

From, J. W. Cho. 5420
The Superintendent
of Works Godavari.

To
The Chief Engineer
Public Works Dept.

Dated 14th } September/81.
Received 22 }

No. 1533

Encls.

Damaged m.—
Lock Gates at—
Reporting on the—

Reassuring that
there would appear
little likelihood
of the Lock being again
closed, it is clear that
something more than
has hitherto been
possible must be done
in the proper supervision
of the Upper Godavari
works if they are not
to be allowed to
suffer by serious neglect
and possibly go to
ruin.

I await a further
report from Mr. Walsh
on this subject.

W

25/9/81

25/10/81
26/9
26/9/81 Rt. 20/9/81
25/9/81

From, J. H. Cho. 5420
The Superintendent
of Works & Machinery

To
The Chief Engineer
Public Works Dept.

Dated 14th } September/81
Received 22 }

No. 1533

Encls.

Dumagueta.
Lock Gates at —
Reporting on the —



To Hon. I. Commisgual
Hon. the Governor

For information

Respectfully in Walsh's
report about the Anna
Judism lock gates which
apparently are need
only slight repairs
I have learned also
that the closure of the
Lock complained of
by General Hail was
really more due to the
neglect of the native
Overseer about the condition
of the gates (which were
too far removed from
head quarters of the
division he really in-
specting by the En. Engineer)
to any other else
Although the
report is

26.10.18.11
Oct 26.9
Oct 26.9.11 Rt. 28.9.11
Oct 26.9.11

26.10.18.11
Oct 26.9
Oct 26.9.11 Rt. 28.9.11

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W.H.

25/5/81

Notes of Inspection
of Works at Dumagudem

Started from Dow-
laishweram in steamer
"Shamrock" 7.30 A.M. 3rd Sept
arrived at Dumagudem
(Gungole Tail Locks) 1.15 P.M.
5th September —

Left again 9.20 A.M. 10th Sept
Reached Dowlaishweram 11.45. 11th —

Locks.

The masonry of all these
as far as could be seen - (the
lower chamber of the Tail
Locks was under water) is
in good order - but there is
considerable leakage under
the upper (flood) gates of the
Head Lock, arising it is said
from the sand stone of which
the sill is composed having
split off in several places -
it

it will probably be advisable to put a wooden sill beam during next dry season.

The gates of all the Socks (except those of course of lower one) were examined as far as possible.

The upper ones of the Head Sock are those which have to keep out the floods. They are massive structures of wood 38 feet high - each leaf weighing about 11 tons - and General Haig and Mr. Vanstavern both say that with all the appliances and staff then available the moving these gates into position was no easy matter.

The tops of these gates was when the design was originally made intended to be only 33 feet above sill or at +191 (sill is +158) but fairly authentic information having been received of a flood

within living Memory having risen to above that level they and the masonry of their "piers", or "buttresses", was raised 5 feet - the massive stones forming what is now a string course on the piers 5 feet below present coping ~~is~~ said to have been the

coping stones of the piers as originally designed & built. The heel post of the left leaf has a crack from top to bottom extending from face into the wood for some 9". it is a "shake" in the wood it is not a source of immediate danger but is injurious as admitting water to the heart of the post and I propose next season to have it well filled with tar & "dammer".

Of the portion of the gate almost always submerged that

that is to 5 above sill -
(depth in canal being 5')
I managed to see the upper
2 feet & found the surface
of timber a good deal scored
by worms & the 3 lower feet
is said to be somewhat more
scored. Trials with an
auger however showed the main
part of the timbers to be
sound & certainly no imme-
diate danger, not the slight-
est, is to be apprehended from
this cause and future injury
may be met by sheathing the
portions of the gate liable
to be attacked with copper
or blunts metal.

The overseer says that
where the heel posts enter
the sockets of the pintles
the wood shows signs of
rot and that he then push-
ed into the wood with some-
times a small wire prick-

for an inch or two in depth,
this can only of course be
examined in the months
when there is little water
in the river; if examina-
tion shows that it is the
case that the heel posts
are dangerously weak at
those points, I consider it
will be best to lift the gates
with cranes and jacks -
sufficiently to cut off the
rotten part (which it is sup-
posed is only just where
clasped by the iron) - refix
the pintles - alter the gra-
ding of the lower beams
accordingly and drop the
gates by as much as is cut
off, lifting the anchors
much higher up the posts,
which have now 1' 3" to
spare above the anchors.
But I am inclined to
think

think that the whole recent fuss about these gates was merely a "scare". the Overseer in charge is a young man totally without experience of works who thought it but wise to guard against being blamed in case of an accident by representing what he took to be indications of weakness in their worst light, and his fears were not calmed very much the reverse - when he consulted a gentleman who was formerly in charge of the works and now lives near them, & who certainly takes pessimist views regarding every thing connected with them.

The Lower Gates - of this (Head) Lock strange to say are scarcely marked at all by worms.

Mr Van Sⁿ ?

The left leaf has sagged and the tenons of all the beams have been dragged out of their mortises in the heel post, from $1/16$ " to $1/2$ ". The iron suspension tie is much too light to tighten up with effect, but by taking off the metre "forming piece" and so getting at the screw heads of the horizontal iron ties which there are in the Gate - and the tightening up these & putting straps at the joints I believe the Gate framing will be made rigid and nothing more will be required. The right leaf wants nothing done to it beyond patching up valves and planking here & there. The "Tail Locks" (two chambers) Upper Gates in fair order. Intermediate Gates - these are big Gates 21' high.

high. There is not much
the matter with the left
leaf except a drawing
of the joints at the heel
post owing to sag. which
can be met by "tightening up."
The right leaf has a
nasty crack right thro'
its mitre post from front
to rear.



It must be well
strapped with 3
straps of (say) $3 \times \frac{1}{2}$ "
iron round the post
and a $\rightarrow$ iron
bolted on to the face of the
post from some 6' above
to some 6' below the crack.
These gates are entirely sub-
merged in high floods
to keep them from floating
up they were weighted
many years ago by bolt-
ing on to them iron rails
of an aggregate weight
of some 2000 lbs weight to
each leaf.

General Haig pointed
out to me how very in-
advisable it was that this
great weight should be
left as a permanent drag
on the gates and I will
arrange for these rails
being now removed &
only put on when wanted.

Lower Gates - Only just
the tops of these could be
seen. As they have very
large valves in them (the
Upper Chamber is filled &
emptied and this lower
Chamber filled by a side
culvert in the masonry)
these gates are for a portion
of their height skeletons
and it appears that the
way they have been used
for many years past (ever
since they were constructed)
has shaken them much.
Even a low fresh in the
river (say 6' on the anicut)
entirely submerges this
lower

lower chamber and de-
posits in it, & on it, & in its
tail channel, large quanti-
ties of silt. When the
large steamers - "Godavari"
"Wurdah" & "Wyneganga" -
used to be frequently at the
place they used to be employ-
ed, sometimes a month &
more at a time, working
a huge scraper to clear
away silt to allow of the
Gates being worked & often
these Gates were used
as mud scrapers themselves,
being dragged by main
force backwards & for-
wards through the silt.

The Overseer has done
to what he could by attempts
at scouring through the
lock culverts, & by hand
scrapers, to keep these gates
workable but they can-
not be kept so after the
first considerable fresh
in each year & all that
can be done is to keep
them open & work the
Upper Chamber only.

that when water falls to
less than 3' on the interme-
diate Sill (that sill level + 14.3)
which it does when there is
less than about 4'-6" going
over the Anicut, the Canal
may be said to be unnavi-
gable. I had a long
talk with General Haig on
the subject and he suggested
as a palliative measure -
running out a bank on the
right side of the tail chan-
nel (the left is high ground)
with the object of pushing
out as far as possible from
the lock the point at which
the silt would enter still
water & be deposited & so
get the silt to deposit there
instead of in the lock.
This shall be tried, as also
all possible means at our
disposal of scouring and
scraping, but I cannot
say I believe that anything
short of a steam dredge
or powerful steam scraper
kept constantly working
during the season of freshes
will

will keep this lower lock generally workable - & even with such appliances there would be many days after each high fresh before the silt could be so removed as to allow of the gates being moved. (The conditions are very similar to those of the locks on the Louisville & Portland Canal "in America, where powerful dredgers have to be used after every fresh.")

Anicut - Water going over so could not see - I judge from what the Overseer says that this requires considerable attention especially as regards holes in the soft parts of the rock below it. The season when such places can be got at is short, they would require considerable baling, there is only one mason (he is kept on permanently)

in the place - or indeed closer than Rajahmundry, when the works were going on all the skilled labor was imported - from distant parts of the country, and the two or three masons required for the little work done this year had to be tempted up from Rajahmundry by giving large batta, so it is evident that with the present arrangements & funds given for these works - their maintenance in thorough order is not possible.

Securing Sluices.

Had 9 out of 14 vents of these opened, and issued written orders as to their periodical working.

Canal - Of the two slips noticed in Notes.

14. 22^d September 1880

One has been satisfactorily dealt with the

the other has slipped
again and looks unsightly
(it does not now block
the canal) it shall be
trimmed up. The first
mile or so of the canal
is silted up from 1' to 2'.
This silting up has been
(somewhat increased by
the extra water let in
in order to carry on the
attempts at scouring at
the "Tail Locks".

River. The "set" on the
bank at about $\frac{1}{2}$ mile
above Tail Locks - noticed
in Inspection Notes 14 -
22 September 1880. was
dealt with as therein
proposed and this did
much good at the place
but the erosion has
continued above & be-
low the place and more
extensive & costly steps
must be now taken.
gave detailed written
instructions

instructions for estimate.
Erosion, just below
East end of Anicut -
specially brought to notice
by General Haig. This
is a "bay" entered back in
the Lanka many years ago,
and resembles in general
character the bays below
the ends of all our Anicuts.
It has not really increased
this year but for a short
distance the steep margin
of the Lanka at its bank
has been somewhat cut
into by surface or wave-
wash; there is no scouring
out of the bed whatever
and as the nearest point
of the "bay" to the flood
embankment is 36 yards
there is no present danger.
Attempts shall be made
to plant up the "bay" with
bushes which will grow there.

Tools - Plant & Stores
to be sold by auction.

I devoted some time to
arranging Sub-Division
of lots as advertised
into smaller lots to suit
convenience of purchasers
and making other arrange-
ments to secure the sale
being as great a success
as possible - it will I ex-
pect take at least a week -
for there will be some 700
lots.

In concluding these Notes
I would ask the Chief En-
gineer's consideration of
the present state of affairs
as regards these Dumagu-
dem works. They are sup-
posed to belong to the "Head
Quarters Sub-Division" the
Officer in charge of which
it is acknowledged cannot
be away from his Dowlais-
weram Charge for such
a time during the working
season as will admit of
his then going to Dumagu-
dem (a steamer cannot

* of Eastern
Division.

then go up the River) and
it is during the short -
"working season" alone
that the greater & most
important part of the
works can be inspected
and dealt with. The
port between Dowlais-
weram and Dumagu-dem
takes 3-4 & even sometimes
5 days - Therefore if the
works are to be properly
attended to it is I con-
sider necessary to reconsti-
tute the Dumagu-dem Charge
a Sub-Division at least
(till ~~January~~ it was a sepa-
rate Division), and to
give specially for its charge
an Upper Subordinate who
is considered trustworthy
who has considerable
experience in con-
nection with large
masonry work, who is
known to be self-reliant
and who it will be
recognized,

recognized, may do more
than the usual Sub-
Officer on his own
responsibility without
previous approval of his
Divisional Officer.

Of course one of the diffi-
culties connected with
this being arranged
for is, that the place is
one in which there is
a natural reluctance
to bury a good man, espe-
cially if he has a family.
It is a feverish place.
There is for the greater part
of the year no European
(except one resident) no
doctor within 100 miles.
and undoubtedly there
are few men who would
not regard the charge
with dislike and be
always longing to be
quit of it. A native
more likely to keep
his health & to be satis-
fied at the place than

a European or East Indian.
It is very certain also
that if the works are to be
maintained in really
good order - the silt from
the Lock Channels thorough-
ly dealt with - & the River
for some distance above
and below the works -
managed - more than
Rs 8,000 a year must be
given for the purpose.
Rs 2700 have to go in
Lock and other Establish-
ments and I consider
that at least Rs 15,000 a
year in all will be required,
and most of this will have
to be spent with scarcely
any check (except that
of the mere accounting)
by the Divisional Officer.
The repairs of the sluice
and work in bed of River
just above and below it
will have to be done
without the Divisional
Officer seeing it either
before

before it is estimated
for or after it is done.
unless of course a
large part of his time
during the "working
Season" be taken
away from his Delta
charges which are un-
doubtedly under present
circumstances far
more important
than these semi a-
bandoned works.
The number of laden
boats which have passed
through the Canal during
the last 3 years has been 1878-80.
1540 with a total tonnage
14,528. The raft traffic
is considerable but unfortun-
ately no record has ever
been kept of this. As a
toll is now charged such
a record will of course be
now kept.

It would doubtless
be impossible to show that
the cost of maintaining

these works in really good
order is likely to be cover-
ed, or nearly covered, by
direct returns for many
a year but most assuredly
the time will come when
these works will be of im-
mense value as part of
extensive canalisation
of the Upper portion of the
River and there appears
to me to be no doubt that
the best policy is to main-
tain them in as perfect
order as possible not
only for their use now,
which though small is appre-
ciable, but with a view
to their far more extended
use hereafter.

C. S. Paul

Supt. of Works Godavari

Supt. of Works Office

Soulaischempalli

28th September 1901

Sept 30 1901

Imp. Secy.

C.E. No. 198. 22-6-87.
C.No. 5420. 22-9-87

W.

The only point requiring special notice is the proposal to reconstitute an agency as a separate subdivision -

Scamper Sir W. Webb's arguments appear convincing, but the matter should have formed the subject of a separate letter -

S. ref.

From P. H. C. No. 5693

The Superintendent of
Works, Government

To The Chief Engineer
P. W. S.
Madras

Dated 20th
Sept 30th } September
Received 5th

Notes of Inspection
of works at Tennar
garden

in

(1) to select a thoroughly reliable subordinate and place him in charge of these works as a Special Subdivision

(2) to give him such selected the usual Upper Subdivision allowances and 50% on ordinary pay & all.

(3) to arrange for the appointment of a Special duty of the most experienced Executive Engineer who can lay hold of at the commencement of the next working season, and authorize him to decide on the spot what is to be done, leaving the subordinate to carry out his instructions

(4) to provide him such small assignment as may be necessary for current year and Rs 15,000 in '82-'83

30.10.87

Ref

The Executive Engineer
in charge of the Head
Qr. Division, in which
these works are also
included, has his hands
quite full, and cannot
count on having the
 requisite time at
disposal to examine
the amount and look
at the only time when
such examination would
be of value.

The main question as
it seems to me is - Are
you decided as
to the policy of main-
taining or wholly aban-
doning these works?

No middle course
seems open particularly
in this present state.

Mr. Walsh says
emphatically that
although no adequate

returns can be pointed
to at present - "most
"assuredly the time
"will come when these
"works will be of immense
"value as part of ex-
"tensive canalization of
"the Upper portion of
"the river."

Thus readily assenting
to the validity of this
opinion I cannot profess
from my small local
knowledge that such
support as I can give
will be of any weight
but the members of Govt.
who are acquainted with
the whole circumstances
of the case will be in a
position to judge.

Under his disapproval
but Govt. decides to
adopt Mr. Walsh's
present proposals I
think the safe plan will