

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No. <i>1635</i>	Press
B.P. No. _____	Mis. _____
Dated <i>10.6</i>	<i>1875</i> 195

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
10th June 1875.*

Read the following papers :—

No. 225.	* From the Suptg. Engr., Chingleput, dated 24th Oct. 1874, No. 2,534.				
No. 226.	Do.	do.	do.	„	11th Feb. 1875, „ 3,807.
No. 227.	Do.	do.	do.	„	17th „ „ 3,892.
No. 228.	Do.	District Engr.,	Presidency,	„	3rd March „ „ 6,488.
No. 229.	Do.	do.	Salem,	„	16th „ „ 226.
No. 230.	Do.	do.	do.	„	29th „ „ 232.

No. 231. ORDER THEREON, 10th June 1875, No. 1,635.

CIVIL WORKS, No. 27.

A PROJECT for supplying Guindy House with water was sanctioned in G. O., No. 870, of the 19th March 1873.

It was comprised in two estimates, one for repairing the engine-house and laying pipes to Guindy House, amounting to Rupees 8,250, and the other for working the engine for twelve months, amounting to Rupees 888.

2. With his letter of the 24th October 1874, No. 2,534, the District Engineer forwarded a comparative statement showing that on the two estimates there had been an excess of Rupees 3,726, of which Rupees 2,330 had been incurred in respect of work included in the estimate for Rupees 8,250, and Rupees 1,396 for the working of the engine provided for in the second.

3. With regard to the first excess there is not much that calls for remark, except that Rupees 1,938 of the whole appears to be for cast and wrought iron-work, and brass castings and fittings to the pump which were entirely omitted from the original estimate. It is not easy to understand why this oversight occurred, as a reference to the General Superintendent of Stores for an estimate of the work required from him would no doubt have prevented all mistake. Further, the General Superintendent of Stores admits an overcharge of Rupees 370 which reduces the excess in the comparative statement by that amount. The estimate was apparently prepared by Serjeant Armitage, signed by Major Hunter, and countersigned by Colonel F. Moberly, R. E. There is no specification in the proper sense of the word.

4. The excess on the estimate for working the engine amounts as before remarked to Rupees 1,396, and is caused wholly by a mistake in the original estimate as to the quantity of fuel which the engine would consume daily. The item for fuel provided is at the rate of Rupee 1 per diem, while the engine actually consumes 5 Rupees' worth. The annual charge therefore, supposing the engine worked throughout the year, would be Rupees 2,353 instead of Rupees 888 as supposed. The history of the adoption of this engine appears to be as follows :—

Mr. Robertson of the Government Farm had in his charge a 10 horse-power engine which he no longer required. The Chief Engineer by a memorandum, No. 165, of the 3rd May 1873, instructed the Presidency District Engineer to depute the General Superintendent of Stores and Workshops to inspect the engine and report whether it was advisable that the engine and boiler should be taken over by the Public Works Department for the Guindy Water Works, or any other purpose.

*Proceedings of the Madras Government, Public Works Department,
10th June 1875.*

5. In his letter of the 13th May 1873, No. 212, Mr. Grainger reported that the engine was suitable for employment at Guindy, or on any other work requiring a 10 horse-power engine. Mr. Grainger further states that the District Engineer, Chingleput, directed him to remove the engine from Sydapet Farm to Guindy, and the copy of Colonel Moberly's letter, No. 986, of the 17th July 1873, confirms this statement. The pumps were the same as those previously used at Guindy when an engine was kept there. They were the only ones in store, and they were accordingly sent by the General Superintendent, after, as it is alleged, inspection by Major Hunter. It turns out that they are faulty in construction and ill adapted to work with the engine.
6. Mr. Grainger disclaims responsibility, because he was not told what duty the engine was to perform at Guindy, and because in sending it there he only obeyed the mandate of the District Engineer, Chingleput. Colonel Moberly declares that he supposed that as regarded the project the Government considered him only a channel of communication, apparently because the Chief Engineer had instructed him to direct the Range Officer at the Mount to prepare, in communication with Lieutenant-Colonel Rogers, plans for supplying Guindy House with water, and he states that he was under the impression that it was an object to utilize an existing engine and pump. Colonel Moberly seems to hold that he is absolved from all responsibility in the matter. Captain (now Major) Hunter, R.E., affirms that after such an interval of time he is unable to say with certainty what guided the approximation as to the daily cost of fuel, entered at Rupee 1 per diem in the estimate, and that there was no discretion left as to the engine to be used. It was available, and had to be utilized.
7. The final result of the combined action of the officers above referred to is that an engine has been applied which is unnecessarily powerful, and which would be a permanent source of unnecessary expense; and that pumps have been fixed at considerable expense which are constantly breaking down.
8. It belonged to a proper investigation of a project for pumping water to ascertain the quantity of water which would be required daily, the height to which it was to be raised, and the power which was required to perform the work. The quantity of fuel required for the horse power should then have been ascertained, and with these data known, the suitability of the engine at hand could hardly have been assumed if its performances and consumption of fuel at Sydapett had been properly investigated.
9. It is evident that the project was superficially examined by the Range Officer, Captain Hunter, and confessedly it was not criticised at all by Colonel Moberly.
10. Mr. Grainger's report on the engine should have been more detailed. The inference from his reply to the Chief Engineer's memorandum might well be that the engine was fit for use at Guindy in the sense of economy as well as other considerations.
11. As Colonel Moberly took upon himself the responsibility of directing the removal of the engine to Guindy, he should apparently have exercised some scrutiny as respects the details of the original estimate. The one now presented amounts, after due correction, to Rupees 12,470, and is accordingly sanctioned.
12. Judging from the circumstances above detailed there seems to be no alternative but to replace the engine and pumps by others more suitable, or to provide for working the force pumps by animal power. The District Engineer will direct the

*Proceedings of the Madras Government Public Works Department,
10th June 1875.*

Range Officer to take the matter into early consideration, and he will submit as soon as possible his proposals for placing the water-supply at Guindy on a satisfactory footing.

(True Extract.)

Major, R.E.,

Offy. Joint Secretary to Government.

To the District Engineer, Salem.

„ Superintending Engineer, Chingleput.

„ Controller of Public Works Accounts.

Exd. A. Grulert.

Spare Copies

No 2534

5F
District Engineer's Office
Quincy 24th October 1874

From

The District Engineer
Chicago District

To

The Secretary to Government
Pub. Works Dept.

Sir

Enclosures
1 Comparative
Statement
1 Revised Abstract
E.V.

I have the honor to report that the project sanctioned in G. O. No 570 of 19th March 73 for supplying Quincy Government house with water has proved more costly than was anticipated.

The engine supplied by the Superintendent Public Works Workshops was too large for its duty and consequently there was a great deal more fuel consumed than a more fitting engine would have required. The charge for fuel was however under estimated - as 1/2 ton has been used costing \$2.50 nearly per day against the estimate of 1 Rupee.

The pump has also worked more unsatisfactorily and has frequently required repair.

The causes of excess in this district are set forth in the comparative statement. The workshop charges are not easily accounted for, I have submitted that

that of No. 160 instead of No. 150, per ton.
Though the latter amount was raised
by the Superintendent in consequence of
an offer to that amount in another
gentleman.

I had for drilling holes for a man
obliged to resign. There has been a con-
siderable correspondence between the
Executive Engineer and the Superin-
tendent Public Works at this point and
the charge appears to have been made.
The very few holes that could were
drilled by the Overseer. Now all the
pipes are socket pipes and there are
holes for.

I happened to enquire regarding
the charge for inserting an accumulator
flanged pipe to save our having to cut
a socket pipe in case of an accidental
obstruction. But no pipes were
inserted.

The charge has been returned
but under protest by Captain Smith
and I have rejected it.

I have the honor to be
Yours most respectfully
J. H. Smith
Colonel
J. H. Smith
Colonel

No. 274

10th March 1875

75

474

No 274

10th March 1875

The District Engineer Salem is

requested to report with reference to the letter of the District Engineer Chinnagapur of the 17th February 1875 what arrangements were made to prepare the project for the Guindy Water Works and whether any calculation of the Engine power required and of the cost of fuel was made by him and recorded for the information of Government.

By order

Signed/ Adal Scott Major

under Secy to Govt.

To The District Engineer Salem.

1875-53
474

J. W. 1874 Depart.
From No 6689.
The District Engineer
Chinnagapur
To The Secretary to Govt.
Go-10 June 75
D.O. 1635
R.O. 2635 October 74

En: 2. Retained to the C.
Memo: Nos 164 & 165 & 99th Feb 75
Reports, the project
Sanctioned for supplying
water to Govt. Park and
Guindy Park. Costs more
than was anticipated &
the pump worked very
unsatisfactorily and the
has rejected it.
1875
M. 443/75

Q. C. 19. March 1875 No 679 & 680
with origl Encl. commd
with No 2098 of 1875.
Memo: No 65 by Mr. M. S. S. 27
Q. C. July 1875
En 6226 with Encl. 27/74
En 7257. 27/1874
C. No 6913 of 1874. Encl. No 196
7/27. Nov 1873 origl Encl. 1875
7/29. Dec 1874 origl.
Q. C. 5. Oct 1874 No 18
Q. C. 6. July 1874 No 18
No 3765

No 225
En: 24/5/75
origl to Encl. 11-5. 75.
No 106 Encl. 26 Oct 74

C. S. S. Memo: 21

10/3/75

P. W. S. C. 10 Jan
1875

A 3807

Supr
CHINGLEPUT DISTRICT ENGR'S OFFICE,
Camp Goodenough, Chingleput.
11th February 1875.

From
THE DISTRICT ENGINEER,

Chingleput.

To
The Secretary to Government
Department Public Works.

Enc. 3
1 Estimate
1 Specification
1 Plan.

Sir,
I have the honor to return
the sanctioned estimate and
specification report of the
Guindy water supply works
as requested in the under
Secretary's Memorandum No 54
of 15th ult. No 146 of 6th inst. Major
Rogers' report on the subject was sent to the
Chief Assistant Engineer for his memo 76802.
I have the honor to be,
Sth S. S. S.

Sir,
Your most obedient Servant,

Colonel, R. E.,
District Engineer Chingleput.

to 12/24/75
copy to C. S. S. 11-5.75
copy to P. W. S. 11-5.75

10/11/75

No 160 instead of No 150 here too

P. W. 1875 Sept.
From
No: 995
THE DISTRICT ENGINEER,
CHINGLEPUT.

To
THE Secretary to Govt.
P. W. Dept.

Dated 11
Received 15 } 27 July 1875

2. 3 mounting No. 3807
ENCLOSURE.

Returns the sanctioned plan estimate of the quantity water supply works as per plan

N. 226

Cr. 29/5/75 V. 15 4/11/75
am. W. 11-5-75
sup. to 11-5-75
11/10/11 26/11/74

mem. 274-
1874 274 274
20 100 Jan 75 11/635
1/75

W. E. Eng. Ching

139
No 3892 Supg Engr's Office Ching
Quindly 17th February 1875.
From
The Superintending Engineer
Ching Report
To
The Secretary to
Government P. W. D.
Sir

In reply to Memo No 165 dated 9th February 1875, I have the honor to observe that in Memo without No dated 19th July 1872 the Chief Engineer desired me to instruct the Range Officer at the Mount to prepare, in communication with Captain / now Lt Colonel Rogers, plans for supplying Quindly House and Gardens with water.

2. The original plans for this project were drawn up by me personally in 1863, and met with the approval of Sir W. Denison (then Governor), but they were altered after I was removed as Superintending Engineer to Madras

the
the
Madras and Colonel Rogers design
preferred.

3. I concluded therefore that the
Government intended me to be
merely the channel of Communication.
The Estimates were drawn up, I held in
consultation with the Superintendent of
the Workshop, and I understood at the
time with a view to utilizing existing engine
and pump instead of going to the
expense of making or purchasing new
ones more suitable for the work.

4. The papers have been already
forwarded to you.

In No 3807 dated
11th February 1875.
+ Ar: 995

I have the honor to be
Sir

Your most obt servant

Henry Colles.
Superintendent of the Workshop

154

1894-550

In reply to your endorsement
N^o 6149 of 12th instant on Memo N^o 164 of
9th instant from Under Secretary to Govern-
ment P. H. D. relative to the Engine and
pump supplied to Quindiy I have the
honor to explain that the statement in
my letter N^o 212 of 13th May 1873 that the
Engine was suitable for employment
at Quindiy or on other work requiring
a 10 H. P. Engine was made in reply to
memorandum N^o 165 of 3rd May 1873
(Copy enclosed for ready reference) from
Chief Engineer P. H. D. The duty required
of the Engine and Pump for Quindiy
was never communicated to me at
any time by the Officers concerned. In
fact it was my suggestion to Colonel
Moberly on 1st June 1874 (by which
time it was found that the present
pumps

That
They
By
an
gen
oblig
sider
Exc
leadi
the
No
drill
pipe
holes

pumps could not raise sufficient water) that the quantity of water required at Guindy should be as much as that which would flow through the present 5" pipes under a head equal to the difference of level between the lowest level of water in river and the Cistern on Government House and the duty of the engine and pumps would have to be equal to the raising of this quantity of water through a height equal to that head. I have since sent the District Engineer Chingleput a design for a pump to do that work.

The engine was taken from the Sydapet Farm to Guindy under the following circumstances. After the receipt of the Chief Engineer's Memo above alluded to I showed the Memo to the District Engineer Chingleput who called at my office shortly after and that officer when writing to me on 17th June 1873 enquired when he was to expect the engine. My reply was "as regards the Government intent to believe that the portable engine at Sydapet Farm for the Guindy project I

I would suggest therefore that the Chief Engineer be addressed on the subject. In reply to this the District Engineer ordered me to remove the engine from the Sydapet Farm to Guindy. Vide his letter No 986 of 17th July 1873. Copy enclosed. The pumps were issued to Guindy as they were the only ones in store and had been I believe previously inspected by Major Hunter P.E. They were the same pumps that had been put up at Guindy first when Major (now Lieutenant Colonel) Rogers was in charge of the Range. I have written to Colonel Rogers on the subject and enclosed a copy of his reply in which he states that the present pump was formerly erected at Guindy and worked by a 4 or 6 H.P. engine. The cause of failure on that occasion being a large hole in the suction pipe of the pump which was not discovered until it was removed. With reference to the concluding part of para 2, a second engine and pump was put up at Guindy (before my time) but afterwards returned into the P.W. Stores and

I have the honor to be
Sir

Your Most Obedt. Servant

J. H. M. S. P.
Jewelry & Watch Shop & Store

the for and subsequently issued for the
by will be Water Works at Bangalore.
me re The charge for drilling holes &c.
ye ab is an overcharge and should not
th have been made. It arose from
olig. Clerical oversight in charging to
sid to this work. Items for drilling holes
Ex C &c which should have been charged
lem to the Foundry account under
the our Charges. General but appearing in
the of this account it was supposed to
The as have been done on account of drill
drin ing holes &c in the flanges
pif the alluded to in the last para but
hole the one of the District Engineer's letters
the Sup under report. The amount may be
for for Struck out of the comparative
a Recd Statement as Rupees 326-4-9
olig. who has already been adjusted in the
ine to the accounts to Charges General Foundry.
who. Vide your No. 3798 dated 22 January
but our 845 and the difference Rupees 43.15.3
and our will be remitted by the Workshop
was in communication with the Officer
was in charge Mount Range.
to Sgo

S.

Form

To

Presidents

Dated 26 }
Received .. } O'Day
1875.

No. 1575
ENCLOSURES.

I hope on the
 square and straight
 that we shall find
 a sunny water
 which will explain
 that the change
 needed have a
 connection.

No 6488

Wm. J. F.

9/01/2017

Chas. H. Hunt
Dec 16 35

Submitted to the Phil. Eng. & the 1st
in 1876
Chas. H. H. H.

2. Teil in Buchdruck 1. Ausgabe 1914
2. Ausgabe 1914

100-164
January 1975
Innocent

Indorsementary with the 10/18 from the

Stonington, Conn. - 1/10/1901

Term Casual Int

may not be

...of the ...

...the machine...

9 June 1964

(overlaid)

1871

Wellington

P. W. 1875 Sept
No: 1448
From

The Dist. Engr.
Presidency
Dated 3 March 1875
Recd. 4th —
E. L. No: 5488.

Sub. 10 June 1875
Submitting with
remarks a letter from
the Secy Supt. of
Works, reporting
on the engine and
pump that were
supplied to Guindy
Water Works —
N. V. 1819 p. 5.

12228
2.7.6.75
supd 16-5-75

Letter from Dist. Engineering College 275

23rd March 1875
No: 332 25F

Letter from Dist. Engineer Salem No: 226 of 15th
March 1875.

The detailed estimate for the
Guindy Water supply project with the speci-
fications herewith forwarded, are signed by
Major Hunter and the undersigned is directed
to request that he will be good enough to
state what considerations led to the estimate
of Rs. 1 per diem for fuel & whether the nature
(HP) of the engines required for the work was
ascertained & corresponded with the one sent.

By Order
Dy. A. de. C. Scott Major R.E.
Under Secy to Govt
P. H. D.
To The Dist. Engineer
Salem with enclos:
+ Estimate & specifications.

N^o 651.6.

Civil Engineering College
Chepauk 19th February 1875

From

Lieutenant Col. H. J. Rogers R. E.
Principal Civil Engineering College

To

The General Superintendent
P. W. Store, Chepauk.

Sir,

In reply to your N^o 1697 of the 15th Instant, I have the honor to inform you that the engine formerly employed at Guindy was a high pressure engine with vertical tubular boiler and overhead cylinders of either 4 or 6 Horse Power, that it threw the water up to the top of the Government House, but that owing to the pump shortly afterwards being found unable to work, it was decided by the Mechanical Engineer to replace it by another.

2 When it was removed it was found that there was a great hole in the suction pipe more than sufficient to account for the failure of the machine. What was done after the pump was removed, I do not know as I left about that time for England.

3 The pump was the same as one which was in the P. W. Workshop a short time ago. Double action. 2 inch plungers. 24 inch stroke. Vertical valve cylinders with each valve single suction pipe into the well branching off into valves cylinders. Cast iron air vessel.

I have the honor to do so

H. J. Rogers Lieut. Col. R. E.
Principal C. E. College.

(Enclosure)

J. M. S. per
General Superintendent & Store

N^o 986.

Chingleput District Engineer's Office
Quindly 17th July 1873.

From

The District Engineer
Chingleput.

To

The General Superintendent of
Public Works Stores &c.

Sir,

With reference to your letter
N^o 410 dated 30th June 1873. I have the honor
to request that you will have no time, in
removing the Engine from the Farm at
Sydapat to Quindly Park and in making
arrangements to send me the pipes &c.
as His Excellency the Governor wishes
to see this work completed by the 30th of
September next.

I have the honor to be Sir
Yours faithfully
J. J. Moberly Col: R.E.
District Engineer Chingleput.

(Enclosure)

J. H. Wainor
Genl Sup of Works, Shops & Stores

Enclosure in a letter
No. 4575 dated 26th
February 1875 from
the General Superintendent
of Public Works &c.
to the District
Engineer's Presiding
J.

1/11/1873
5/95

N^o 165

31

Memorandum

The Presidency District Engineer is requested to instruct the General Superintendent of the P. M. Workshops to take an opportunity of inspecting a Steam Engine and Boiler not required at the Sydnor Farm; and to report whether it is advisable that they should be taken over by the Public Works Department, for the Quindry Water Works or any other purpose.

Ootacamund } 1st Lt. G. M. Walker Col. R.E.
3rd May 1873 } Chief Engineer D.P.W.

N^o 538

Copy to the General Superintendent D.P.W. Stores and Workshops with a request to furnish the report as early as practicable.

Fort Saint George } 1st Lt. J. Goddard Col. R.E.
8th May 1873 } District Engineer Presidency.

J. H. Warner
(True Copy) Genl. Sup. Workshops & Stores

Enclosure in

Letter No 4575 dated
26th February 1875

From the General

Superintendent

of the

Public Works

Department

1st Lt. G. M. Walker
4/75

No. 226. District Engineer's Office
Salem 16th March 1875

From The District Engineer
of Salem.

To The Under Secretary to Government,
D.P.W.

Sir,
In reply to your Memo No. 274 dated 10th March 1875, I have the honor to inform you that to the best of my recollection, up to the time of my quitting the Mount Range, the Guindy water work Project was only in the initiatory stage - and no estimate for an engine had been made, as it was in contemplation to utilise the moveable engine at Sydapett, instead of going to the expense of a new one, as voted by the District Engineer Chingleput.

2. It was intended to use the pumps lying in the D.P.W. Stores which had been

Enclosures 7
7 Papers
returned.

Enclosure in a letter
of 4575 dated 26th
February 1875
from the General
Superintendent
of the
District Engineer
Presidency

1875
March 16th
3/75

Ck 10 June 1875

been previously used for the same
purpose.

I have the honor to be,

Sir,

Yours Most obediently,

J. W. W. . . Major, R.E.
District Engineer

W. W.

From 1875 Sept.
The District Engineer
No. 1819
To The Under Secretary
G. P. W.
Madras.

GO-10th June 1875
Dated 16th March 1875
Received 19th m: 30th

E. 7. 2 No. 226
Memo: No. 232823-
I inform that when he
left the Mount Range,
the G. windy water work
Project was only in the
initial stage & that
no estimate for an engine
had been made as it was
in contemplation to utilize
the moveable engine at
Sydapett, instead of going
to the expense of a new one.

1229
sent by 11-5-75

Abstract Estimate No. 3A of 1872/73
District Chingleput Village fund
Additional Estimate to accompany the
Estimate of fundy water Project

Description	Rate	Amount	Total
Engine Lenses	30	30	
Stokers	7	14	
Fuel	30	30	
Total for 12 months			Rs 74
do for 12 months			Rs 988
			888

Mount Range Office
20th January 1873

I. Hunter
C. M. M. W.

I. Hunter Major R.E.
Executive Engineer Mount
Range

H. M. S. Collyer
District Engineer Chingleput

Detailed Estimate No 3 of 1872/73, 3
 District. Chengelput. Talug. Sydapet Gundry Park.
 Work. Repairing Engine House & laying
 pipes from the river Adyar to Gundry Park.

Particulars	No.	Measurements			Content
		L	B	H	
Granite stone 2 lines deep					
Engine Room.					
Flooring	1	25	15		375
Do	1	4	3	1	4-3
Do	1	15	3	7	106-9
Do	1	4	5	3	21
Door way	1	5	9	1	5-9
Do	3	3	3	1	9-9
Do	1	7	1		7
Do	1	3	6	1	3-6
Coal go down	1	13	9	15-3	209-8 $\frac{1}{4}$
					Sq feet 742-8 $\frac{1}{4}$
Loaf washing					
Engine House.					
Wall	1	90	6	11-6	1040-9
Gables	2	15	2	6	75
Side of door	1	21	1		21
Do	1	17	3	1	17-3
Do	3	16	3	1	48-9
Do					68
Do. Windows	4	17	1		1270-9
					Sq feet 1270-9
Do	1	6	7	6	45
Do	1	4	3	6-6	27-7 $\frac{1}{2}$
Do	3	3	3	6-6	63-4 $\frac{1}{2}$
Window	4	3	6	5	70
					Sq feet 208
Remainig sq feet					1064-9

Mount (Hanger)

(Abstract Estimate)
 No of 1872/73.

Additional Estimate
 to accompany the
 Estimate of Gundry
 water Project

Page 955-2

January 1873.

P. M. 1229/73.

Brick in Chumau.

Plastering	Impatches	C. yds	2	1
Shifting tiles with 1/8 flat.	See	Sqr	1	11
4 Pan tiles & repairing	Chumau borders	Sqr	10	
Fixing sluice shutter	Refuses		5	
Plastering	Coping of parapet wall.	1 18-1-3	22	6
Engine Drivers House.				
Plastering	Cracks	1 50-1	50	
Soap washing	Wall	1 15-12-6	187	6
	End wall	2 6-10	120	
	Pillars	2 6-37-3	90	7 1/2
				Ch. yds. 398-1 1/2
Shifting tiles with 1/8 Pan tiles & repairing	Chumau borders	Impatches	Sqr	2
Plastering				
Front Room.	Floor	1 15-10	150	
	Verandah	1 16-6	96	
	Between pillars	3 3-2	18	
	Steps	1 8-3	24	
Earth work for laying 5" Iron pipe				Ch. yds. 228
From Engine House to Cistern near Military Office		1 3030-1 1/2-1	4545	
Do: Cistern to Main Building		1 530-1 1/2-1	795	
Do: Do: to Basin		1 380-1 1/2-1	570	
Do: Do: 2 1/2" from stable to Kitchen		1 620-1 1/2-1	930	
From Apothecary's Quarters to fountain		1 100-1 1/2-1	150	
Do: Kitchen to Military Secretary's Bungalow		1 430-1 1/2-1	645	

Brought forward

From Gate opposite to stable to Basin } 1 40-1 1/2-1-105
 Do: for Cistern - 4 4-6 4-6 3-243

Total C. feet. 4983-
 C. yds 295 3/4

Paving & joining with lead } 1 3940-1 Pg. feet. 3940
 5" pipes } 1 1220-1220
 Do: Do: 2 1/2" do - 1 1220-1220
 Pipes 5" diameter. Pg. feet. 3940-1 or Tons - 47 1/2
 Do: 2 1/2" do - 1 1238-5 3/4
 Total Tons 53 1/4

Garden
 Do: with port land cement } Pg. feet. 1000
 2 1/2" earthen pipes } No 1
 Engine with portable boiler of 10 Horse Power. Complete }
 Repairing 2-5" Valve } Pipes 50
 1 fountain Tap &c. - R. }
 Removing the Iron Cistern from the ground & relacing over the roof of main Building } Do 40

Plastering
 Floor - 4 3-3-36
 Inner wall - 4 12-2-96
 Outer wall - 4 18-1-72
 Coping - 4 18-1-54
 Sqr feet. 258

Wood work.
 Covering over Cistern - 4 1-9 1-9-3/4-9-2-3
 Do: over filter - 1 5-3-1-3
 C. feet. 2-0-3

Brick in chimney.

Cistern

Foundation 4 4-6 4-6 1 81-

Wall 4 15 9 2 90-

C. feet 171

No 32

Fixing old iron bar steps 32
Repairing Copper work
between the river &
open channel.

Pipes 10-

Graveling

Basin 1 50 60 1 3000-

C. yds 111 2/3

Surfing 1 50 60 3000-

C. yds 333 1/3

Concrete
Cistern

Foundation 1 11-6 11-6 9 99-2 1/2

C. yds 33

Brick in chimney.

No 1 11-6 11-6 2 264 1/2

Wall 1 38 1-6 2 228 1/2

C. feet 492 1/2

C. yds 182 2/3

Plastering

Floor 1 8 8 64

Wall 1 38 5-6 209

C. sq ft 273

C. yds 2 3/4

Leak Wood.

Covering Cistern.

Plank 1 10 10 1/2 4-2

Frames 4 8 4 4 3-6-8

Le 4 6-6 4 3 2-2-1

C. ft 9-10-8
6-0-10

Specification

This Estimate shows the
probable cost for labor and materials
fuel &c required to work the engine
for a period of twelve months.

J. W. Studier Major O & C
Executive Eng. Mount
Range

Mount
February 173.

H. M. S. L. L. L.
District Eng. Charge

Abstract.

415

Quantity	Description	Rate	Amount	Total
15	Sqr Soap washing	" 4 "	3 12 "	
7 1/2	do Flooring with granite stone 2 line depth	30 "	225 "	
7 1/4	do Plastering 2 coats	2 4 "	16 5 "	
26 3/8	C. y. Brick in chumaw	3 12 "	98 12 "	
3 2/3	do Concave work	3 "	11 "	
12	do Shifting tiles with 1/8 Pan tiles and repairing chumaw border	1 2 "	13 8 "	
295	C. y. Earth work	" 1 6 "	27 10 6 "	
333	Sqr Surfing	" 4 "	6 15 "	
111	C. y. Puddling watering and ramming	" 4 "	27 12 "	
3940	C. y. Laying & joining with 5" pipes	" 2 "	492 8 "	
1220	do do 2 1/2 "	" 1 6 "	114 6 "	
1000	do Laying do with portland cement 2 1/2" earthen pipes	" 3 6 "	218 12 "	
61	Repairing & fixing Copper wired screw between the river & filter Pipes	" "	10 "	
11 3/4	C. f. Oak wood	3 "	35 4 "	
32	do fixing iron steps in filter	" "	8 "	
	Repairing old sluice shutter in chumaw	" "	5 "	
	Removing iron Risters from ground & replacing over the main building	150 "	7987 8 "	
53 1/2	do Pipes Risters 5" & 2 1/2" diameter	" "	3210 1 "	
1	Engines with portable boilers of 10 Horse power complete	" "	50 "	
	Repairing 2-5" Valve fountain taps	" "	1000 "	
90	Hitting up Engine & boiler on bed	" "	90 "	
3	Carb. live for conveying pipes from P. M. stores to Guindy at 1/2 ton per carb.	" 10 "	1 14 "	
	Sqr Pointing in chumaw	" "	313 "	
	Contingencies		277 6 10 "	

Total Rupees 12993-648

Reduction 3210 1 "

Engine 2533 5 4

Pipes in the store 5743-6-4

Total Rupees 7250-0-0

Frederick C. B. H.
District Engineer
Mount Range Office
21st January 1873.

J. Armitage

J. W. Miller - Major R. B. H.
District Engineer Mount Range

Specification Report.

Engine House

Provides for repairs to building
flooring with granite stones, fixing Engine
and clearing the filters.
Pipes

The pipes are to be laid 1 1/2 feet
deep fitted & covered with
earth well rammed. The direction
of pipes to be that shown in ground
plan accompanying.

L. W. Allen Major D. C.
Executive Engineer
Asst. Range
Asst. Range
Office
21st January 1893.

H. W. Allen
District Engineer

N^o 232

District Engineer's Office,
Yerconda, 29th March 1875.

From

The District Engineer,
Salem.

To

The Secretary to Government,
Public Works Department.

Sir,

Enclosures 2.

1 Estimate
1 Specification
Returns.

In reply to your Memo. N^o 332 dated 23rd March 1875, I have the honor to state, that after this lapse of time, I am unable to say with certainty what guided the approximation of the daily cost of fuel contained in the estimate; but as far as I remember, it was taken from enquiries on the spot as to the cost of its previous working.

With regard to the selection of the Engine, I think that no discretion was left - the Engine was there and had to be used.

I have the honor to be
Sir,

Your most Obedient Servant.

J. W. K. Major R.E.,
District Engineer.

Mount Range

Estimate No. 2187/75

Works, & Repairing
Engine House, and
laying pipes from
the Filler to Grind
(Part B.)

(Paper 7250-0)

21st January 1875.

2098
M. C. S. C. W.
2/75.
P. W. 1229/75.

In Sup & Engrs No 3807
dated 13th Feb 75

2022 Aug/62 No 1998
 " 25 " /63 - 2425
 " 25 July - 2059
 " 4 Dec/63 - 3576
 " 13 Jan/64 - 119
 " 6 May - 1316
 " 26 " - 147
 " 25 July - 2127
 " 30 Nov - 3426
 " 10 Jan/65 - 65
 " 10 Feb - 390
 " 12 Apr - 1010
 " 24 " - 1159
 " 26 Feb/66 - 649
 " 20 June - 1919
 " 8 Sept - 2873
 " 19 July/67 - 2174
 " 10 Feb/68 - 470
 " 20 Apr - 1039
 " 6 Dec/71 - 3078
 " 11 Aug/73 - 1988
 " 19 Mar - 870
 Memo No 332 d/23 Mar/75
 " No 1647165 - 9 Feb -
 " " 274 dated 10 June -

No 230

desp'd to Govt 11-5-75

P. W. 1875 Sept
 From No: 2098
 The District Engineer,
 Salem.

To
 The Secy to Govt.
 D. P. N.
 C/o - 10 June 1975 - No 1635
 Dated 29th March/75
 Recd: 31

No 232 16
 Encls: 2
 States that he is
 unable to say what
 guided the approx-
 imation of the daily
 Cost of fuel in the
 estimate for the
 Quindy Water Works
 Project.

1875-9-27

P.W.O.

Proceedings of the Madras Govt.
 Read the following:-

From the District Engineer
 Chingleput } (N. E. No 2534 of 24.12.74)

The revised estimate
 for repairing the engine
 house at Quindy and
 laying pipes from
 the filter to Quindy
 Park forwarded by
 the District Engineer
 Chingleput with his
 letter above recorded
 amounts, it is ob-
 served, to Rs 12,495.
 This is exclusive of a
 charge of Rs 340 made
 by the Public Works
 Govt Shops at Chingleput

but disputed by C.B.
Inobably. The original
estimate sanctioned in
H. No. 870 of the 17th March 1938
was for Rs 9138 and an
excess expenditure
has therefore been in-
curred of Rs 3307.

2. The causes of this
excess appear to be the
non provision in the
original estimate of
fittings for the Pumps
which have actually
cost Rs 10444 and the
insufficient amount
of fuel allowed for the
Engine; the estimate
being at the rate of Rs 1
and the actual con-
sumption at the rate

51F
of Rs 5 per diem, thus
accounting for an
excess of Rs 1396 in
the estimate in which
provision was made
for a twelve months
consumption.

3. The Government
cannot but observe
that the Project does
not seem to have been
satisfactorily carried
out as regards the
supply and fitting of
the machinery nor is
it satisfactory that
Engine power should
have been provided
largely in excess of
that required for the

duty to be performed,
as an unnecessarily large
and permanent charge
for fuel is thereby
incurred.

4. The estimate as now
presented is sanctioned,
but the District Engineer
(Presidency) will be
good enough to obtain
from the General
Superintendent of
Stores a report on the
causes of the large
and apparently un-
foreseen outlay on
the pumps, and also
in reference to the large
consumption of fuel
by the Engine and

its suitability for the
work required of it.
The observations of the
District Engineer (Punjab)
put on the charge
made by the General
Superintendent of
Stores & Repairs will also
be communicated for
reply.

Engl

Superintendent Punjab
& Eng of Presidency
Capt. R. R. Aceto.

2. *Not a true* *Scorpaenidae*
Scorpaenidae *Scorpaenidae*
Scorpaenidae *Scorpaenidae*
 2. *Scorpaenidae* *Scorpaenidae*

[Faint handwritten text, mostly illegible due to extreme fading.]

N^o 165.

9th February 1876

Heura

Letter from D^r Engⁿ Chugloput No. 2534 d/24th Oct/74.
undersigned is directed to request

The undersigned is directed to request the Dr Engineer Chief of Post to forward a full report relative to the circumstances which have arisen in the erection at Guindy of a steam Engine and Pumps the former of a power very much disproportioned to the duty it has to perform and the latter of bad construction and almost unworthy. It is necessary that the original specification report of the officer who framed the estimate now under review should be supplied, and that it should be fully explained what calculations were made (based it is presumed on the amount of water to be delivered and the height to which it was to be raised) which led to an estimate for fuel of the kind originally sent in and which has been exceeded fivefold.

2. Assuming that the power of the Engine is calculated

2. Assuming that the powder ^{of the} Engine required for the purpose in view was calculated by the Range Officer, it is desirable to ascertain whether that calculation favored the view that

that the Engine proposed to be sent by
the Workshop Superintendent was a proper
one, and if not why the District Engineer
did not record his opinion for the
information of Government.

By Order
Signed / Sd/- Scott Major R.E.
Under Secy to Govt 1077 D.

To The District Engineer
Chingleput.

No 164
Memo.

No 2534 M
24th Feb 1875
with 2 encls.

The G.O. Presidency will be good
enough to request Mr. Granger with
reference to the letter of the 1st Augt.
Chingleput marginally noted, to
explain under what circumstances
the engine and pumps were forwarded
by him to Guindy and put up there.
In Mr. Granger's letter of the 13th May
1873 No 212 to the G.O. Presidency he
states that the engine is suitable for
the Guindy water works or any other
project requiring a 10 HP engine.
It is not certain whether Mr. Granger
had in view when making this report,
the duty required of the engine for
Guindy in reference to the quantity
of water to be supplied and the height
to which it was to be raised; but the
result

result is reported by the S.E. Chinglaput
is far from satisfactory. As regards
the Pumps also information is required
of the reason for using that pattern
which is doubtless a very bad one

By order,
1st, A. de B. Scott. Major R.E. &
Under Secty to Govt. Secy.
Fort St. George
9th Feb: 1875

The S.E. Presidency
With 2 enclos: of C. no 6689/74.

9th 10 June 75 1-16.

Public Works Department
Proceedings of the head as read:
Read the following:

From

The Super Engineer / 2584. 24. October 1874
Chinglaput
" " " " 3807. 11. Sept 75
" " " " 3892. 17. " "
" " " " 6488. 3. March.
" " " " 236. 16. " "
" " " " 232. 29. " "
" " " " 1035. 10 June 75

A project for
supplying Quindly
House with water
was sanctioned in
Edho 840 of the 19th March
1873. It was comprised
in two estimates one
for repairing the Engine
house and laying pipes
to Quindly house
amounting to Rs 8250
and the other for working
the Engine for 12 months
amounting to Rs 888.

LA
I will not object to this
order - but I think that
it will be better to have

With

2. With his letter of the 24th October 1874, No 3534, the District Engineer forwarded a comparative statement showing that in the two estimates there had been an excess of Rs 3426 of which Rs 3376 had been incurred in respect of work included in the estimate for Rs 8250 and Rs 1396 for the working of the Engine provided for in the second.

A full report on the water supply of the and the requirements. A letter there is any less expensive means of meeting them & then for work + consider the plans. On names of Mr. Berkeley & Hunter supply account of the work. 27

3. With regard to the first excess there is not much that calls for remark, except that Rs 1938 of the whole appears to be for cast and wrought iron work and brass castings and fittings to the

the pump which were entirely omitted from the original estimate. It is not easy to understand why this oversight occurred, as a reference to the General Superintendent of Stores for an estimate of the work required from him would no doubt have prevented all mistake. Further the General Superintendent of Stores admits an overcharge of Rs 340 which reduces the excess in the comparative statement by that amount. The estimate was apparently prepared by Sergeant Armitage. Signed by Major

Major Hunter, and counter-
signed by Colonel
L. Moberly R. E.
There is no specification
in the proper sense
of the word.

The excess on the
estimate for working
the Engine amounts as
before remarked to Rs
1396 and is caused wholly
by a mistake in the
original estimate as to
the quantity of fuel
which the Engine would
consume daily. The item
for fuel provided is
at the rate of Rs. 1 per
diem while the Engine
actually consumes 5
Rupees worth. The an-
nual charge therefore,
supposing the Engine
worked

658 3
worked throughout the
year would be Rs 2353
instead of Rs 888 as sup-
posed. The history of
the adoption of this
Engine appears to be
as follows:-

Mr Robertson of the
Government Farm
had in his charge a 10
H.P. Engine which he
no longer required.
The Chief Engineer by
a Memo No. 165 of the
3rd May 1893 instructed
the Presidency District
Engineer to depute the
General Superintendent
of Stores and Workshop
to inspect the Engine
and report whether
it ~~was~~ ^{was} advisable that
the Engine and boiler
should

should be taken over
by the Public Works
Department for the
Quindy Water Works
or any other purpose.
5. In his letter of the
13th May 1873, No. 212, Mr.
Crainger reported that
the Engine was suitable
for employment at
Quindy or on any other
work requiring a 10
H.P. Engine. Mr. Crainger
further states that the
District Engineer, then
in place, directed him to
remove the Engine from
Sydapett Farm to Quindy
and the copy of Col.
Innes's letter No. 986
of the 14th July 1873,
confirms this statement.

(He)

65F-1
The pumps were the same
as those previously used
at Quindy when an
Engine was kept there.
They were the only ones
in store and they were
accordingly sent by the
General Superintendent.
After, as it is alleged, in-
spection by Major
Hunter. It turns out
that they are faulty
in construction and
ill adapted to work
with the Engine.

6. Mr. Crainger dis-
claims responsibility
because he was not
told what duty the
Engine was to perform
at Quindy and because
in

in sending it there he
only obeyed the mandate
of the District Engineer,
Lieut. Col. Coll
Moberly declares that
he supposed that as
regarded the project
the Govt. considered
him only a channel
of communication,
apparently because
the Chief Engineer had
instructed him to direct
the Range Officer at
the Mount to prepare
in communication
with Lieut. J. H. Rogers,
Plans for supplying
Quincy house with water
and ^{he} states that he
was under the im-
pression that it was
an

678 5
an object to utilize
an existing Engine
and Pump. Colonel
Moberly seems to hold
that he is absolved
from all responsi-
bility in the matter.
Captain now Major
Hunter R. E. affirms
that after such an
interval of time he
is unable to say with
certainty what guided
the approximation
as to the daily cost of
fuel - entered at Rs. 1
per diem in the estimate
and that there was no
discretion left as to the
Engine to be used. It
was available and

had been utilized.
or 4. The final result
of the combined action
of the officers above
referred to is that an
Engine has been applied
to which is unnecessarily
powerful and which would
be a permanent source
of unnecessary expense.
and that pumps have
been fixed at considerable
expense which are
constantly breaking
down.

8. It belongs to a pro-
per investigation of
a project for pumping
a water to ascertain the
quantity of water which
would be required daily.

67f 6
the height which it
was to be raised and the
power which was re-
quired to perform the
work. The quantity of
fuel required for the
Horse Power should
then have been as-
certained and with
these data known,
the suitability of the
Engine at hand could
hardly have been
assumed if its per-
formances and con-
sumption of fuel at
Lyons had been
properly investigated.
9. It is evident that
the project was sur-
face examined
by

by the Range Officer
Captain Hunter and
consequently it was
not criticised at all
by Colonel Moberly.
10. Mr Grainger's report
on the Engine should
have been more detailed.
The inference from his
reply to the Chief Engineer's
memo: might well be
that the Engine was
fit for use at Guindy
in the sense of econo-
my as well as other
considerations.

11. As Col. Moberly took
upon himself the res-
ponsibility of directing
the removal of the
Engine to Guindy he
should

should apparently have
exercised some scrutiny
as respects the details
of the original estimate.
The one now presented
amounts after due cor-
rection to Rs 12,470
and is accordingly
sanctioned.

12. Judging from the
circumstances alone
detailed there seems to be
no alternative but to
replace the Engine and
Pumps by others more
suitable or to provide
for working the force
pumps by animal
power. The District
Engineer will direct
the Range Officer

to take the matter into
 a early consideration and
 he will submit as soon
 as possible his propo-
 sals for placing the
 water supply at Quincy
 on a satisfactory footing -

Ans.

to the Board of
 Commissioners of
 the City of Quincy
 to be paid for the
 same.

Wm. H. H.

Quincy, Mass.

K 225-231

L. D. C. Salem

Sps. Supr. Chinghapu

Centr. M. W. C.

Sc Disps - 22 - 6-75

disps to Oct 11-8-75

6689
995
11072
1443
Cantt. 18/9/53 Madras
209/81
PUBLIC WORKS.



To

The District
Collector

10/11/53

From

Encl.

Encl.

G. O. D. 1035

Nos. 2832/

Quindry Water supply. —
estimate of Rs. 12,470
for — sanctioned,
with remarks as to the
engine and pumps, that
have been reported as
unsuitable.