

(1) Number of pages 20
(2) Date of repair _____
(3) Initials of the Referencer lms

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W. DEPARTMENT

G.O. No. 1869	Press.
B.P. No.	Mis.
Dated 5-7-1883	198.

V. S. M.

Not to be folded or roughly handled.

1869
1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ--the following letter from G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 19th June 1883, No. 856 G.D.

I have the honor to enclose extract from the Inspection Notes of Mr. J. Mahony, Supervisor, in charge of the Dumagudem Sub-division, which gives some interesting details about the state of the anicut at Dumagudem (see Proceedings of Madras Government, No. 1334 W., dated 29th May 1882).

ENCLOSURE.

Extract from the Progress Report of Works in charge of Supervisor J. Mahony, in charge of Dumagudem Sub-division, Godavari Eastern Division, from 21st to 31st May 1883.

Name of Work and Date of Inspection.	Remarks by Subordinate or Sub-divisional Officer.	Remarks by Officiating Superintending Engineer.
1	2	3
28th to 31st May 1883, repairing Dumagudem Anicut.	The pointing of the body wall and the filling in of holes or under-pinning at places where the rock from underneath the anicut was washed out are going on as fast as 25 masons can work. Up to date the following work was executed:-- 68,011 square feet pointing. 2,278 cubic feet rubble in cement. The numerous pools in rear of the anicut where the anicut was found undermined were all baled out, and the holes underneath the anicut filled in with rubble in cement. Nearly the whole of these small holes have been made up, leaving a few more and the large pool at the junction of the "shoot" with No. 2 Section of the anicut to be dealt with now. The water in the large pool has been so far lowered that its requirements can now be decided on. I have made a plan of it and taken four cross sections and attach the drawing to these notes. From section cc it will be seen how deeply the anicut has been undermined, the whole being 45 feet $\times$ 5 feet $\times$ 7 feet. There is every indication that the anicut at this place was protected by a batter and apron similar to those as shown in section bb, and must have been washed away several years ago.	Good. Very good.

Extract from the Progress Report of Works, &c.—continued.

Name of Work and Date of Inspection.	Remarks by Subordinate or Sub-divisional Officer.	Remarks by Officiating Superintending Engineer.
1	2	3
	The aprons on either side of this gap are not solid rubble but of rough stone loose below, covered with rubble in cement for a thickness of $1\frac{1}{2}$ feet or so, and the various levels at which they are is probably due to the level at which the water in the pool happened to stand when they were being built. I had only 50 cubic yards of stone collected for the work, but now some 300 cubic yards are certainly wanted, and the cement, which also is short, is being got ready with all possible expedition. I propose now to treat the gap in the same manner as appears to have been done to the parts on either side of it, i.e., to throw in rough stone till it is just above the water in the pool, and then to lay the rubble in cement apron over this for a thickness of $1\frac{1}{2}$ feet, then to build on the whole in the anicut and finish off with a batter similar to that as shown on section <i>bb</i>. I fear there is scarcely time to do the work properly left now, for I have ordered the pumping to be stopped on the 10th proximo, and the engine and all machinery removed before the 12th, so that all may be out of the river before the freshes come, which I believe may be expected any day after that date. One pump was certainly not enough for the work; it required three pumps, so as to give ample time to build up the large amount of masonry and to extend the apron all over the bottom of the pool, a thing which is absolutely necessary to protect the apron from being undermined.	Then if not done this year will have to be done next, all arrangements being previously made to go on in March. It is very much to be regretted that the work could not be done as hoped in one season. The Executive Engineer will, before the river falls too low to admit of its being done, send up the engine and pump, which will be returned from Madras.
	The pumping of the water out of the pool was commenced on 3rd May 1883, and with the exception of about six breaks, varying from 6 to 48 hours, the pump was kept steadily at work night and day up to date, the result being that the water was lowered 9 feet. The pumping at first gained but slowly on the water, due partly to a 3-inch iron pipe through the body of the anicut (see plan) discharging full, and was not discovered till about half the water in the pool was baled out, and partly to leakage through the anicut and springs from the fissures in the rocks. The portable engine, 8-horse power, working the pump was supposed to work up to 30 lb. only in safety, but this proved wholly insufficient to work the pump, and at Bhadrachalam it was worked up to 65 lb. on the gauge, when a few weak joints began blowing. Before putting up the engine at the anicut it was thoroughly repaired, and now to keep the level	Much too late in the season.

Extract from the Progress Report of Works, &c.—continued.

Name of Work and Date of Inspection.	Remarks by Subordinate or Sub-divisional Officer.	Remarks by Officiating Superintending Engineer.
1	2	3
	of the water down and for the pump to discharge its utmost to the height, as shown in the accompanying plan, it is worked up to 80 lb. on the gauge, the highest the engine can indicate. If this is not done the pump does not discharge full and water increases in the pool.	Certainly should not be worked to above 60 lb.

4th June 1883.

(Signed) J. MAHONY,
Supervisor.

ORDER—dated 5th July 1883, No. 1869 W., Public Works.

Recorded.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.To the Superintending Engineer, First Circle.
" Chief Engineer for Irrigation.Exd. J. Henricus.
Spare Copies1869
2

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1883) Madras.

PUBLIC WORKS.

Dated July, 5th.

Recd.

Encl.

G.O., 5th July 1883, No. 1869 W.

JULY.

Dumagudem Anicut

Letter from the Superintending Engineer,
First Circle, regarding the state of the
recorded.

29TH MAY 1882, No. 1334 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 153.

READ—the following letter from G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaisweram, 28th April 1882, No. 324 G.D.:—

I have the honor to report that, in accordance with paragraph 3 of G.O., No. 2743 W., 5th November 1881, Mr. J. C. Larminie, Executive Engineer, proceeded to Dumagudiem early in this month, leaving Rajahmundry on the 12th, reaching Dumagudiem early on the 17th, and returning to Head-quarters on 24th.

2. He made a thorough examination of the works generally, and especially of those portions which I was unable to see in September last and which have not been seen by any officer for some years previously, and I enclose extracts from his notes.

3. I am glad to be able to report that he considers matters are by no means so bad as had been represented or imagined.

4. As regards the rumoured insecurity of the flood-gates, he agrees with me, after an examination of the parts of the gate which I could not see, that it was a "score."* He says—"There is no indication whatever of decay in the heel posts where they enter the pintle sockets (nor elsewhere), and it is not understood how such a report ever originated."

* See my Inspection Notes, September 1881.

5. This being the case the greatest cause of anxiety is entirely removed.

6. As regards the anicut, his notes will show you that, whilst it undoubtedly requires attention, there is nothing of serious moment the matter with it. Arrangements have been made to send up 20

† Two Carpenters have also been sent up. Masons† from here to push on with the necessary pointing and petty repairs. During the freshes, when boats can get to Dumagudiem, a centrifugal pump shall be sent up, and next dry season the pool below the anicut at junction of the "shoot with," No. 2 Section, shall be pumped out and the state of the body wall of the anicut investigated; and Portland cement shall be sent up to be used, if necessary, in making concrete to be thrust in bags into any holes which it may prove impossible to clear of water.

7. All the instructions which have been given in detail to the Overseer (B. Kunniiah Lal) for work now to be done, he will, I think, be able to carry out, and it would now, as matters have turned out, be unnecessary to send Mr. Mahony to the place for the few weeks of the real working season which remains, after which he would have but little to do.

8. It would, however, be advisable to have him at the place some little time before the commencement of the next working season, and I would propose to send

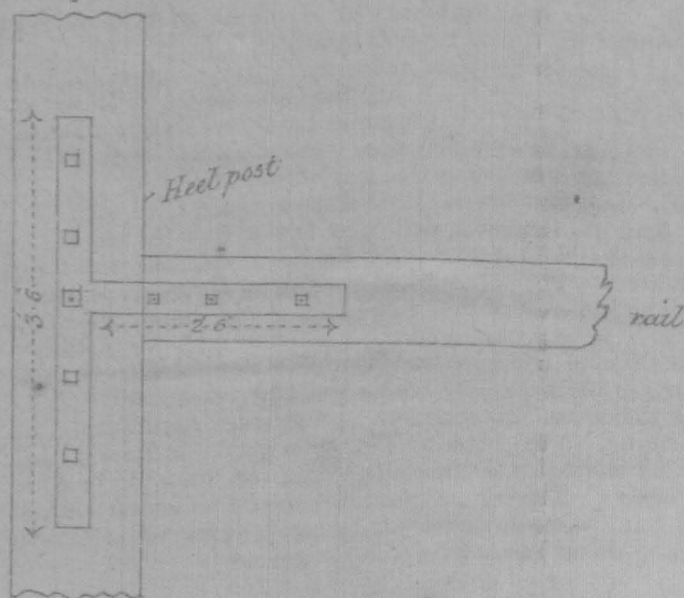
him there about next November for the one season, after which I consider the charge might revert to an Overseer.

ENCLOSURE.

Extract from the Notes of Inspection of J. C. LARMINIE, Esq., Executive Engineer, Eastern Division of Upper Godavari Works.

Head Lock—Flood-gates—17th April 1882.—Generally in good and sound order and safe for years to come if properly looked after, kept tarred and clean. It is true that the lower rails and planking are somewhat scored by worms, and probably in another year, if this action continues, it will be necessary to renew the lower 6 feet of the gate planking.

There is no indication whatever of decay in the heel posts where they enter the pintle sockets (nor elsewhere), and it is not understood how such a report ever originated. The only part at all decayed is the heel-post tender of the second rail (from sill) of the right leaf; this has opened a little from the heel, and the corner of the heel has cracked away; the part is probably still strong and sound enough, but, as a precaution, two — straps are to be bolted through to rail and heel post as per sketch.



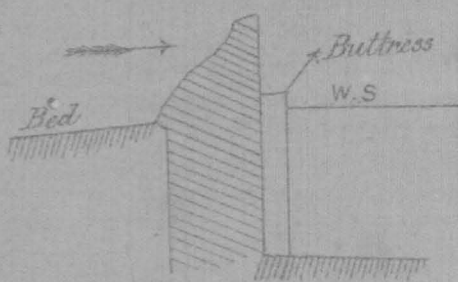
Straps to be countersunk to be $3\frac{1}{2}$ " broad $\times$ $\frac{3}{4}$ " thick and bolted through each other by 8 bolts and nuts, $\frac{3}{4}$ " diameter would do, but the Overseer has only $\frac{1}{2}$ " and 1", so the bolts can be 1" diameter. The gates are to be thoroughly cleaned before being tarred; all crevices and cracks to be well cleaned and filled in with tar, with tar and dammer where cracks are wide enough to take it. The crack in left heel post, alluded to by Superintending Engineer to be so treated, valve shutter bearings to be looked to.

18th and 19th April 1882—**Anicut and other works.**—Anicut from E (left) end. Generally it appears in good order. There is hole above the anicut close to the left wing from 6 to 8' deep; it is,

I should think, of old standing; and, as the river bed below is only a couple of feet below crest, nothing seems to be required in the way of filling in. From the left wing for 1077' is the shoot which is in fair order, the long sloping apron near its W end to be pointed where necessary, and the masonry repairs to masonry provided in D. Venkataswamy's estimate to be carried out if possible. At present, owing to pools of water above and below, it is impossible to see where these repairs are required. From the end of the shoot

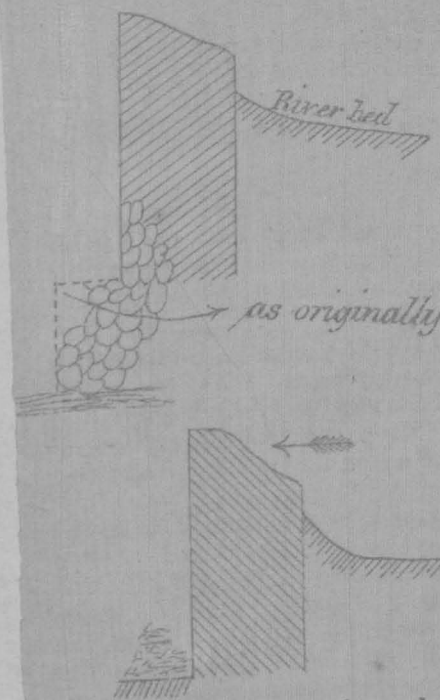
Trifling ones.

natural pool below the anicut, from 10 to 15' deep. The lascar sent in to examine the anicut rear face reported a hole $36' \times 4' \times 8'$ deep into the body of the anicut; to make certain of this a small boat was launched in the pool and, after a careful examination, I conclude that the hole is not more than 2' deep, and that it does not extend for any length. There is a tradition



said to be in the rear face of the anicut; of these, one $21' \times 4' - 6' \times 12'-0$ is said to be under the

anicut scouring sluices, but its existence is greatly doubted, and when the water falls to a minimum in May, the Overseer will make a special report on the subject.



The other four places supposed to require repairs were pointed out by the lascar, who with Overseer Venkataswamy measured them; but only in one place, after most careful search in rear of Section No. 4, could anything resembling a hole be discovered, and it (this hole) was only in the basement of the anicut. Repairs to this basement as per Venkataswamy's estimate are to be done. At present the basement is somewhat, as per sketch, a good deal broken down in places; there is no immediate danger, but the action of the water when there is but little going over the anicut will loosen more of the small rubble of which the basement is composed. Rear face of anicut to be pointed where required as shown, pebble concrete grouting being used where the spaces are large enough to take it.

Upper curve to be pointed where required; the slope is in very good order and does not require anything.

The up-stream face for a couple of hundred feet east of the sluices requires pointing.

As also the piers and grooves of the sluices, the floor of the latter to be carefully examined and reported on when the water is low enough; now (19th April 1882) there is a depth of 3' 6" going through the sluices.

New shutters should be made up as soon as possible on detailed measurements of each vent, each shutter to be $1\frac{1}{2}$ " less in breadth than its intended vent (shutters and vents should be numbered), and the planking should be cut the full required width for each vent, and not to be made with side battens as are the old shutters. The pointing as provided by Overseer Venkataswamy's estimate for these sluices and along the crest of the 4th Section of the anicut should be done this season, and to ensure its thoroughly setting, as also all other masonry work, the pointing, as fast as it is done, should be covered with sand and kept well wetted. For pointing done to the vertical faces of the anicut, the wetting must be done by coolies pouring water from the top or by bamboo syringes from the bed of the river. A complete and revised estimate for all works required is to be sent in as soon as possible; the items of Venkataswamy's estimate alluded to can be accepted. Mean time the work should be commenced. The first thing to be done being manufacture of lime and then the cement. The engine (portable) should be wheeled up at once to the lime-kiln, and the surki mill being taken to pieces can be easily conveyed on bandies or by coolies. Stone required for repairs to anicut basement should be got ready.

No. 153-A.

READ—the following letter from G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaiswaram, 29th April 1882, No. 342 G.D.:—

With reference to paragraph 3 of G.O., No. 829 W., 28th March 1882, I have the honor to say that I consider the best way to carry out the necessary investigations connected with the river-side route for the Bhadrachalam Boat Canal will be to give the Supervisor, when he takes charge of the Dumagudiem works (see my letter No. 324 G.D. of yesterday), a Surveyor and 5 Lascars for 3 months, and with their aid I believe he would be able to furnish all the necessary plans, sections, records of borings and approximate estimates by the end of next February.

No. 154.

ORDER—dated 29th May 1882, No. 1334 W., Public Works.

The Government are glad to learn that the state of the Dumagudiem Works is much better than was supposed.

2. The arrangements proposed by the Superintending Engineer are approved. The Supervisor to be sent to the Upper Godavari next November will, in addition to the ordinary work of the Sub-division, make a thorough examination and survey of the left bank Canal Project for the connection of Dumagudiem and the deep bed of the river near Bhadrachalam, more precise instructions regarding which have, it is understood, been given to the Superintending Engineer by the Chief Engineer for Irrigation.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, First Circle.
Chief Engineer for Irrigation.

1869

5

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of 1882 Madras.
PUBLIC WORKS.

Dated May, 29th.

Recd.

Encl.

G.O., 29th May 1882, No. 1334 W.

MAY.
Nos. 153-154

Dumagudiem Works.

State of the —. Orders on extract from Executive Engineer's Inspection Report as to the — and letter from the Superintending Engineer as to the best means of carrying out the investigation of the scheme for a canal between Dumagudiem and Bhadrachalam.

No. 856 G.O. P1

FROM,

THE SUPERINTENDING ENGINEER

FIRST CIRCLE.

TO,

THE CHIEF ENGINEER

P.W. Department 6
FOR IRRIGATION.

DOWLAISHWERAM, 19th June 1882

SIR,

I have the honor to enclose
Extract from the Inspection Notes
of Mr. J. Mahony Supervisor in
charge of the Dumagudiem Sub Divi-
sion which gives some interesting de-
tails about the state of the Anicut
at Dumagudiem. (see P.M.G. 1334 W.
29-5-82.).

I have the honor to be,
Sir,

your most obedient S^t

C. P. P. P.

Offg. Supr. Eng. 1st Circle.

Completed by
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Extract from the Progress Report of Works in
charge of Supervisor J. Mahony in charge of
Dumagudum Sub Division, Godavari East.
in Division from 24th to 31st May 1883.

Name of work and date of Inspection	Remarks by Subordinate or Sub Divisional Officer	Remarks by Executive Engineer Off. Sep
1	2	3
28 th to 31 st May 1883 Repairing Dumagudum Anicut	The pointing of the body wall and the filling in of holes or underpinning at places where the rock from underneath the anicut was washed out, are going in as fast as 25 masons can work. Up to date the following work was executed. 68,011 Square ft pointing 2278 Cft rubble in cement. The numerous pools in rear of the anicut, where the anicut was found undermined were all baled out and the holes underneath the anicut filled in with rubble in cement. ✓ Nearly the whole of these small holes have been	1869 7

been made up leaving
a few more and the large
pool at the junction of
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The water in the
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section C.C. it will be seen
how deeply the Anicut
has been undermined
the whole being $45' \times 5' \times 7'$.
There is every indication
that the Anicut at this
place was protected by
a batter and apron
similar to those as shown
in section B.B. and must
have been washed
away several years ago.

The aprons on either
side of this gap are not solid
pubble but of rough stone.

3
Loose below, covered with
pubble in cement for a
thickness of 1 1/2 ft or so and
the various levels at which
they are is probably due
to the level at which the
water in the pool happened
to stand when they were
being built.

I had only 50 Cys
of stone collected for the
work but now some 300
Cys are certainly wanted
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I propose now to treat
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Amicut and finish off
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to that as shown on section

66

I fear there is scarce
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properly, left now for I then if not done
have ordered the pump this year will have
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and all Machinery previously made to
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It is very much
believe may be expected to be regretted that
any day after that date - the work could not be

One pump was certainly done as hoped in one
ly not enough for the work; season -
it required 3 pumps The Executive Eng
so as to give ample time will let on the river
to build up the large falls too low to ad
amount of masonry must of its being done
and to extend the apron end of the dam and
all over the bottom of pump, which will be
the pool, a thing which returned from the dam
is absolutely necessary
to protect the apron from
being undermined.

The pumping of the water

water out of the pool
was commenced on 3rd May much too late
1863 and with the exception in the season
of about 6 weeks varying
for 6 to 48 hours the pump
was kept steadily at work
night and day up to date
the result being that the
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The pumping at first
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the water due partly to a
3" iron pipe through the
body of the Amicut (see
plan) discharging full
and was discovered till
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in safety but this proved
wholly insufficient to
work the pump and at
Kha machalam it was
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guage when a few weak
joints began blowing

1869

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1869
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Before putting up the
engine at the Olmsted
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does not discharge full
and water increases in
the pool.

Certainly should
not be worked to
above 60 lbs

(Signed) J. Mahony
4/6/82. Supervisor

Off. Sup. Eng. & Civil

(True & correct)

Off. Superintending Engineer

Compd. S.H.
5.17/6/82

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P.W.C. No 5391

To W. for purchase. I
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From

The Supr Engineer
1st Circle

To

The Chief Engineer
P.W. Department

Dated 19th
Despd 21st
Recd 27th } June/83

No 856 Q

Enclosures. 2

Dumagnum Ancient
Interesting details about
the state of the — In-
-pection Notes of Mr. S.
Mahoney Supervisor June
some — Extract from
the — Forwards an

1st Circle
E for J. with 1
0.20.6 No 24/7

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Govt. of (1883) Madras.

PUBLIC WORKS.

Dated

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Re

Encl

G. O. 5 July 1883. No. 15694

Nos.

Prima quidam Amint

Letter from the D.S. 1st/10
- regarding the state of the
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Entered in Receipt Register