

(1) Number of pages _____

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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works **DEPARTMENT.**

G.O. No. 329	(W)	Press ~~Mis.~~
Dated 29-6-1877.		

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

29th June 1877, No. 329 W.

Buildings and Roads.
Civil Works.

Read the following papers —

No. 292 Endorsement of the District Engineer, Presidency, dated 27th March 1877, No 6,754

From J N. GRAINGER, Esq, General Superintendent, Public Works Workshops and Stores, to Major ROSS THOMPSON, R E, District Engineer, Presidency, dated Madras, 22nd March 1877, No 87

With reference to your endorsement, No 3,985, of 14th December 1875, on

2 Statements
4 Estimates
2 Accounts.
2 Plans

G O, No 3,453, of 6th idem, I have the honor to state that the Gundy Water Works, consisting of engine, pumps, pipes, buildings, &c, as per enclosed statements, were handed over to me by

the Executive Engineer, Mount Range, on 1st April 1876

2. The engine and boiler were in good working order and condition. The pumps were worn and too small for the work, and I have replaced them by new ones made in the Workshops, which work satisfactorily

3. The pipes have been tested and the valves cleaned and repaired. The pipes are very dirty inside from corrosion on account of the water standing in them for the two or three days that intervene between the times of pumping

4. The quantity of water to be raised should be sufficient to fill the two tanks on the top of Government House twice a week, and also the tank in the compound from which water is supplied to the stables, out-houses, and garden. The house-tanks contain about 4,000 gallons, and the new pumps throw 4 4 gallons per stroke, and will therefore fill these tanks in about 40 minutes, working at 25 strokes per minute. The difference of level of these tanks and the water in the well at engine-house is about 85 feet, and the length of pipe 1,200 yards. To discharge 110 gallons per minute through a 5-inch pipe of this length a head of 18 5 feet is required, but owing to the corroded state of the pipes this head should be assumed as being 30 feet for calculating the power required for pumping, and therefore the total head the engine has to pump against will be 85 + 30, 115 feet. One hundred and ten gallons, or 1,100 lbs raised 115 feet per minute is equivalent to 126,500 foot lbs. or 3 8 horse-power, and allowing 50 per cent as the efficiency of engine and pumps, the actual horse-power required will be 7 6. The engine now in use is of 10 horse-power and more suitable for the work than the 6 horse-power engines in store, which are not adapted for burning wood fuel, and therefore the power required is obtained cheaper from the present engine.

5. The garden tank contains about 40,000 gallons, the difference of level is about 50 feet and length of pipe 1,200 yards, and allowing 30 feet for increased head, the total head in this case is 80 feet, and therefore the power required is less than when filling the house-tanks, but as an increased number of strokes will be

obtained the power in both cases will be about the same. The time required for filling this tank will be about $5\frac{1}{2}$ hours.

6. The filter is too small to allow of sand being used as a filtering material, and the sluice valve that admits the water from the river channel being so low down (level with the bottom of channel) that the silt from the river flows into the filter beds and chokes them. The Executive Engineer, Mount Range, had placed a 5-inch pipe over the filter beds, through which the water flowed direct to the pump-well without being filtered. I have altered this by removing the sluice door which was unnecessary, and building a short wall 3 feet high in front of the vent by which means water is taken through the filter from near its surface level, and no silt can now enter the filter, which is filled with laterite jelly and fine gravel. The ends of the 5-inch pipe have been blocked up.

7. To admit of the strained water near the surface always passing through the filter when the river is in flood, I propose raising the side walls in front of the vent as shown in the plan, and placing in grooves between these walls a series of small planks forming a weir over which the water must flow to enter the filter. We shall thus be enabled to adapt the weir level to that of the water in channel by putting in or taking out a plank as occasion may require.

8. The engine-house and other buildings require sundry repairs, including painting of the wood-work, which has also been included in the estimate.

9. The piping to Government House cook-room requires examining, and the tanks on the top of Government House should be replaced by new ones, as they are very much worn, and will probably stand another season's working. This has also been estimated for.

10. The other two estimates are of the probable cost of maintenance for working the pumps for the current and next official year.

11. In the current year's estimate the Engine-driver's pay is Rupees 15 per mensem, which I have increased to Rupees 20 for next year, as the present pay is not sufficient to obtain the services of a careful driver.

SUBMITTED to the Chief Engineer, Roads and Buildings, with reference to G O, No 3,453, dated 6th December 1875

(Signed) ROSS THOMPSON, Major, R.E.,
District Engineer, Presidency.

No. 292-A Endorsement of the District Engineer, Presidency, dated 3rd May 1877, No. 582.

From J. N. GRAINGER, Esq., General Superintendent, Public Works Workshops and Stores, to Major ROSS THOMPSON, R.E., District Engineer, Presidency, dated Madras, 2nd May 1877, No. 3.

WITH reference to your endorsement No 547, dated 1st instant, on memorandum from Deputy Chief Engineer, Public Works Department, I have the honor to state that the full amount of the estimates, Items 1 and 3, viz, Rupees 4,911 and Rupees 1,734, respectively, are required, the first to pay the Workshop bill for expenses incurred in making and fitting up a new set of pumps, &c., and the latter for the maintenance of the boiler and engine, &c., for the year 1877-78.

The full amount of Item No 2 will be required if the estimate is sanctioned.

The cost for maintenance of boiler and engine, &c., at Guindy during 1876-77 having been already paid by the Workshop, an appropriation is necessary in order to adjust the Workshop bill.

SUBMITTED to the Deputy Chief Engineer, Public Works Department, with reference to his memorandum, No 1,108, dated 1st May 1877.

(Signed) ROSS THOMPSON, Major, R.E.,
District Engineer, Presidency.

No 293.

ORDER THEREON, 29th June 1877, No 329 W.

HIS GRACE the Governor in Council remarks that the pumps in question are found to be far from satisfactory. Owing to their design and arrangement much time and labor is required to fill them and a considerable length of pipes with water before they can be started. The slowness of the crank-shaft is such as to cause great vibration and endanger the whole apparatus, while owing to the faulty proportions of the spur gearing, the engine cannot be driven so as to work steadily. All these matters should be reconsidered and remedied. The necessity for removing the cisterns is not apparent. It is understood that they do not leak or show signs of weakness. The question of their renewal, &c., should be again carefully examined and reported upon. It is further observed the pay of the Engine-driver has been increased, the order sanctioning it should be quoted, or the necessity of such increase explained. The plans and estimates for the Guindy Water Works are returned to the District Engineer, Presidency, who will take steps for their early revision and re-submission to Government.

(True Extract)

Colonel, R.E.,
Secretary to Government, P.W.D.

To the District Engineer, Presidency

Exd T D Ryan.
Spare Copies

expired

No. 1108 of 1st May 1877.

Memo.

Letter No 674 dated 27th March 1877 from
the D.C. Residency.

With reference to the Estimate
for water supply at Ginning, sub-
mitted with the above letter, the
District Engineer Residency is
requested to refund the exact
amount required in 1877/78
against each of the following
estimates, and ^{the source from which} ~~have~~ he proposes
to appropriate funds.

- 1 Making and setting up a new
set of pumps with proposed
additions and suction pipes
with foot valves No 4911
- 2 Repair the fitter Engine house,
dinner room, and the Cook
house and substituting the
old iron tanks on the roof
of god house with new ones
and examining the pipes
leading to the kitchen room etc 1839
- 3 Maintenance for the
working of the Boiler and
Engine at the fitters for the
year 1877/78 No 1734

It is presumed that no appro-
-priation of funds is needed
for for maintenance item No 3
for 1876/77. the ~~off~~ year having
expired.

12111 *N^o 1108* 7

Memorandum

Letter N^o 6754, dated 27th March 1877,
from the District Engineer, Presidency.

∴ With reference to the 4 estimates for water supply at Guindy, submitted with the above letter, the District Engineer, Presidency, is requested to report the exact amount required in 1877-78 against each of the following estimates, and the source from which he proposes to appropriate funds -

1. Making and setting up a new set of pumps with proposed additions and suction pipes with foot valves _____ Rs. 4911
2. Repairing the filter Engine house, divers room, and the Cook house and substituting the old iron tanks on the roof of Government house with

... .. new

new ones and examining the pipes leading to
the Kitchen room ————— Rs. 1839

3. Maintenance for the working of the boiler
and engine at the filters for the year 1877/78. Rs. 1734

2. It is presumed that no appropri-
-ation of funds is needed for Item N^o
3 for 1876-77, the Official year having
expired.

W. Farewell Colonel

Deputy Chief Engineer P.W.D.

Fort St George

1st May 1877

To
The District Engineer Presidency

Public Works Department
Proceedings of the Madras Government
Under date the

Read the following

From the D^t Eng^r Presidency (H.C. N^o 6754 dated 27th March 1877)
From the D^t Eng^r Presidency (H.C. N^o 582 dated 3rd May 1877).

The following Estimates
submitted by the D. E. Presidency for
Water supply at Gurnady are sanctioned,
and funds are appropriated by transfer
of Rs. 10131 from Provincial Budget Item
N^o 2, additions to Collectors Butcher-
ry at Cocanada.

1. Making and setting up a new set of pumps with proposed
additions and suction pipes with foot valves ————— Rs. 4911
2. Repairing the filter engine house, drivers room, and the Cook
house, and replacing the old iron tanks on the roof of Govern-
ment house with new ones, and examining the pipes leading to the
kitchen room ————— Rs. 1839
3. Maintenance for the working of the boiler and engine at the
filters for the year 1876-77 ————— Rs. 1647
4. — do — do — for 1877-78 ————— Rs. 1734
- 10131

The above sanctions are Registered.

To
The District Engineer Presidency
The District Engineer Bangalore
The Examiner of Public Works Accounts
The Public Department.

as Provincial N^o 11 of 1877-78.
W. 31/77
31.5.77

The estimate No. 1. appears
to be for work expected before
my arrival -
I note it states that the
pumps work satisfactorily.
I must therefore remark
that they do not -

From the design of the
pumps & their arrangement.
they require considerable
time & labor in carrying
water to fill them & a
considerable length of pipe
before they can be started -

From the faulty proportions
of the spur wheels. the engine
has to be run at too low a
speed for steady work. & below
the speed at which its governor
will control it. The crank
shaft is too slight. and
the vibration thus caused
is frequently dangerous
to the machinery -

It cannot be safely worked
at the speed stated in the
papers. In fact, I have
not one at the engine house
when I pointed out these
defects -

I had not the least
any weakness in the list
referred to. & they do not
leak. I can hardly

think they can be so
bad as to need repairs.
But they should be
carefully examined -

Repairs of jetting
channel from river
are necessary - painting
& gutting - also
floor of work house -

By 21/6

With reference to the
cost of working - the
divers pay has been
increased in respect to the
charge of the engine - In
which I presume there
was some order which
does not appear in the
papers &c

things at least or show
signs of weakness. The
question of their
renewal should
be again carefully
examined and
position reported upon.
It is further observed
that the pay of the engine
driver has been too low
for the duties of the
work should be reported
to the committee of the
Board & explained.

With this I should like to
for the driving water works
are returned to the
District Engineer.

During the work
take steps for the
early revision of
resubmission to
Board.

Wt.
28.6.77

P.W.D.

28.6.77

RRC

READ letter Number 6754 P. 512

dated the 27th March 1877

from the District Engineer of Sindh

Here enter

Under the provisions of the
Municipalities Act, 1862, the
inspections are made
to the four from the following
moving to the design
and arrangement being
made and being in progress
of the town and a considerable
length of pipes with water
before they can be started
The height of the
Crack Sheet is such
as to cause great
inconvenience
to the town and
approaches, while being
to the faulty proportion
of the pipe. It is
the engine cannot
be driven so as to
work steadily, all
these matters should
be considered and
remedied.

The necessity for
improving the system
is not apparent in
a understood that

P.W.D.

25th March 1877

25th March 1877

Descriptive Return of Buildings belonging to Engineer House, Shundy Water project, in the Mount Range, handed over to the General Superintendent Public Works Workshops and Stores agreeably to G. O. No 3153 dated 6th December 1875

No of Building on Return		Description of Building		When built	When bought or returned	When last altered or improved or added to	When last repaired	Situation in the Garrison or Cantonment	What Materials constructed	No and Description of each Apartment	Dimensions of each Apartment					Occupied by whom, or what Dept, or Detachment	Accommodation for how many Europeans or natives	Doors										Windows										Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Presidency Workshops D. P. W.
Madras 19th April 1876

Signed J. H. Pranger
Genl Sup P. W. Workshops & Stores
(Enclosed)

J. H. Pranger
Genl Sup P. W. Workshops & Stores

Signed C. S. Sackellum
Asst. Sup. P. W. at D. P. W.
Signed A. B. Smith
Executive Engineer

Enclosure in letter
No. 87 dated 22 March
1877 from the General
Superintendent of
Workshops & Stores, Madras,
to the District Engineer,
Presidency.

Descriptive Return of
Buildings-

GC 29 June 1877 No. 292

GC 29 June 1877 No. 292

3307

Enclosure in letter No
87 dated 22 March 1877.
from the General Supt
P.W. Workshops and Stores
Madras to the District
Engineer Presidency

Descriptive Return of
Machinery &c

Buildings & Roads.

26 MAR 77

No. 3304

From,

The District Engineer,

Presidency

No. 6754

Dated 27 March 1877

Ch. No. 1108 of 1st May 1877.

No. of Enclosures - 8 = X

2 Plans in the
of the

Quindry Water Works.

Submits report
from Mr. Grainger on
the —

236

MAY 77

No. 3

PRESIDENCY PUBLIC WORKS WORKSHOPS,
Madras, 2 May 1877.

FROM

THE GENERAL SUPERINTENDENT,
PUBLIC WORKS WORKSHOPS AND STORES,

To

THE District Engineer Presidency
Fort Saint George

SIR,

With reference to your Endorsement No 547 dated 1st Instant, on Memo from Deputy Chief Engineer Public Works Department I have the honor to state that the full amount of the Estimates items 1 and 3 viz Rs 4011 and Rs 1734 respectively are required, the first to pay the Workshop Bill for Expenses incurred in making and fitting up a new set of Pumps & and the latter for the maintenance of the Boiler and Engine for the year 1877-78.

The full amount of item No 2 will be required if the estimate is sanctioned.

The cost for maintenance of Boiler and Engine at Quindry during 1876-77 having been already paid by the Workshop, an Appropriation is necessary in order to adjust the Workshop Bill.

I have the honor to be
Sir,

Your Most Obedt Servant

J. H. Mair
Genl Supt of Public Works

Chs. 7251/74

69/13/74

6.6. 3545-16-12-74
3453-6-12-75
1635-10-6-75
1904-5-7-75

See C No 1304 for put up papers

General

No 582

Submitted to the Deputy Chief Engineer Mr. Thompson
with reference to his Memo No 1108 of 11th May 1877
3rd May 1877

40 29 June 1877 No 292

PRESIDENCY PUBLIC WORKS WORKSHOPS

From
The General Superintendent,
P. W. Workshops and Stores

To
The District Engineer
Presidency

No. 3
Dated 2
Despatched 2 } May 1877
Received

No. of ENCLOSURES. —

Reports on the
amount required
for the water supply
at Guindy

But

General
4th May 77
No 1553

From
The District Engineer,
Presidency

No 582.
Dated 3rd May 1877.

No. of Encls. none.

Water Supply, Guindy.
Reporting the
amount required for
the —

Buttrick
Civil Engrs

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 29 June 77

Read the following:-

Letter from the District Engineer } (N. E. No 6754 dt 27th March 1877)
Presidency

do do } (" No 582 dt 3rd May 1877)

His Grace the
Governor in Council remarks
that the Pumps in question are
found to be far from satisfactory.
Owing to their design and
arrangement much time and
labor is required to fill them
and a considerable length
of pipes with water, before they
can be started. The slowness
of the crank shaft is such
as to cause great vibration
and endanger the whole
apparatus, while owing to the
faulty proportions of the spur
gearing, the Engine cannot
be driven so as to work steadily.
All these matters should be
reconsidered.

reconsidered and remedied.

The necessity for removing the Cisterns is not apparent, it is understood that they do not leak or show signs of weakness. The question of their renewal year by year should be again carefully examined and reported upon. It is further observed the pay of the Engine Driver has been increased, the order sanctioning it, should be quoted, or the necessity of such increase explained. The plans and estimates for the Guindy Water Works are returned to the District Engineer, Presidency, who will take steps for their early revision and resubmission to Government.

ELF

11/7
28/7/77

353
3304
Govt. of 1877 Madras
PUBLIC WORKS.

To,

Dated

Issued

Recd.

Encl.

30/6
G O. 29th June 1877, No 323

Nos. 292-293

Guindy Water Works

Re: my orders in Report
submitted by the D.E.
Presidy, on the —

Recd - 11-7-77

To
The District Engineer
Presidency ✓

22/8/77