Public Works (1898) Department.

G.O., No. 2855 W

DATED 11th Nov '98

x 15/11/98

[Despatch Abstract.]

Office for the Dy Tahsildar at Sathiavedu

Revised Estimate of Rs 14,600 for constructing an ______ in the Chingleput Dt, Sanctioned, with remarks.

110/0

7/13/C.S

Indexed.

[P. W. 26. / 1,000—12-2-98.]

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

BUILDINGS AND ROADS.
CIVIL WORKS.

Government (1898) of Madras.

PUBLIC WORKS.

Recd. } 1898. *Enclosures*
Regd. } *Spare copies*

G.O., No. 2855 W., 11th November 1898.

NOVEMBER.

Office for the Deputy Tahsildar at Sathiavedu

Revised estimate of Rs. 14,600 for constructing an — in the Chingleput district, sanctioned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following papers :—

G.O., Mis. No. 3624, Revenue, dated 15th July 1897.

Read—the following Proceedings of the Board of Revenue (Land Revenue), dated 16th June 1897, Mis. No. 2207 :—

Read—letter from D. D. MURDOCH, Esq., Acting Collector of the Chingleput district, to the Secretary to the Commissioners of Land Revenue, dated Saidapet, 2nd June 1897, Ref. on No. 782 Gl.

With reference to paragraph 3 of the note by the Chief Engineer, Public Works Department, embodied in G.O., No. 3300 W., dated 18th November 1896, communicated with Board's Proceedings, Mis. No. 5565, Land Revenue, dated 16th December 1896, I have the honour to state that the estimate for the construction of an office for the Deputy Tahsildar at Sathiavedu was prepared without providing a room for the Police guard for the Sub-treasury. It was considered that a room was not necessary and that the guard might remain during the day in the verandah and at night in the Deputy Tahsildar's court-room near the door leading into the treasury room, patrolling through the verandah. On receipt of the Superintending Engineer's letter regarding accommodation for the guard, a reference was made to the Superintendent of Police. He is of opinion that a room should be provided for the guard and I agree with him; the arrangement originally contemplated is not a satisfactory one. A revised plan and an estimate for Rs. 15,670 for the office have been prepared and they have my approval. The estimate, together with plans, report and data, is submitted for the sanction of Government.

Resolution—Mis. No. 2207, dated 16th June 1897.

Submitted for the sanction of Government, with reference to G.O., No. 3300 W., dated 18th November 1896, communicated with G.O., No. 5073, Revenue, dated 10th December 1896.

(True Extract.)

(Signed) N. S. BRODIE,
Acting Secretary.

Order—Mis. No. 3624, Revenue, dated 15th July 1897.

Approved and transferred to the Public Works Department for sanction.

(True Extract.)

(Signed) C. H. B. BURLTON,
for Ag. Secretary to Government.

From Colonel C. C. RAWSON, R.E., Superintending Engineer, V Circle, to the Chief Engineer, Public Works Department, dated Chepâk, 2nd October 1897, No. 409 W.

With reference to your memo., No. 3993 C., dated 27th September 1897, I have the honour to draw your attention to the plan of the proposed Deputy Tahsildar's office at Sathiavedu,* from which you will see that the treasury and property room has a *tiled* roof as is allowed in the standard plan.

* Sent herewith for reference.

2. As it is obvious that a roof of mission pattern tiles is not a safe covering for a treasury, it is proposed to put in a covering composed of thin brick arches, half brick thick, with a very thin layer of concrete over, *under the tiled roof*, as a protection to the treasury, as was done in the taluk cutcherry recently built at Chidambaram. The construction is *not* a terrace roof and cannot possibly carry any live-load.

3. I would, moreover, point out that the construction is a very old one and has been used for the coverings for buildings for years. In addition to the taluk cutcherry at Chidambaram already referred to, the floor of the upper storey of Colonel Drake-Brockman's house in Tanjore, recently bought by Government as a residence for the Executive Engineer, Tanjore, is carried on this construction, also I think the roofs of the treasuries at Chittoor and at Trichinopoly.

4. There are also many buildings belonging to the South Indian Railway of this construction.

From H. T. KEELING, Esq., Acting Professor of Engineering, College of Engineering, Madras, to the Superintending Engineer, V Circle, dated 13th October 1897, No. A.

In reply to No. 295 M., dated 2nd October 1897, I have the honour to state that, presuming the rail in question to weigh 40 lb. and be single-headed, the answer to your question is 19 cwt. The question is one of calculation and not experiment.

No. 103 W./C.

Submitted to the Chief Engineer, Public Works Department, with reference to his memo., No. 3993 C., dated 27th September 1897. The calculations given to me by Major Love show that the strength of the beam is a little over one ton. The weight that each rail carries is about one ton, not $2\frac{3}{4}$.

(Signed) C. C. RAWSON, Col., R.E.,
17th October 1897. Superintending Engineer, V Circle.

From the Superintending Engineer, V Circle, dated 6th May 1898, No. 317 W.
" " " V " 18th Sept. " " 594 W.

Note by the Chief Engineer, Public Works Department.

The cost of the proposed building, viz., Rs. 4–1–0 per square foot, is considered excessive, and the following reductions are therefore recommended.

2. The soil appears to be good and the depth of 5 feet of concrete foundations under verandah posts is unnecessary. The foundations of main walls should be $3'\ 10\frac{1}{2}''$ wide and 4 feet deep, and that of the retaining walls 3 feet wide and 3 feet deep.

3. The terrace protection below the tiled roof in the treasury or property room is undesirable, as the space enclosed will harbour damp and vermin. A corrugated iron ceiling under the rafters has been provided instead.

4. A cheaper description of roof has been entered in the estimate by omitting the ceiling planks of the rooms, and embedding the Mangalore tiles in $\frac{3}{4}$ inch rough mortar laid over flat tiles, placed on teak reepers 2″ × $\frac{1}{2}$″, spaced at 6 inch centres, and with rafters 21 inches apart. The weight of such a roof being only 21 lb. to the square foot, the section required for the room rafters will be 2″ × 3$\frac{1}{2}$″, allowing 40 lbs. per square foot for wind pressure.

5. From data prepared in this office and forwarded herewith, it will be observed that the cost of a square of roofing, with Mangalore tiles embedded in mortar over flat tiles is Rs. 25, against the estimate rate of Rs. 47 for Mangalore tiles with teak planked ceiling.

6. The total amount of the estimate has been reduced by means of the above alterations from Rs. 15,670 to Rs. 14,600.

(Signed) W. B. DEWINTON,
Chief Engineer.

5th November 1898.

ORDER—No. 2855 W., dated 11th November 1898.

The revised estimate, amounting to Rs. 14,600, as modified by the Chief Engineer, for constructing an office for the Deputy Tahsildar at Sathiavedu in the Chingleput district is sanctioned, in supersession of the estimate of Rs. 14,460 sanctioned in G.O., No. 3300 W., dated 18th November 1896.

2. The existing grant for the work is Rs. 1,000.

3. Attention is drawn to the Chief Engineer's note recorded above.

4. This sanction has been registered as Provincial No. 80 W. of 1897–98 and classified as Civil Buildings—Original Works.

(True Extract.)

Under Secretary to Government.

To the Superintending Engineer, V Circle, with seven enclosures.
,, Examiner, Public Works Accounts.
,, Revenue Department.

Exd. T. K. Narayana Aiyangar.

Public Works DEPARTMENT.

Papers to be read in Proceedings :—

Again G.O., dated ~~29th December~~ 1897, No. [illegible]

Again G.O., dated 189 , No.

Print Current No. 7145 of 1897, dated 15th July 97, from Revenue Dept.
Print ,, ,, ~~9898~~ 9878 ,, 1897, ,, 2nd October ,, S.E.V Circle.
Print ,, ,, 10314 ,, 1897 ,, 17th October 1897 ,, — do —
Dupl ,, ,, 4041 ,, 1898 ,, 6th May 1898 ,, — do — No 317 W
Dupl ,, ,, 7783 ,, 1898, ,, 18th Sept 1898 ,, — do —
Print Note by the Chief Engineer, P.W.D., dated 5th October 1898. 5944

quote

ORDER. No: 2855 W of 11.11.98.

The revised estimate, amounting to Rs. 14,600, as modified by the Chief Engineer, for constructing an Office for the Deputy Tahsildar at Sathiavedu in the Chingleput District is sanctioned, in supersession of the estimate of Rs. 14,460 sanctioned in G.O. No. 3300 W dated 18th November 1896.

2. The existing grant for the work is Rs. 1,000.

3. Attention is drawn to the Chief Engineer's note recorded above.

4. This sanction has been registered as Provincial No. 80 W of 1897-98 and classified as Civil --- Buildings, Original Works.

APR
25.10.98

8.11.98

The Suptg. Engineer, V Circle,
with 7 enclosures.
The Examiner, P.W. Accounts.
,, Revenue Department.

Note.

This estimate has been dealt with in the accompanying technical note

x Flag N.

P. W. 4.
500—24-3-98.

note and the note by the Chief Engineer. The revised estimate exceeds the Original One by Rs. 140 Only.

ALK
25.10.98.

W

Maj

It is submitted for sanction of Govt under Code Vol I Chap IX para 4, because an important structural alteration is involved. viz the addition of a separate room for the Police guard.

5.11.98

ALK

D.W

H.S. / Please [illegible] this before [illegible] go to H.E. [illegible] 7.11.98

Yes [illegible] 7/11/98

With reference to W's remarks on the accompanying draft order, kindly see para 61(e), Chapter III, Vol I of the P.W. Code, and para 4, Chapter IX of the same Code. Under the first rule, all alterations in construction details of works can be sanctioned by the S.E., provided the excess is not more than 5 p.c of the estimate, while under the second rule important structural alterations, though not involving increased outlay, require the orders of the original sanctioning authority.

2. Orders are therefore requested as to whether a draft may be prepared in accordance with W's instructions.

Maj
2/11/98.

W

For orders whether the second of the above quoted rules is to be held to apply.

ALK

3.11.98.

~~H.E.~~ Yes. I did not note the structural alteration

5.11.98

-10-97.]

DEPARTMENT.

28554

Papers to be read in proceedings:—

Again G.O., dated 189 , No.

Again G.O., dated 189 , No.

Print [Current No. 7145 of 1897, dated 15 July '97 , from Revenue Dept.

" " 9898 " 1897 " 2 Octr '97 , " S.E. V Circle.

" " " 189 , " " "

Note by the Chief Engineer, P. W. D, d/ Octr 1897.

ORDER.

The revised estimate, amounting to Rs. ~~15,670~~ 14600, for constructing an office for the Deputy Tahsildar at Sathiave in the Chingleput District is sanctioned, in supersession of the estimate of Rs. 14,460 sanctioned in G.O. No. 3300 W dated 18 Novr 1896.

2. The work should be und taken when funds are mad available.

3. Attention is drawn to the Chief Engineer's note recorded above.

. This sanction has be registered as Provl. No. 1897-98 and classifi Civil Buildings, Original

Superseded

S.E. V Circle
with 7 enclos:
Ex P. W. A.
Revenue Dept.

AcR
22.

10-9-24

Urgent.

I

It is very unsatisfactory that the estimate has been delayed for such an inordinate time — one year — in the Office, & there is no excuse for such neglect.

2. As the matter has, however, already been brought to W's notice; as arrears are now nearly all worked off; and as estimates are now taken up in proper order, I do not think it necessary to notice, more than I have already done, the dispirited supervision you exercise over work in your hands.

3. The ceiling boards can be cut out throughout the estimate, & flat tile & mortar, at a cost of Rs 4-8-0 per square, substituted. The necessary scantlings, on the data I gave the other day, can

It is very unsatisfactory that the estimate has been delayed for such an inordinate time — one year — in the Office, & there is no excuse for such neglect.

2. As the matter has, however, already been brought to W's notice; as arrears are now nearly all worked off; and as estimates are now taken up in proper order, I do not think it necessary to notice, more than I have already done, the dispirited supervision you exercise over work in your hands.

3. The ceiling boards can be cut out throughout the estimate, & flat tile & mortar, at a cost of Rs 4-8-0 per square, substituted. The necessary scantlings, on the data

be quickly calculated out. The figure of the estimate should thus be altered, as also the figure of the draft C.B. I will thus draft a note.

4. This reference must be treated as urgent & sent up without delay.

ACK
13-10-98.

[illegible] for flat tile roofing with mortar plaster in rough 3/4" thick per square.

	Rs
500 flat tiles at Rs 2 per 1000	1 . . .
½ bricklayer for fixing at 10 as	. . 5 . .
Rough plastering 3/4" thick	3 . 4
Sundries say	[illegible]
Total for flat tile roofing Rs	4 . 12 . .
Add for Mangalore tile roofing	20 . . .
Total per square complete	24 . 12 . . ×
or say Rs	25 . . .

Tho.
21.10.98

Details for rough plaster 3/4" thick

	Rs
6 Cft of sand at . . . 9 per Cft Rs	. . 4 . 6
3 Cft of lime at . . 4 . 9 – do –	. . 14 . 3
1½ bricklayer at . . 10 . . each	. . 15 . .
1 man cooly at . . 4 . . – do –	. . 4 . .
4 women coolies at . . 2 . . – do –	. . 8 . .
6 Cft of grinding at 6 pies per Cft	. . 3 . .
Sundries	. . 3 . 3
Total per square Rs	3 . 4 . .

Tho.

× W

The estimate has been delayed so long in this office that it is advisable to sanction it forthwith, particularly as S.E. has made a reminder about it.

2. If the S.E. cannot work up to the rate of Rs 25 per square he can report it. There is no reason at all to suppose he cannot do so.

ASK
22.10.

Allow rate of Rs 25 per square. It is certain the roof can be executed for this & reference to S.E. again will thus be not necessary.

ACK
20-10-98.

5-11-98

lated

Deputy Tahsildar's office and the
Sattiavadu, Chingleput Dist.

Data for Mangalore tile roofing with teak reapers 2" x ½" spaced at 6 inch centres.

150	Mangalore flat tile roofing purchased at Madras at Rs 55 per 1000	Rs 8.4..
	Add 5% for breakage &c.	..6.7
10	Ridge tiles at 2 as each	1.4..
	Add 5% for breakage &c.	..1..
·37	Tons or 829 lbs weight of 160 tiles carriage by cart from Madras Tile works to Sattiavadu a distance of 35 miles at 2 as per mile	4.6..
	Loading & unloading	..8..
	Add for two tolls	..4..
210	Rft. of teak reapers 2" x ½" at Rs 1-8.. per 100 Rft.	3.2..
	Reaper nails say	..6..
⅓	bricklayer at 10 as each	..3.
½	carpenter at 12 as each	..6
2	men coolies at 4 as each	..8.
	Sundries	..5.
	Total Roofing per 100 sft.	Rs 20....

P. T. O.

Main roof.

Slope 1½ to 1 or angle 33° 42".

Weight of roof per sft.

Flat tiles	4 lbs
Rough lime mortar ¾"	7 ..
Mangalore tiles	10 ..
Reapers 2" x ½"	0.66 ..
Total weight in lbs	21.66.

Reduced to normal component
= 21.66 x Cos 33° 42"
= 21.66 x ·8320 — 18·02

Wind pressure normal to a roof sloping 1½ to 1
= 40 Sin a $^{1.84 \cos a - 1}$ — = 29·30

Total weight lbs 47·32

Then W = 47·32 x 5·87 x 1·75 = 486·0

Deflection by formula = b d³ = $\frac{W l}{21}$

= $\frac{486{\cdot}09 \times 5{\cdot}87^2}{210}$ = 79·76

Therefore make common raft
2" x 3½".

T/
Approved. Make draft note accordingly, specifying style of roofing approved, allowing a rate of Rs 25 per square, & entering ... in note. A.K. 20-..

Dw/

By altering the foundations & by providing a corrugated iron ceiling to Treasury as ordered by W and by altering the roof materials from Mangalore tiles & planked ceiling to Mangalore & flat tiles to main rooms & plain Mangalore tiles to verandahs, a saving of Rs 1070, will be effected as under.

Alteration in foundations Rs	656
Provision of corrugated iron ceiling to Treasury	-57
Error in calculations in Estimate under superstructure & Pointing	-3
Alteration in roof materials as above	403
Contingencies & Petty supervision	71
Total saving Rs	1130
deduct excess	-60
Net saving Rs	1070

Data sheet is attached showing rate for Mangalore tile roofing with flat tiles & rough plaster. Tiles to be obtained from Madras & carted by road to Sattivedu distance of 35 miles. Also calculations for section of common ters bearing the above description roof is annexed.

Tho.
18.10.38

T/

Please to trace up my slips sent down with this few days ago, so that W may see how you have delayed this file.

2. This practice of yours of trying to conceal such delays is very objectionable, & it must not occur again

AK

Dw/ The slip is submitted 20-10-38. as requested.
It was intentionally kept back as from para 2 of your slip, I thought I was justified in doing so. Tho 21.10.38

Enter saving in note & alter figures in draft C.O.

Note accordingly in the note by E.W., & allow a rate of Rs 25 per square for a Mangalore terraced roof

Note by E.W.

The cost of the proposed building, viz. Rs 4.1.– per sq. ft. is considered excessive, & the following ~~material~~ reductions are therefore ~~recommended~~:-

2 The soil appears to be good & the depth of 5 feet of excavation for foundations under verandahs for is unnecessary ~~excessive~~. The foundations main walls should be 3' 10½" wi & 4 ft. deep, & that of the cella walls 3 feet wide & 3 feet dee

3. The terrace protection to the tiled roof in the Treasury Property room is undesirable ~~considered~~ ~~necessary~~, as the space over will become damp and ver

A Corrugated iron ceiling and rafters has been ~~should be~~ provided.

4. A cheaper description roof has been catered ~~can be obtained~~ the ceiling planks of the ~~throughout~~, and instead

Mangalore tiles in 3/4" rough mortar laid over flat tiles, placed on teak reepers 2" × ½", spaced at 6" centres, & with rafters 21 inches apart. The weight of such a roof being only 21 lbs to the sq ft, ~~and by allowing a wind pressure of 20 lbs per sq ft~~ the section required for the roof rafters will be 2" × 3½", allowing 40lbs per sq. ft for wind pressure

5. From data ~~prepared in this office~~ and forwarded herewith, it will be observed that the cost of a square of roofing with Mangalore tiles embedded in mortar over flat tiles is Rs

5. against the estimate rate Rs 49 for Mangalore tiles with planked ceiling.

The total amount of the estimate has been reduced by means of the above alterations ~~proposed above~~ from Rs 15,670 to Rs 14,600.

ALK
22. 10. 98.

5. 11. 98

18. 10. 98

Public Works (1898) Department.

CURRENT No. 7783

Order

I / To expedite disposal of the estimate & report where it now is.
ALK
26. 9. 98
DW

CM/

From The Supdg Engineer
5th Circle.

No. 594 W.

Dated 18/19 September 1898.
Received 19. 9. 98
Enclosures
Spare copies

SUBJECT.

Deputy Thasildar's Office at Sathavedu Chingleput District.

Requesting that the Estimate for the construction of — may be returned sanction as soon as possible.

2

4041

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

SUPERINTENDING ENGIN

V Circle, Madras,

No. 594 W.

Chepâk, 18/19 September 1898.

From

Colonel A. W. Smart R.E.
SUPERINTENDING ENGINEER,
V CIRCLE.

To

THE Chief Engineer,
P. W. Department.

x CEO 4041/98
Sent to Gov
Enclosures. 13-5-98

SIR,

In continuation of this office No. 317 W. dated 6 April 1898, I have the honour to request that the estimate for the construction of the Deputy Tahsildar's office at Sathiavedu Chingleput District may be returned sanctioned as soon as possible.

I have the honour to be
Sir
your most obedt. Servant

AW Smart
Colonel R.E.
Offg Supg. Engineer, 5 C

720—14-4-98.

17.9.98

BAC

His Excellency, the Governor.

P. W. DEPARTMENT.

READ the following :—

FOR ORDERS.

The accompanying estimate for constructing a Deputy Tahsildar's office at Saltcavide, Chingleput District, being in order, is submitted for Sanction.

C.H.R.B.
22/10/97.

H.E.'s instructions have been attended to & the estimate altered accordingly. The amount of the estimate has been reduced from Rs 15690 to Rs 15000

Ths
12.11.98.

I don't like the window [illegible] Terrace protection. The space enclosed will not [illegible] damp & [illegible]. I don't see that anything more is [illegible] than to lay corr: [illegible] under the tiles, or planking under the rafters [illegible]. Ask T to estimate difference of cost. Why 5' [illegible] ? [illegible] [illegible] good enough, & to abut to [illegible] 5' × 3½' of [illegible]

under a verandah post !
Rooms under verandah shd be
3' × 3' under main walls
4' × 3' 10½" —
3. [illegible] [illegible] the
shd be [illegible]
estimate [illegible]

T Reuse

C.H.M.
28/10

FOR ORDERS.

Public Works (1898) Department.

CURRENT No. 4041

Order

From The Supg Engineer
5th Circle.

No. 317W.

Dated 6th ~~April~~ May 1898.

Received 9.5.98

Enclosures 1

Spare copies

SUBJECT.

Deputy Tahsildar's Office at Sathiavedu

Requesting that the Estimate for the construction of the — may be returned sanctioned as soon as possible.

2362

7/

1/25

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

Copy of a letter from J. P. Davidson, Executive Engineer Chingleput Division dated 22^d April 1898 to the Superintending Engineer 5^th Circle

—

I have the honour to request that you will be so good as to arrange to return the sanctioned plans and estimate for "Constructing a Deputy Tahsildar's office at Sathianedu" as soon as possible. If the original sanctioned plans and estimates cannot be sent, I request that I may be furnished at once with working plans and estimates. I may mention here that the commencement of the work has been delayed for want of plans and estimates.

(Signed) J. P. Davidson.
Executive Engineer,
Chingleput Division

(True Copy)

Colonel R.E.
Supg. Engr V Circle

25.4.98

BACK PAPERS. FURTHER PAPERS.

No.

OWS.1 / c1001/58

No. 317 W.

SUPERINTE[illegible]G ENGINEER'S OFFICE,
V CIRCLE, MADRAS,
Chepâk, 6th ~~April~~ May 1898.

From
Colonel ~~C. C. Rawson~~ A. W. Smart R. E.
SUPERINTENDING ENGINEER,
V CIRCLE,

To
THE Chief Engineer
Public Works Department.

SIR,

In continuation of this office No. 175 W. dated 11th March 1898 I have the honour to request that the estimate for the construction of the Deputy Tahsildar's office at Sathivedu Chingleput District may be returned sanctioned as soon as possible.

Enclosures *C No 2362 [illegible] Tou 16/3/98

An indent for supplying the doors, windows, roof timbers, etc, required for the construction of the building, has been forwarded to the General Superintendent Public Works Workshops

A grant of Rs 14460/- has been given for the work in the current year's budget and therefore early sanction

200—19.1.98.

Sanction to the estimate is requested.

A copy of letter No. 266 dated 22nd Instant received from the Executive Engineer Chingleput Division is herewith forwarded for information.

I have the honour to be,
Sir
Your most obedient Servant,

Continued

Colonel R.E.
Superintending Engineer
5th Circle

25.4.28

Public Works (1897) Department.

CURRENT No. 10314

Order

From The Supg Engineer
5 Circle

No. 103 M/C

Dated 17th October 1897.
Received 18 – 10 – 97
Enclosures
Spare copies

SUBJECT.

South Indian Rails to support the terrace roof in the treasury & property Room of the Deputy Tahsildar's Office at Sathiavedu Chingleput District

---

Presuming that the — in question to weigh 40 lbs & be single headed the answer to the question is 19 Cwt.

I please keep this with the file on the subject now with you.
17/11/97

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

---

5 Copy of a letter from H. T. Keeling Esquire Ag. Professor of Engineering, College of Engineering, Madras, to the Superintending Engineer V Circle No. A dated 13th October 1897:

In reply to 295 m / 2.10.97, I have the honour to state that, presuming the rail in question to weigh 40 lbs and be single headed, the answer to your question is 19 cwt. The question is one of calculation and not experiment.

No 103 M/C

Submitted to the Chief Engineer P.W. Department with reference to ~~him~~ his memo No. 3993 C dated 27th September 1897: The calculations from blue by Major Love show that the strength of the beam is a little over one ton. The weight that each rail carries is about one ton not 2¾.

[illegible] Colonel R.E.
17.10.97
Supdg. Engineer 5th Circle

x sent to only for L.O. No 107 on 7.10.97

Wt. exclusive of live load.
Items dead load 2400 lbs
live load 3600
Total 6000 lbs
= 2.68 tons or say 2¾ tons if live load is actually necessary.

1.07 tons

6.10.97

Public Works (1897) Department.

CURRENT No. 9878

Print/

Order Note by the Chief Engineer

To the Supdg. Engineer V circle

As pointed out by the Superintending Engineer ~~5th circle~~ in his letter No. 409 W of 7th Octr 1897 it was a mistake to have allowed a live load. It is now calculated that the load on each rail will be 1.07 tn or rather more than the theoretical safe load. This no doubt will be practically safe provided the rails be carefully selected for it is important that they should be free from flaws.

22/10/97.

E. W.

From The Supdg. Engineer 5th Circle

No. 409 W

Dated 2/5 October 1897

Received 6-10-97.

Enclosures 1 plan.

Spare copies

SUBJECT.

Deputy Thasildar's office at Sathiavedu Chingleput Division.

Explains how it is proposed to have a semi terraced roof under the tile roof for the Treasury & property room in the—

3993 C / 27-9-97

L. O. file 107 sent to vols.

o L 5532

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

No. 4098 6th

SUPERINTENDING ENGINEER'S OFFICE,
V CIRCLE, MADRAS,
Chepâk, 7/5 October 1897

Print

From
Colonel C. C. Rawson R.E.
SUPERINTENDING ENGINEER,
V CIRCLE,

To
THE Chief Engineer
P. W. Department

SIR,

With reference to your memo No. 3993 C. dated 27th September 1897, I have the honour to draw your attention to the plan of the proposed Deputy Tahsildar's Office at Sathiavedu× from which you will see that the Treasury and Property room has a tiled roof as is allowed in the Standard plan.

Enclosures.

× Sent herewith for reference.

Ees.

2. As it is obvious that a roof of mission pattern tiles is not a safe covering for a treasury it is proposed to put in a covering composed of thin brick arches, ½ brick thick, with a very thin layer of concrete over, under the tiled roof, as a protection to the treasury, as was done in the Taluq Cutcherry recently built at

at Chidambaram. The construction is not a terrace roof and cannot possibly carry any live load.

3. I would moreover point out that the construction is a very old one and has been used for the coverings for buildings for years. In addition to the Taluq Cutcherry at Chidambaram already referred to, the floor of the upper story of Colonel Drake-Brockman's house in Tanjore recently bought by Government as a residence for the Executive Engineer Tanjore, is carried on this construction, also I think the roofs of the Treasuries at Chittur and at Trichinopoly.

4. There are also many buildings belonging to the South Indian Railway of this construction.

I have the honour to be
Sir
Your most obedt. Servant

3/10/97
Colonel R.E.
Suptg. Engineer 5 Circle

What spans?
The load proposed
is 1.07 tons per
each rail of 11'7½"
span. Are S.I.R.
rails equal to
that?
16.10.97

Dw
Yes.
vide S.E.'s letter No.
103 W/C dated 17.10.97

2.10.97

Public Works Department.

Current No. 7145
Letter No. 3624 Mis
Dated 15th July 1897
From the Revenue Department.

TECHNICAL NOTE.

Name of Work Constructing a Deputy Tahsildar's Office at Sathiavedu, Chingleput District.

Amount of Estimate, Rs. 15,670.

PARTICULARS OF ESTIMATE.

Main Building	Office	Rs. 14,362.
Arm racks & accoutrement pegs		25
~~Subsidiary Buildings~~		,,
Metalling round the building		50.
Contingencies	5%	,, 724.
Petty Supervision	2½%	,, 359.
Land Compensation		,, 100.
Demarkation stones &c.		50
Total Rupees	...	15,670.

T. Ho

Dw

Circular

No. 3993 C d/27-9-97

To the S.E. 5 Circle.

With reference to the revised estimate amounting to Rs 15670 for constructing a Deputy Tahsildar's Office at Sathiavedu, Chingleput District, the undersigned has the honour to observe that it is proposed to support the terrace roof in the Treasury & Property room by S.I.R. rails. The weight which each rail will be required to bear will, inclusive of live-load, be about 2¾ tons, and

P. W.-58
250—5-8-96.

PARTICULARS OF CONSTRUCTION.

Surface soil Loam to a depth of 1'6".
Sub-soil { reddish clay 2½ ft. below above & reddish clay mixed with boulders,
Foundations will be laid to a depth of 5 feet with concrete throughout to ground level.
Basement will be raised 2 ft. and built of dressed stone in chunam.
Walls will be raised as per heights noted on the tracing plan & estimate, and built with dressed stone in chunam with archwork over voids.

29/9/97

Plastering or Pointing the interior of rooms will be plastered with 2 coats of chunam and the exterior pointed black with tar & asphalte compo-sition.

Flooring will be of 6" square pressed tiles laid over 6" of concrete throughout except the record room which will be of 3/4" asphalte over 6" of concrete.

Roofing will be of Mangalore tiles laid over teak reapers & ceiled with 1/2" teak planks except the Police guard which will be terraced. Ceiling of record room will be zinc sheeting.

Doors and Windows will be of teak of the descrip-tions noted in the estimate & painted with 3 coats of Carsons Oak paint.

Roof timbers teakwood & painted with 3 coats of Zinc white paint.

Scantlings are correct.

Rates are fair except for terracing & fixed ventilators with wire netting, vide re-marks

The plinth area of the main building is 3,827 square feet, and the cost per square foot will be Rs. 4.1.0 exclusive of Compd. yard.

The plans and estimates have been countersigned by the Collector of Chingleput District and approved in the Revenue Dept.

REMARKS.

The estimate under review, a-mounting to Rs 15,670, has been framed with reference to para 3 of E.W.'s note embodied in G.O. No. 3300 W dated 18th November 1896, and provides for con-structing a Deputy Tahsildar's Office at Sathiavedu in the Chingleput Dist.

The original estimate amounting to Rs 14,460, & sanctioned in G.O. W. 3300 W dated 18th Novr. 1896, was prepared without providing for a room for the Police guards for the Sub Treasury, as it was then contemplated to con-vert the existing Dy. Tahsildar's Office into a Police station & Sub jail, now as the site has been altered, a separate room is considered necessary & estimate has been revised accord-ingly.

Provision has been made for a terraced roof below the tiled roof the Treasury & property room.

A rolled steel girder is proposed for the Police guard room of a sect 10"×6", & this section appears suf-ficient for the weight it has to car

The load on the girder will be

Terrace — 1 × 15'7½" × 7'6" × 0'9" × 120 = 10,54
Joists — 12 × 7'6" × 0'3" × 0'5" × 46 = 4
Live load — 15'7½ × 7'6" × 120 — = 14,06
Total load lbs 25,04
or 11.2 Tons.

W = WL = 11.2 × 15.62 = 174.94.

According to Messrs. Dorman & Long's catalogue of steel sections, with the coefficient taken as C, a sec-tion 10"×6" weighing 45 lbs per ft will suffice & the estimate pro-vides for this section.

The terrace roof in the Treasury & Property room is proposed to be made of Jack arches 5 inches thick with concrete above 1½", resting on S.I.R. rails, placed 2'7¼" apart from centre to centre. The strength of these rails is not known & the load on each rail will be 22.08 tons, for which a rolled steel girder 4⅝" × 3", weighing 14 lbs per foot will be necessary as per Dorman & Longs hand book. But the section of a S.I.R. rail weighing 28 lbs per yd. appears strong enough for the purpose now proposed.

```
  10530 ?
    431
  14040 ?
2240 / 25001 (11.1
       2240
        2601
        2240
         3610
i.e. nearly 11.2 tons
```

C.W.M.S.

10" × 5" weighing 35 lbs per foot would probably suffice, for it is not apparent why the coefficient C should be taken. However it is well to be on the safe side.

C.W.M.S.
21-9-97.

12.44 tons [illegible] C.W.M.S. 4.10.97

Ø weight over one rail:
brickwork & concrete.
2'7¼" × 11'7½" × 10" = 25 Cft.
deduct segl. area 0.38 × 11'7½" = 5 ..
Total cft 20 cft
20 cft of masonry × 120 = 2400 lbs
live load on terrace 2'7¼" × 11'7½ × 60 = 1817 lbs
Total load ~~4217~~ 2460 lbs
or ~~1.9~~ 1.07 Tons.
W = WL = ~~1.9~~ 1.07 × 11'7½"
= ~~1.9~~ 1.07 × 11.625 = 22.08 tons 12.44

22.08 tons is not, as stated by for this, taking into consideration the necessary proportion of depth to span to avoid deflection, a rolled steel girder section 7" × 3¾" weighing 18 lbs per foot run would be required. It is not known that a ~~[illegible]~~ S.I.R. rail~~way~~ will also fulfil this purpose: but it is believed that Mr. Keeling has been experimenting with S.I.R. rails by means of the testing machine at the Civil Engineering College. It is therefore requested that ~~the weight which a rail~~ the question of what weight a S.I.R. rail spanning 11'-7½" can support may be referred to Mr. Keeling.

C.H.B.S.
21/9/97.

21/9/97

R 26/9/97

The following rates are in excess of the divisional schedule. If schedule rates be adopted the saving will be only Rs 20 not worth noticing.

Terracing - Rs 30.... against Rs 27....
Ventilator with wire netting } .. 12... do - .. 10..

The lower rates will save only Rs 5
CWBS

14.9.97.

Span = 11' 7½"

$\frac{139\frac{1}{2}}{20} = 6.975$ or say 7 inches

T, the load on each rail: it is the distributed load that one foot will carry. A girder 4⅝" by 3" were in use for the fact that 4⅝" is considerably less than $\frac{1}{20}$ the span which is $\frac{128\frac{1}{2}''}{20} = 6.38$

∴ It would be necessary to have a girder 7" × 3¾" weighing 18 lbs per foot.

CWBS
21.9.97.

P.S. I note that T has taken live load at 60 lbs per square foot. If we take it 120 as usual. Total load = 2400 + 3600 = 6000 lbs = 3 tons nearly

∴ by w = WL.

w = 3 × 11.62 = 34.86 tons

~~or say 35~~

Then a section 7" × 3¾" will suit, for the girder must be at least 7" deep there being nothing in stock between 7" and 6¼" which is < than $\frac{1}{20}$th span.

P.S.
Weight on one rail
= 20 × 120 = 2400 lbs
(see preceding page)
and this is, as pointed out by the S.E. in his letter, no live load

∴ $W = \frac{2400}{2240} = 1.07$ tons

∴ w (= WL) = 1.07 × 11.625
= 12.44

which will suit a girder 3½" × 3" weighing 10½ lbs per foot

But the girder must be 7" deep to suit the span.

∴ 7" × 3¾" weighing 18 lbs per foot, as mentioned in memo No. 3953C of 27/9/97 would be required unless a South Indian

CHM 16.10.97

Mr. Keeling has since reported the safe load for a S.I.R rail of this span to be about 19 cwts. So probably 1.07 tons could be put on it. CWBS CHM 22/10/97

0 LS476

Public Works (1897) Department.

CURRENT No. 7145

Order

From

The Revenue Department.

No. 3624 Mis.

Dated the 15th July 1897.

Received 21-7-97

Enclosures 8 (2 plans)

Spare copies

SUBJECT.

Approving and transmitting to the Public Works Department for sanction estimate for the Construction of a Dy. Tahsildar's Office at Sathiavedu, Chingleput Dt.

BACK PAPERS.

G.O.	No.	Department.	Date.
	3369 W	P.W	24-11-96 ✓
	3300 W	"	18-11-96 ✓
	3582 C	"	14-10-96 ✓
	3463 C	"	29-9-96 ✓
	2385 W	"	26-9-95 ✓
	2381 W	"	26-9-95 ✓
	3393 C	"	7-9-97

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Ref on No. 782/Gl of 1897

SECY. GOVT. MADRAS
25 JUN 97
REV. DEPT.

Print

Chingleput
DISTRICT COLLECTOR'S OFFICE,
Saidapet 2d June 1897.

From

D. D. Murdoch Esquire

Ag Collector of the
Chingleput District,

To

The Secretary to the Commissioners
of Land Revenue,
Madras.

Sir,

With reference to para 3 of the note by the Chief Engineer, Public Works Depart., embodied in G. O. No 3300 W, Public Works, dated 18th November 1896, communicated with Board's Proceedings No ~~5462~~ 5565 Mis, Land Revenue, dated ~~9~~ 16th December 1896, I have the honor to state that the estimate for the construction of an office for the Deputy Tahsildar at Sattyavedu was prepared without providing a room for the Police guard for the Sub Treasury. It was considered that a room was not necessary and that the guard might remain during the day in the verandah and at night in the Deputy Tahsildar's Court room near the door leading into the Treasury room, patrolling through the verandah. On receipt of the Superintending Engineer's letter regarding accommodation for the guard, a reference was made to the Superintendent of Police. He is of opinion that a room should be provided for the guard and I agree with him; the arrangement originally contemplated is not a satisfactory one. A revised plan and an estimate for Rs 15,670 for the office have been prepared and they have my approval. The estimate, together with plans, report and data, is submitted for the sanction of Government.

I have the honor to be
Sir
Your most obedient Servant
S. B. Murdoch
Ag Collector

Dis 507
[illegible]

7

5244

3/6/97

3,000
10-12-96.

Print

21

Proceedings of the Board of Revenue

(Land Revenue).

No.2207 Misc.,dated 16th June 1897.

Read letter from the Collector of Chingleput,Ref. on No.782/Genl. of 1897,dated 2nd June 1897,to the Secretary to the Commissioners of the Land Revenue,Madras,

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Resolution

Submitted for the sanction of Government with reference to Government Order No.3300 W,dated 18th November 1896 communicated with Government Order No.5073 Rev., dated 10th December 1896.

(True Extract)

Ag.Secretary.

To

The Secretary to Government,Revenue Department,with
plan & estimate & letter in original to be retd.
The Collector of Chingleput.

Md.R.H.

189 .

Board of Revenue

(Land Revenue),

MADRAS.

To

Subject.

Recd 24/5/97

2,000—25-5-97.

78

REVENUE DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read

Read Proceedings of the Board of Revenue, Land Revenue, Madras, No:2207 Mis, d/16th June 1897.

Order thereon, No:3624 Mis, dated the 15th July 1897.

Approved and transferred to the Public Works Department for sanction.

(True Extract.)

C W Wheeler

For Ag. Secretary to Government.

To

The Public Works Department, with encls: ✓

" Board of Revenue, Land Revenue,.