolies do : paid 2/- to 1/8 to 2 annas

Bricklayers do : 4 annas do 8 to 12 annas

Carpenters or Smiths do 5 to 6 annas do 6, 8, 12 annas

[illegible] up to one Rupee

The rates were raised on the opening of those works and have been maintained ever since; and it is very likely that they will be still further increased: There is no doubt but that to the Railway on one side and the Construction of the Canal right through the District caused the rates of labour of all kinds to be increased: One would not find fault with this if the quality of the labour were also increased; but this has not been the case: Skilled labourers of all kinds are the worst I have ever met with with the exception of one or two Blacksmiths at the Town of Kurnool who are really good workmen: There are no bricklayers or stone masons in the District; and a

Carpenter who knows how to put two sticks together.

4. There have been several causes of the rise in the price of grain: The staple food of the District is Cholam. Twenty years ago little or no Cotton was grown here and Cholam had the bulk of the land to itself: The growth of Cotton has however gradually come in and that of Cholam has proportionately gone out: Twenty years ago little or no grain was exported from the District: Whatever was grown was consumed by the local population: The ryots were poor and had to sell their grain early in the season, and at such prices as they could get: now, they are comparatively rich, and can store grains until its value rises, and they have learned the value of exporting it by improved roads, and the Railway to other Districts where it is wanted.

5. I have replied to your letter from the results of the general registries I had made at different times in the Districts: Upon

wish for a more full comparison of rates & prices I shall have the old Bills & Estimates, examined and Comparative statement prepared for the last twenty years, and get the best information I can about the value of grain from the Revenue Department.

I have &c

Signed/ H. Fraser C.E.

District Engineer.

Another cause of rise in prices of grain has been the occurrence of the two or more famines within the last twenty years and as is usual the Cultivators and Merchants having got the prices up or unwilling to let them down again.

Signed/ H. Fraser C.E.

District Engineer.

/True Copy/

Dist. Engineers office
Kurnool 23d Sept 1874

H. A. Gordeshaf
District Engineer

No 290. Nandial Range Office.

Camp Dhone, 9th Septr 1874.

From,

The Range Officer

Nandial

To,

The District Engineer,

Kurnool.

Subject. Explanation regarding work done to New Taluq Katcheri at Koilagunttla.

Sir,

In reply to your letter No 1170 of 5th September 1874, I have the honor to inform you that from 12th January 1874 to 29th March 1874, the late Mr Fraser took upon himself the entire management and personal superintendence of the new Taluq Katcheri at Koilagunttla, with the Overseer of the Taluq B. Moonesamy Chetty to assist him and when Mr Fraser left Koilagunttla on 30th March 1874 he gave strict orders to the Overseer not to leave Koilagunttla till the foundations were raised to basement level; further a reference to Mr Frasers Diaries for the period above mentioned, and the letters he wrote to the Inspecting Engineer

Copy of Dr Fraser's letter No 796 dated 31st Augt 73

Enclosure to letter No 992 dated 22d September 1874

R.P. No 3811/74.

8

Dy. No 12 Dec'd 13 Sept. 1874.

for Irrigation (Vide No 1005 of 19th May 1874)
and Government regarding this work
will at once show that, he personally
superintended the work, and made his
own arrangements regarding the
distribution and supervision of labor,
and appointed an East Indian by
name M Betrem on Rs (30) a
month to superintend the work under
the orders of the Overseer; in short
therefore I had nothing to do with this
work until 23rd April 1874 when I ordered
the Overseer to reduce the number of
masons and Coolies employed, as I
thought he had too large a number to
supervise properly and further no estimates
had been sanctioned up to that date.
2. Although Mr Fraser died on 11th
April 1874, still up to 30th May 1874
when progress on this work was stopped
by Captain Taylor, I made no altera-
tions in the orders passed by Mr
Fraser to the Overseer regarding the
manner in which the work was to be



carried out.
3rd. I enclose true Copy of a memo
written by the late Mr Fraser to the
Overseer of Koilagunla Taluq about
this work.

I have &c
Signed/ G. A. Vardon
Supervisor P.W.

/True Copy/

G.A. Goodchap
District Engineer.

Distt Engineer's office
Kurnool 23rd Sept/74

No 1198. District Engineer's Office

Camp Koilagunla, 28th March 1874

From,

The District Engineer,

Kurnool.

To,

The Overseer of

Koilagunla Taluq.

In the absence of the Range Officer I write to inform you that you can pay for all works actually done to the New Taluq Katcheri so far as your funds go.

Signed / W. Fraser C.E.

District Engineer.

P.S. If you require more money to pay for all the works done up to the end of this month you should send for cheques at once.

Signed / W. F.

/True Copy/

E.P. Goodchap

District Engineer.

Dist. Engineers office,
Kurnool 23d Septr 1874.

Copy of Mr Hardwicke's letter
No 290, dated 9. Septr/74.

Enclosure to letter
No 92 dated 23. Septr/74

P.W. 6038/74

Pol. 2 Dec 2/74.
In B.P. 236.

Comparative statement shewing the rates entered in the estimate of 1868-69 for the Kovilagoutlah Paling Kutcheery foundations and the actual rate paid, and those now required to be sanctioned.

| Description of work entered in the estimate of 1868-69 | Rate entered in the estimate of 1868-69 | Actual cost in 1869 by Captain R. T. Taylor | Actual cost in 1874 by Mr Fraser | Rate entered in the estimate now submitted to complete the Kutcheery | Remarks |
|---|---|---|---|---|---|
| Excavating foundation | " 1 7 | " 1 5 | " 7 3 | " 2 | Captain Taylor's concrete was made from pebbles collected from the fields close to the site, they were not broken and the fields are now bare of pebbles; stones for new concrete have been carted ~~from~~ 2½ Miles from a quarry. these have been broken up to 6 / inch cube |
| Concrete | 2 . . | 2 11 0 | 5 6 0 | 3 10 | |
| Hammer dressed stone in Mortar | 3 8 . | 5 7 . | 11 10 4½ | 5 10 . | classed as uncovered rubble work with undressed stone by the late Mr Fraser in his letter No 715 of 13th October 1873. to Inspecting Engineer for Buildings; but the work for Rs 5-10-0 will be hammer dressed coursed masonry in Chunam with bond stones for all the cut stones |

Dated Engineer office
Kurnool 23d Sept/74

H. B. Goodchap
District Engineer

Gal-andoz
Range Officer

No 92 — District Engineer's Office
Kurnool 28th September 1874.

From

The District Engineer

To

The Chief Engineer & Secretary
to Government
Public Works Department
Madras

Enclosures

1. Abstract estimate
1. Specification
1. Detailed Estimate

1. Plan marked B
1. Abstract C
2. Copies of letters

Sir

I have the honor to submit for the sanction of Government the accompanying abstract estimate for the construction of a masonry bridge across the Kundair Vanka in the Nandikotkur taluq at the 12th mile from Kurnool on the road to Nandikotkur.

2. The bridge is required for the convenience of the public and the cost will be met from the Local Fund Budget Grant for 1874-75 under the head "Bridges".

3. The bridge will consist of 9 spans of 30 feet each between abutments and 8 piers, the foundations of which will be carried down to a depth of 5 feet below the bed of the river. The superstructure will be of cut stone in lime mortar and will have a width of 24 feet between parapets. The roadway will be metalled with broken stone to a width of 16 feet and a depth of 9 inches in the middle, tapering to 6 inches at the footways.

4. The approaches will be 300 feet long on the Kurnool side and 200 feet long on the Nandikotkur side. They will be metalled with broken stone to a width of 16 feet and a depth of 6 inches in the middle, tapering to 3 inches at the footways. The approaches will be protected by stone pitching on the slopes and by a stone apron at the toe.

5. The estimated cost of the bridge is Rupees 1,12,236 and the time required for its completion is 2 years from the commencement of the work.

I have the honor to be
Sir
Your most obedient servant
Executive Engineer

From

The Dist. Engineer
Kurnool
Dated 23rd Sept. 1874
Received 25th September 1874

To

The Chief Engineer
& Secy.
Madras

C.

Comparative statement showing the rates entered in the estimates of 1868/69 for the Kovilakoontlah Taluq Kutcheries foundations and the actual rates paid & those now required to be sanctioned.

P. W. 6038/74

on the section marked B making the total depth of foundation actually constructed 5½ feet, leaving 1 foot to be built to complete the estimated depth of 6½ feet.

3. The materials used both in the Concrete & Masonry, are of the best description and the workmanship good.

4. The revised estimate, amounting to Rs. 54,710 now submitted for the Taluq Kutchery, out offices, & compound wall, has been prepared agreeably to the Standard Plan of July 1874, and in accordance with G.O. No. 1870 dated 13 July 1874.

5. It will be seen on referring to the statement marked A that Rs. 10,172-5-3 will have to be struck off to profit & loss which added to the estimate amount makes the total sum required to be sanctioned Rs. 64,882-5-3.

6. On a reference to the comparative statement of rates marked C, it will be observed that the prices entered in the original estimate of 1865/69 for Masonry & Concrete foundations, were exceeded in that year, which the late District Engineer

No 715 of 15th October 1873 to Inspecting Engineer for Buildings.

in his letter classed as uncoursed rubble with undressed stones.

From the late Dist. Engr. Kurnool to the Inspecting Engineer for Buildings No 796 of 30th October 73.

7. I beg to enclose a copy of a letter which bears on the subject of discrepancies of rates in this District.

8. From enquiries made regarding the price paid for work executed this year from 12th January to 31st May 1874 to foundations, I am convinced that the high rates charged is owing to the large sum expended on labor under the different sub heads of work - for instance Rs. 2082. is charged for labor for mixing 765 Cyds of Concrete, whereas Rs. 1150 were amply

It is stated that great pains were taken to spread Concrete in ¼ horizontal layers 10/12 inch thick & well consolidated

being fully 50 per cent more than allowed in the Chingleput District. For the same quantity of work; - the same remarks apply to riffing - up old Concrete 450 2/64 C. yards at 2-6-9½ = Rs. 641-1-2. it ought not to have exceeded 12 Rs. a Cyd. Rs. 337-8-0. seeing that for demolishing stone in Chunam on the same work 5 annas 6/8 piece, a C. yard is the rate charged; - again excavating foundations 1561 Cyds at 0-7-3/4 = Rs. 63.6-10 is excessive, as annas four per Cubic yard = Rs. 351-0-0 would be under any circumstances a high price. The puddling 474/2 C. yards at Rs. 1-0-8 7/16 a C. Yard Rs. 495-15-0 is also very costly, Considering

considering that, the outside rate allowed is 3 annas per bag Rs 237-4-0 Rupees 1555 — have been expended on labor for building 278 C. Yards of hammered dressed stone to foundations, while Rs 762-8-0 ought to have been ample, thus, in my opinion, shows the haphazard sort of way that the work people were employed.

It is urged that no Masons were available, & that the Coolies employed were not accustomed to the work. It is however admitted that it was difficult to obtain a fair days work from each man & woman, owing to the difficulty to superintend & control such an large body of work people.

9. I beg to state that, in my opinion, the accounts show an excess expenditure of Rs 3522 on labor for work executed from 12th January to 31st May/74 which is equal to about 82 per Cent on outlay.

10. There is no doubt that, the Station books for labor are correct, as to the number of work people employed, but there appears to have been no attention paid to an economical distribution of labor, on the different portions of work in progress. I have to observe that to employ 1280 work people daily on such a limited area, as the foundations to the Safety Watchery necessy, was reprehensible. I called upon the Mundial Range Officer for

for an explanation as to the large number of work people employed daily, as it was under the impression that he superintended the work with the late District Engineer, a copy of that Officers reply is enclosed.

11. The rates charged for materials purchased are I believe correct, inasmuch as they are of the best description, some of the stones used in the foundation being of an unusual size, and the stone, lime of the best quality.

| | |
|---|---|
| Stone quarry | 2½ miles |
| Lime stone | 16 — do — |
| Sand | 1 — do |
| Water | ¼ — do |

The distances given to the different quarries are correct. Viz:—

12. I have after careful enquiries, entered in the estimate Moulmain teak, which will have to be brought from Madras for the securtling of roof, using of course, as far as it will go, the seasoned jungle timber collected in 1868/69. for which credit has been given in Statement A.

13. I beg to quote an extract from the No 954/960 dated 6 January/74 late District Engineers letter regarding timber, as I am aware that Government are anxious for this Department to use wood supplied by the Forest Department, for buildings.

"I would willingly use teak or the best kinds of Jungle timber, from the Nullamala Hills if I could get it seasoned, but as the

Forest

"Forest Department Kapa ins stacked on hand
"and cuto dowin daily when an order is given
"The jungle timber prepared for Deputy Tahsildars
"Cutcheries at Pattiswadah & Ammathur
"some 12 years ago, are now perfectly useless,
"some rotten some split & cracked. The
"timber prepaired for Kumbum Cutchery, was
"of the most description of Nullumeddie but
"all now twisted bent and split.

14. As so many chiselled & hammer dressed stones are locked round stacked on the work, it was necessary to frame the estimate in accordance with the late District Engineers proposed style of work i.e. Chiselled dressed stone to face of outer walls neatly pointed & hammer dressed stone to face of inner walls plastered.

Quantity stacked on the work 1798 6 yards, 5600 Bond stones & 260 footing stones.

15. I have carefully gone into detail data with the Range officer & Overseer on the work, and I am satisfied that the rates entered in the estimate cannot, seeing the class of work required be reduced.

16. As a large quantity of materials has been collected, orders are requested to proceed with the work as soon as possible.

17. A reference is respectfully solicited to the This Office No 93 dated 23d Sept 1874 Revised estimate submitted for the



the Nundial Taluq Kutchery. The style of work estimated for, is nearly equal to the Kovilagoontlah Taluq Kutchery, only instead of chisel dressed stone, hammer dressed is substituted. The cost would bear more favourable, but unfortunately, the foundations have to be sunk to a depth of 9 feet & the stone Quarries are double the distance Vizt. 6 miles.

18. The accounts of the Kovilagoontlah Taluq Kutchery stand thus, but there will be further recoveries on account of materials not required, if sanction is accorded for them to be sold by Public auction.

| | | | |
|---|---|---|---|
| Value of materials collected in 1868/69 available for the new building as per design of 13th July/74 Vide Statement A | 4,425. | 12 | 9 |
| Value of materials collected in 1872/73 1873/74 upto end of August/74 & work executed upto date Vide: Statement A | 17,328. | 12 | 0 |
| Cost of work remaining to be done (not including materials at site) Vide: Estimate | 32,955. | 9 | 3 |
| Amount to be struck off to profit & loss. Vide Statement A | 10,172. | 5 | 3 |
| Amount to be sanctioned Carried over | 64,882. | 5 | 3 |

| | £ | s | d |
|---|---|---|---|
| Brought forward the amount to be sanctioned | 64,882 | 5 | 3 |
| Deduct expenditure upto date from all sources | 31,926 | 12 | - |
| Total | 32,955 | 9 | 3 |
| Deduct actual sum available from current years grant | 4,926 | 14 | 5 |
| Money grant required to complete the Kutchery | 28,028 | 10 | 10 |

I have the honor to be
Sir
Your most obed. Servant
H. H. Goodchap
Distrigt Engineer

P. W. 1874 Depart.

Despatch for Diet

From No. 6038.

The Distt Engineer
Kurnool

To The Chief Engineer
D. P. W.
Madras.

Dated 23d September 1874
Received 28th

No. 92

Cuddapah

Submitting for forwarding abstract estimate for completing the Yaleg Kutcheery at Kovilacoutla with its accompaniments, & gives full report of it

No. 3490—12-12-74.

No 234

Ex 21-11-74.
Desp to Addr 29 Sept 74

17th October 74.

Chge Yaleg Cutcherry.

Kovilcoutla.

No 796

Memorandum

Data for Rates.

Masonry in foundation
Consd cubic

The rate for Masonry in foundation is made out to be about.

M. materials per cub. yd. R. 5 " 15
Labour " 5 - 12
Total — 11 - 11

but the D.E. in his report admits that although that amount of labour had been expended on the work done it should not have exceeded R 7 42 " 8 for 273 3/4 yards which is equivalent to about R. 2 - 12 per cub yd. for work to be done therefore the rate ought not to exceed R 5 " 15 + 2 - 12 = R. 8 " 11 per cub yds.

Masonry in Chisel dressed Stone

The rate for Masonry with Chisel dressed Stone includes

1st Charge of

| | |
|---|---|
| 1/4 Cub. yds Quarry'd Carting Stone ... | 1-14-0 |
| 5 Bond Stones (Size not given) | 1-1-6 |
| | 2-15-6 |

2nd Charge of 1 Cub. yd. Chisel dressed Stone actual & finished stone — 3-2-7

Total. W. 6-2-1

In Stone alone.

These charges are not understood. The second is apparently the value of a Cub. yd of stone as finished as given in Statement A. Neither should include all charges for Quarrying, Carting & dressing. If it does the 1st. Charge is inadmissable. The Size of the bond stones 5 to be given. Added to the 1/4 Cub. yds. the estimate of material to make up the Cub. yds of Masonry seems excessive.

Masonry - Hammer dressed Stone & Concrete

Hearting with Stone Rubble 9" thick

The charge of Rs 10 for each Cartload of Stone a distance of 2½ miles is very high.

In the estimate a charge is made for

| | | |
|---|---|---|
| Demolishing old foundations | Rs | 285-1-6 |
| Upper pucka old Concrete | " | 641-1-2 |
| | " | 926-14-8 |

but these items are included in the sums written off to profit & loss & separately charged for as part of the W 10/72 Estimate by former work. They should not therefore be again included in the revised Est.

The distant Engineer is requested to afford early explanation on the points above noted. The abstract Est. Detailed Estimate for Piers & Statement A. are returned for reference.

Asst. S.

To The Dy Engr. Narmadá Circle
three Encls. ✓

A

No 1

Statement shewing detail particulars of outlay incurred upto date on the Kovilagoontlah Taluq Kutcherry as per standard plan No 1 of 1868, and the description and value of materials &c that are available for the new Building according to the design forwarded with G. O. No 1871. of 13th July 1874

| Description of work | Work actually executed as per accounts submitted to the Controller of P. Works upto end of August 1874 | | | Value of Material &c available for the standard design of 13th July 1874. | | | Difference between Columns 4 & 7 | | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | Quantity | Rate | Amount | Quantity | Rate | Amount | Increase | Decrease or Loss. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Excavating for foundations | 1380 | .21 | 179 6 4 | 885 | | 115 . 9 | . . . | 64 5 7 | × This is the cost of a portion of the foundations trenches not wanted for the revised design of July 1874. |
| Concrete | 450 | 3 6 | 1/2 1536 7 0 | | | . . . | . . . | 1536 7 0 | This loss does not include the cost of ripping up the old work, as actually executed, - See Sheet No 2. |
| Foundation. Masonry | 845 | 4 9 | 6 1 1 | 500 6/8 of Cubic Stones | 2 15 | 1493 12 0 | . . . | 4670 5 1 | The cost of demolishing the old foundation has not been deducted from the value of materials available viz Rs 1493-12-0 for old stones. See Sheet No 2 |
| Sinking a well 6 yards | 245 | . 1 1 | 16 14 0 | | | . . . | . . . | 16 14 0 | This has been given up as there is good drinking water about 200 yards from the site, so a new well is not wanted. |
| Timber | | | | | | | | | a, b, c, d, e. This timber was purchased by the late Mr Superviser Howell when in charge of the Trivadi Range during 1866, 67 and 68, their sequelling does not agree with the sequelling we want according to the late design of July 1874, also some of the timber is affected with dry rot. Consequently the timber will be sold by auction to prevent further loss. |
| 108 3/8 Cft @ Rupees 1-8-0 | | | Rs 151-0-0 a | | | | | | |
| 400 3/4 Do @ Do 1-4-10 | | | Rs 520-1-3-1 | | | | | | |
| 137 1/12 Do @ Do 1-4-0 | | | Rs 171-5-8-c | | | | | | |
| 47 3/8 Sq feet planks @ 0-2- | | | Rs 59-2-0 d | 1509 12 3 | 180 | 1 4 0 225 0 0 | . . . | 1284 12 3 | |
| 40 Beams @ Rs 14 each | | | 560-2-0 e | | | | | | |
| Cart hire &c | | | Rs 46-14-4 e | | | | | | |
| Doors and Windows from P. W. Stores Madras | | | | | | | | | |
| Venetian doors with frames 8-3 x 4-4 | 26 | | | 1045 11 0 | 26 | 1045 11 0 | . . . | . . . | To be used after mending. |
| Carried over | | | | 1045 3 8 | | 2879 7 9 | . . . | 7527 11 11 | |

| work | Work actually executed as per account rendered by Contractor of Rly. accounts to end of 1874/75. | | | Value of materials if available for the standard design of July 1874 | | | Differences between Columns 4 & 7. | | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 2 monthly | Rate | Amount | 2 monthly | Rate | Amount | Increase | Decrease or Less. | |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| tt forward | | | 1042 3 8 | . . . | . . . | 2879 7 9 | . . . | 1572 11 11 | |
| w 5×4 | 1 | | 29 12 0 | 1 | | 29 12 0 | . . . | . . . | To be used for Post office after alterations |
| las 5×4 | 1 | | 42 3 2 | 1 | | 42 3 2 | | | To be used for Cashiers room &c. Do |
| | 2 | | 23 1 5 | . | | . . . | . . . | 23 1 5 | Not wanted, will be sold by auction |
| ith frames and Iron | | | | | | | | | To be used where they are not wanted, which will be sold by auction |
| ¾×4 | | | | 404 6 6 | 5 | | 288 13 6 | . . . | 115 9 0 |
| raked doors with frames 7-7 x 5-0 | 6 | | | 274 2 6 | 6 | | 274 2 6 | | To be used after alterations. |
| rakings with out frames 9×3-9 | 8 | | | 218 4 0 | " | | " | 218 4 0 | These are not wanted for the present design; will be sold by auction |
| Do ¾×2-4 | 8 | | | 117 14 0 | " | | " | 117 14 0 | Do Do Do |
| ew windows with iron bars 2-4×9-0 | 14 | | | 453 12 9 | . . . | | 324 2 10 | 129 10 11 | These measure 2-4×9-0 to suit the first design of [illegible] but in the present design of July 1874, the dimensions to be 2-3×5 hence they will have to be cut up remade, and as only 10 of these are wanted in the design, the remaining 4 will be sold by auction |
| rage Charges cart hire &c | | | | 22 1 9 | " | | 379 4 0 | 111 13 9 | This is the proportion of cartage for the articles not in the new design |
| ×bolts brought by Mr Howell | | | | | | | | | This can be used for the design of July 1874 |
| undries iron rods 1 diameter | 6½ | 32 | 8 0 28 | " | 6½ | 32 | 0 0 208 | 0 " | × Credit given for materials used not entered in Estim |
| of hinges t/f @ 6d & Pr | 11-4-0 | | | | | | | | |

# A (Continued)

## ...ce of Materials collected in 1872-73; 73-74. and upto August 1874. & work executed upto date...

| Description of work | Work actually executed as per account submitted to the Controller of 1st account upto end of June/74 | | | Value of materials recoverable for the standard Lead in of 13 lbs. July 1874. | | | Differences between Columns 4 & 7 | | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | Quantity | Rate | Amount | Quantity | Rate | Amount | Increase | Decrease or Loss. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Brought forward | | | [illegible] 7 7 4 | | | 44 2 12 9 | | 8828 10 7 | |
| Work executed | | | | | | | | | |
| ...vating foundation | 1401 | " | 7 3¼ 636 10 4 | 1401 | " | 7 3¼ 636 10 4 | | | |
| ...ling to Do | 474½ | 1 0 | 8½ 495 15 0 | 474½ | 1 0 | 8½ 495 15 0 | | | |
| ...rete " Do | 705 | 5 5 | 9½ 3779 12 1 | 705 | 5 5 | 9½ 3779 12 1 | | | |
| ...ourse " Do | | | | | | | | | |
| ...large stones in Chunam | 272¾ | 11 10 | 4⅔ 3176 13 10 | 272¾ | 11 10 | 4⅔ 3176 13 10 | | | |
| ...Picking old foundation | 853 | " 5 | 4⅓ 285 13 6 | " | " | " | | 285 13 6 | see remarks in No 1 Sheet |
| ...ing up old Concrete | 450 25/64 | 1 6 | 9½ 641 1 2 | " | " | " | | 641 1 2 | Do Do |
| ...ntendence & Sundries | | | 1642 13 5 | " | " | 1642 13 5 | " | " | |
| ...vating as found to keep foundation Trenches dry | | | 70 " | " | " | " | " | 70 " | This is a lake, as the pond must have to be up again, being so close to the buildings |
| **Materials at Site** | | | | | | | | | |
| ...ling Stones x Cyards | 1798 | 3 2 | 9 5702 12 4 | 1798 | 3 2 | 9 5702 12 4 | | | Is this the value of Chisel dressed Stone all charges were |
| ...Stones No | 5400 | " 3 | 6½ 1188 " " | 5400 | " 3 | 6½ 1188 " " | | | or is it the value of hammer dressed Stone |
| ...footing Stones No | 240 | " 8 | 0 120 " " | 240 | " 8 | 120 " " | | | the value of Chisel Stone for Quarry |
| ...hewn Stones for Concrete | 558½ | " 9 | 9⅝ 341 7 0 | | | 366 15 0 | | | the charge for shipping per cubic ft |
| ...Do not measured | | | 25 8 | | | | | | See para 2 of the Accompanying Letter No 110 |
| ...Cyards | 308 | " 10 | 192 8 0 | 308 | " 10 | 192 8 0 | | | 26 October |
| ...Boulders | 36½ | 9 6 | 346 12 0 | " | " | " | | 346 12 0 | As the time was staked in April 1874, it will not |
| | | | | | | | | | the work, when it is resumed. |
| ...dry items | | | 26 6 0 | | | 26 6 0 | | | Consists of Carpenters hire for mending Doors & Windows Rs 18, |
| | | | 18172 4 8 | " | " | 17328 10 0 | | 1343 10 8 | Short work not measured |
| ...nd Total including 1868/69 Expenditure | | | 31926 12 0 | " | " | 21754 6 9 | " | 10172 5 3 | |

District Engineer's office
Kurnool 2nd September 1874

E B Goodeve
District Engineer

| | | | | | |
|---|---|---|---|---|---|
| Do | Do | 3½ | @ 3-8 | 9-6 | |
| on bolts | 15 | @ 5-4-8 | | 6-10-8 | |
| Do | 12 | @ 4-4-8 | | 5-15-10 | |
| Do | 9 | @ -3-8 | | 4-9-4 | |
| Do | 6 | @ -2-4 | | 3-4-8 | |
| ross sewers | 1/2 | @ -14 | | 24-8-0 | |
| Do | 1/4 | @ -11-4 | | 6-0-4 | |
| Do | 1 | @ -10 | | 4-6-0 | |
| hire for above | | | | | |
| is & Superintendence) | | | | | |
| ross Expenditure) on 1868/69 | | | | | |

| | | | |
|---|---|---|---|
| | | 80 | 0 |
| 52 | 7 | 9 | |
| 406 | 12 | 10 | |
| 13259 | 7 | 4 | |
| 44251 | 2 | 9 | |
| 8828 | 10 | 7 | |

These are not wanted, they were received from In
with doors and windows, will be sold by auctio

Dead loss

Do

Carried over

W.S.G

Detail Estimate for Masonry in substitution of Timber Superstructure of the Bridge across the Kuttalagoorootty Stream on the Kovilagoor Kuttalagoorootty Road in Shunam Taluq

| Distance of Cartage | Quantity | Materials and Labor | Rate | Amount | Total |
|---|---|---|---|---|---|
| | | Masonry in substitution of the Superstructure of the Bridge | | | |
| | | None in Shunam as the Superstructure is to be completed Departmentally | | | |
| | 1 | Cyd Complete as per Estimate | 8/11 | 8/11 | 8/11 |
| | | Basement Specification | | | |
| | | with chisel dressed stone in Shunam | | | |
| 2½ | 1. | Cyd Quarrying (sandy) at the same Rate as Cyd | 1 | 1 | |
| 2½ | 3. | Carts (as the quarry is) ——— @ ——— Cyd | 2 | 1/5 | |
| | 5. | Bandsmen 2"x1½"x0.4" | 3 | 1/5 | |
| 16 | | deduct including Cartage | 3 | 1/5 | |
| | 2 | Coolies at Shunam | 4 | 8 | |
| 1 | 4 | do Poland | 10 | 34 | |
| | | Total Material | | | 3 11/10 |

Enclosure to Despatch

From

The District Engineer

Kurnool

To. P. W. 6973/74

The Chief Engineer

D. P. W.

Pg. 712 Dated 10th

Da. No. 237. Madras

Dated 23d } September 1874.

Received } P. W. 6038/74

Statement showing details particulars of outlay incurred upto date on the Kovilagoor Kuttalagoorootty Taluq Kutcherry as per standard plan Not of 1868, and the description and value of materials &c. that are available for the new building according to the design forwarded with G. O. No. 1871. of 13th July 1874.—

G-O-3490-12-12-74-

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Brought forward | | | | | 10 |
| | | Actual cost for labor to Chisel dress the Stones for outside face of building | 3 27 Cy. | 3 27 | | | |
| | 2 | Women to pound Chunam @ | 28 @ | 54 | | | |
| | 2 | Bricklayers | 10 | 14 | | | |
| | 1½ | Men Coly | 3 | 46 | | | |
| | 1 | Boy Coly | 2 | 2 | 5 | 2 | 5 |
| | | | | | 8 | 14 | 3 |
| | | Sundries | | | | 1 | 9 |
| | | Total for a C yard of Chisselled Dressed stone in Chunam | | | | | 9 |
| | | Hammered dressed stone in Chunam | | | | | |
| 2½ | 1 | Cy. of Stone Quarrying @ | 6 | Cy. | 6 | | |
| | 3 | Carts (as the road is bad) @ | 2 | Mile | 15 | | |
| | 5 | Bond Stones 2×1½×0.4 dressed including Carbage | 36 @ | | 1 | 16 | |
| 16 | 2 | Parahs of Chunam @ | 4 | Parah | 8 | | |
| 1 | 4 | Do of Sand | 10 | | 34 | | |
| | 2 | Stone Cutters | 8 @ | | 1 | | |
| | 2 | Builders | 8 | | 1 | | |
| | 2 | Men Coolies | 3 | | 6 | | |
| | 3 | Boys | 2 | | 6 | 5 | 13 10 |
| | | Sundries | | | | | 2½ |
| | | Total per Cy. Rs. | | | | 6 | |

Flooring with Stone Slabs 3" thick

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2½ | 45 | Stone Slabs not less than 18 Square Quarrying | 1 @ | | 2 | 13 | |
| | 3 | Carts | 2 | Mile | 15 | | |
| | 6 | Stone Cutters | 8 @ | | 3 | | |
| | 2 | Builders | 8 | | 1 | | |
| 16 | 1½ | Parahs of Chunam | 4 | | 6 | | |
| | 3 | Do of Sand | 18 | | 26 | | |
| | 2 | Men Coolies | 3 @ | | 6 | | |
| | 3 | Boys or Women | 2 | | 6 | | |
| | | Sundries | | | | 6 | 9 1 |
| | | Total for 1 Square | | | | | 9 1 |

District Engineers Office
Kurnool 26th October 1874

Compd. Hackwood
Draftsman

L. R. Gordeh
Dist. Engineer

Detailed Data accompanying the Estimate for Constructing the New Saluq Kutcheery at Kovilagoontlak V.I.

Kamood District

| Distance of Cartage | Quantity | Materials and Labour | Rate Per | Amount | Total |
|---|---|---|---|---|---|
| | | Masonry in foundation with | | | |
| Vide | | large Hammier dressed stones (in work Lime Mortar) | | | |
| 2/2 | 993 | Large footing stones | @ 8 0 each | 496 8 0 | |
| 2/2 | 4250 | Bond Stones | " 22 " 100 | 935 0 0 | |
| 16 | 15 | Candies of Chunam | " 9 8 0 Candy | 142 8 0 | 31/6 15 15 |
| 1 | 76/2 | Cubic yards of Sand | " 10 0 Cy | 44 13 0 | 1555 15 15 1621 |
| | | Labor actual expenditure as per station book | | 1555 0 10 | |
| | | Total expenditure incurred for 2/2 3/4 Cyard of work | | 2176 13 10 | |
| | | Therefore cost for 1 cubic yard of above work | | 11 10 4 4/8 | |
| | | Basement & Superstructure | | | |
| | | with Chisel Dressed stones | | | |
| 2/2 | 1/4 | Cyard of quarrying and Casting stones | @ 1 8 0 Cy | 1 14 0 | |
| 2/2 | 5 | Bond stones 2x1x2 | " 36 each | 1 1 6 | |
| 16 | 2 | Parahs of Chunam | " 4 0 Parah | 0 8 0 | |
| 1 | 4 | " Do of Sand | " 10 Do | " 34 | |
| | | | Total Materials | 3 10 10 | |
| | | | Carried over | 3 10 10 | |

Brought forward 2 94

Labor for 1 C.yard

| | | | | | |
|---|---|---|---|---|---|
| (Pounding bruised stones) | 2 Women coolies | 28 Perch | | 54 | |
| bruised dressed stones (actual expenditure) | | 3 27 Cft | | 3 27 | |
| 2 | Bricklayers | 10 | each | 1 4 | 0 |
| 1½ | Men coolies | 3 | Do | 4 6 | |
| 1 | Woman cooly | 2 | Do | 20 | |
| | Total Labor | | | 5 25 | |
| | Sundries Do | | | 29 | |
| | Total Cost for 1 Cft of above | | | 9 | 0 |

Hammer dressed stone in Chunam

| | | | | | |
|---|---|---|---|---|---|
| 2½ | 1 C.yard of stone quarrying | 54 | Cft | 62 | |
| 2½ | 3 Carriage | 6 | Loa | 1 2 | 0 |
| 16 | 1 Parah of Chunam unslaked | 8 | Perh | 1 8 | 0 |
| 1 | 4 Do of Sand to mix | 10 | Do | 34 | |
| | 2 Stone cutters | 8 | each | 1 | 0 |
| | 2 Builders | 8 | Do | 1 | 0 |
| | 2 Men coolies | 3 | Do | 6 | 0 |
| | 3 Women Do | 2 | Do | 6 | |
| | 5 Bond Stones 5 x 2 | 36 | Cft | 1 16 | |
| | Total Cost for 1 C.yard | | | 6 | 10 |

Concrete

| | | | | | |
|---|---|---|---|---|---|
| 3/4 | C.yd of Quarrying stones | 4 | Cft | 3 | 0 |
| 9 | Parahs of breaking stones | 18 | Perh | 1 5 | 0 |
| 2½ | 2 Cart loads | 6 | Load | 0 12 | 0 |
| 16 | 2 Parahs of stone lime slaked | 4 | Perh | 8 | 0 |
| 1 | 4 Parahs of Sand | 10 | Do | 34 | |
| | carried over | | | 29 | 4 |

Brought forward 2 94

| | | | | | |
|---|---|---|---|---|---|
| | 2 Women coolies | 2 | each | 4 | 0 |
| | 3 Men to mix plaw saw | 3 | Do | 9 | 0 |
| | 2 Women coolies to pound mortar | 2 | Do | 4 | 0 |
| | Total Cost for 1 Cft of Concrete | | | 3 10 | 4 |

Flooring with stone slabs 3" thick

| | | | | | |
|---|---|---|---|---|---|
| 2/2 | 45 Stone slabs not less than 18 Square (quarrying) | 1 | each | 2 13 | 0 |
| 2½ | 3 Cart load 3" thick | 2 | Do | 1 14 | 0 |
| | 6 Stone cutters | 8 | each | 3 | 0 |
| | 2 Builder | 8 | Do | 1 | 0 |
| 16 | 1½ Parahs of Chunam | 4 | Perh | 6 | 0 |
| 1 | 3 Do of Sand | 10 | Do | 26 | |
| | 2 Men coolies | 3 | each | 6 | 0 |
| | 3 Women Do | 2 | Do | 6 | 0 |
| | Sundries | | | 6 | |
| | Total for 1 Square | | | 10 | 0 |

Terracing with brick on edge
3" levelling Course, brick jelly
2", three courses of flat tiles
and plastering to top of terrace
to ceiling.

| | | | | | |
|---|---|---|---|---|---|
| 1650 | Terrace brick 5 x 3 x 1½ | 5 | 0 | 1000 | 8 4 0 |
| 2 | Parahs of stone lime slaked | 4 | Perh | 8 | 0 |
| 4 | Do of Sand | 10 | Do | 34 | |
| 1/3 | Vis of Jaggery | 4 | Vis | 1 | 4 |
| 2 | Bricklayers | 12 | each | 1 | 8 0 |
| 5 | Women or Boys | 20 | Do | 10 | |
| | | | | 11 | 28 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Brought forward | | | | 11 | 28 |
| 1 | Man cooly | | 8 | o | each | 3 | o |
| 1600 | Flat tiles 6 x 6 x ½ | | 1 | 12 | o Mille | 2 | 12 10 |
| 1/2 | Parals of stone lime slaked | | o | 4 | o Perch | o | 6 o |
| 2/2 | Do of Sand | | o | 10 | Do | o | 2 1 |
| 2/2 | Women or Boys | | o | 2 | each | o | 3 o |
| 1 | Man cooly | | o | 3 | Do | o | 3 o |
| 1/2 | Ups of Daggers | | o | 4 | Ups | o | 1 4 |
| 2 | Bricklayers | | o | 10 | each | 1 | 4 o |
| 200 | Common brick for levelling courses | | o | 8 | Mille | 1 | o o |
| 3 | Cart loads of brick Jelly | | 1 | o | Load | 3 | o o |
| 1 | Parals of stone lime slaked | | o | 4 | Perch | o | 4 o |
| 2 | Do of Sand | | o | 10 | Do | o | 1 8 |
| 1/2 | Women or Boys | | o | 2 | each | o | 3 o |
| 1/2 | Man cooly | | o | 3 | Do | o | 1 6 |
| 1/2 | Bricklayers | | o | 10 | o | o | 5 o |
| 1 | Sqr of Plastering 3 coats to ceiling | | | | | 6 | 6 o |
| 1y | Do of Do to terrace | | | | | 5 | 6 o |
| | | | | | Sundries | o | 1 11 |
| | | | | | Total Cost for 1 Square | 33 | 4 o |

Compd by
L.P.
23-9-74

Signed G. A. Vardon
Rangs officer

True Copy.

Ditto Engineers office
Kurnool 23d Sept 1874

H.B. Goodchap
District Engineer.

5. Tenders Received

From

The Distt. Engineer
Kurnool
No. P.W. 6973/74
The Chief Engineer
D.P.W.
Madras

Dated 23d September 1874
Received 26th Sept. 1874

Detailed data to accompany the estimate for Constructing the new Taluq Kutcheery at Kovilagoottlah—

P.W. 6038/74
4

No. 110.

District Engineers Office A

Kurnool 27th October 1874

From

The District Engineer
Kurnool.

To

The Chief Engineer
D. P. W. Madras.

Subject

Taluq Cutchery at Kodigunta, revised estimate.

Sir,

With reference to your memorandum dated 19th Instant. I have the honor to observe that, the data calculated by you to complete, the masonry in foundation is Correct, viz Rs 2-11-0. The estimate has been corrected accordingly.

2. Under the head of Materials at site in Statement

A for Building Stone Rs. 5,702-12-4
is entered as actual expenditure
under that head, which is correct;
The rate however was struck
with reference to the quantity
at site, and the expenditure
which gave Rs 3-2-9 per Cubic
yard; but as the 500 Cyds of
loose stone was included, for
which credit had already been
given in Sheet No 1 of State-
-ment A. the entry ought
to have appeared thus.-
Building stone - C. Yd. 1298 -
@ about Rs 4-6-4 per C. Yd. =
Rs 5,702-12-4 - The stone at
site is not completely dressed;
but the difference between
4-6-4 in Statement A and
Rs 5-0-7 as per data, will
provide for the stone being
dressed to Specification.

3) Revised data for
Masonry "Hammered dressed
Stone in Chunam" is enclosed
in which the size of Cond
stones is noted. The Parah
of Chunam entered in the
data for this work was
unslaked, the proportion of
Sand was correct viz 2 to 1
slaked lime.

4. Revised data for Flooring
with stone slabs 3" thick
is herewith submitted, and
the estimate rate has been
corrected accordingly.

5. The Charges amounting
to Rs 926-14-8 for demolish-
-ing old foundation, and
upping up old Concete, have
been struck out of the
revised estimate, as instructed.

6. The abstract estimate, detailed data for rates, (original and revised,) and Statement A, are herewith returned.

7. When the work is recommenced I will make it a point to ascertain the actual cost of each description of work, both as to material and labor.

I have the honor to be
Sir,
Your most Obdt Svt

H. Goodrich
Bvt Lt Col U.S.E.
District Engineer

Gen H. Haupt

Public Works Department

Proceedings of the Madras Government

Read the following

From

The Dy Engr Kurnool

To

The Chief Engr

Dated 27 Oct 1874

Rec'd

No 110

Enc: 4

Regarding

Tolcook Cutchery

at Koilgoontla

No 2374

No. 3490-12-12-74.

Proceedings of the Madras Government

Read the following

From The Dy Engr Kurnool ( No 92 dated 23rd Sept 1874)
H.C. Memo No 796 dd 17th Oct 1874.

To The Chief Engr ( No 110 dated 27th Oct 1874)

Dated 27 Oct 1874

Rec'd

No 110

Enc: 4

Regarding

Tolcook Cutchery

at Koilgoontla

No 2374

No. 3490-12-12-74.

3490

The circumstances connected with the failure of the foundations of the Koilgoontla Cut-cherry have been already communicated on in the Govt. orders noted in the margin. It was also brought to the notice of the Government that the expenditure of the late District Engineer

G.O. Nos. 888 dd 30th March/74
" 1025 " 21st April "
" 1831 " 9th July "
" 2080 " 31st "
" 2546 " 9th Septr "

23/11.

J.D.S.
25.11.

Engineer on the reconstruction of the buildings was to the last degree extravagant and by their orders of the 3rd July 1874 N: 1786 all work was stopped pending the submission of revised estimates accompanied by a full report. These are now forwarded by the present District Engineer.

2 This Officer now confirms the information already conveyed in previous reports to the effect that all idea of economy in the distribution of labour and the use of material was lost sight of when the reconstruction of the buildings was commenced.

3 It appears from the statements now submitted that the actual loss incurred amounts to Rs: 10172. The present value of work done and materials collected up

up to date is estimated
at Rs: 2175 and the
prospective expenditure
necessary to complete
the building at Rs. 31236
Thus when the cutcherry
is ready for occupation
there will have been an
outlay of Rs: 63162
An Analysis of items
composing the sum
of Rs: 10172 proposed
to be written off to
Profit & Loss shows that
they may be classed
under the following
heads



heads-

| | |
|---|---|
| Failure of foundations owing to defective construction | Rs: 7221 |
| Alterations in design after construction had commenced | " 2005 |
| Deterioration of materials from lapse of time | " 946 |
| Total Rs: | 10172 |

The Dt Engineer further reports that there has been a loss from waste of labour and consequent high rates for work done by the late Dt Engineer which he estimates at Rs: 2517.

5 It is evident that there has been an unfortunate

unfortunate display of incompetence on the part of the officers who have previously been concerned in the construction of this building & it would be useless to enter into these details if the Government did not express at the same time their intention in future similar cases of reducing the responsibilities and also the position of those who fail so glaringly in executive

executive duties.

6 The rates in the estimate forwarded by the Dt Engineer are high but this is partly owing to the fact that the cost of the material on the ground has been enhanced in the manner already alluded to.

7 His Excellency in Council expects Mr Goodchap to watch carefully the progress of the work and take every opportunity of effecting

reflecting savings when
compatible with good
workmanship.

The estimate is
now sanctioned.

Dep. S
16.10.74

Govt

Dy. C. Kurnaal
Controller with Ab. Estimate
Judicial Dept.
Dept. 14/12/74.

To all other Dist. Engineers
& the Exec. Engr. Wynaad
Dept. to all 17/12/74.

Circl-11-74

236-23

13-6038

of 1874 Madras.

UBLIC WORKS.

Encl. 6

O. 12 Dec. No. 3490

Nos. 236-238

oontla Taluq
erry-Nuzeed Dt

vised Estimate
te completion of
Calcherry sanctioned
observations -