Public Works (1897) Department.

G.O., No. 209 I

DATED 1. March 1897

2/3/97

[Despatch Abstract.]

Cooum river: Orders on report submitted by the S.E. II Circle of a cleansing of the — during the floods of December last

120/6

T.C. 2/3/97.

[P.W.M. 1,200—30-11-96.]

Indexed. 2/3/97

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IRRIGATION.

Government (1897) of Madras.

PUBLIC WORKS.

Recd. } 1897.
Regd. }

Enclosures
Spare copies

G.O., No. 209 I., 1st March 1897.

MARCH.

Cooum River

Orders on report submitted by the Superintending Engineer, II Circle, of a cleansing of the — during the floods of December last.

BACK PAPERS.

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

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

IRRIGATION.

Government {1897} of Madras.

PUBLIC WORKS.

Recd. } 1897. *Enclosures*

Regd. *Spare copies*

G.O., No. 209 I., 1st March 1897.

MARCH.

Cooum River

Orders on report submitted by the Superintending Engineer, II Circle, of a cleansing of the — during the floods of December last.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following papers :—

From Captain J. LALOR, Officer in Charge, Northern Sub-division, to the Executive Engineer, Buckingham Canal division, dated 16th January 1897, No. 199.

I have the honour to submit a report on the work done by the steam launch on the river Cooum.

On the 8th December 1896, I received orders from the Under Secretary to Government, Irrigation Branch, to obtain from the Salt department the steam launch and by means of a drag to stir up the slush and filth of the Cooum, so that the river may be cleansed while in flood and all sewage washed away to sea.

I immediately proceeded to the Salt depôt and got the Inspector to get ready the steam launch. While this was being done, I had made ready a drag formed of four casuarinas tied together with ropes ; to these casuarinas, nine hanging chains were lashed and this drag was fastened to the stem of the steam launch, so that when the vessel moved, the chains dragged the bed and disturbed the slush, &c. The flood level being high on the afternoon of the 8th December, it was not possible to get the launch through the Elephant gate bridge, so the drag was worked between the Elephant gate bridge and the salt (wooden) bridge, and the slush in the Cooum where not removed by the floods was stirred up and carried away by the flood waters to the sea.

Next morning the flood having fallen the steam launch with drag was brought to work between the Laws bridge and Government House bridge. The launch required three feet of water and I found by sounding that the heavy flood had already scoured the bed where the water was deep 3 to 5 feet and the bed was found to be fine black sand showing that the real bed of the Cooum had been reached ; where any slush had been left in 3 feet of water, the chains raked up and the water could be now and then noticed to be quite black with the slush, but as most of the remaining soft soil was in shallow water on the sides and it was not advisable to work the launch in less than 3 feet of water, the stuff on the sides was not accessible with the launch. I would observe here that the launch worked very well in deep water when going down stream, but worked very slowly when moving upstream. As the engine being only 4 H.P., was not sufficiently powerful to work against the force of the flood water.

In future it will be advisable to have an engine of greater power so as to be able to work upstream. There is no doubt that the floods have done a great deal of good in cleansing out the Cooum and freeing its bed of the foul matter deposited thereon. When I inspected the bar on the evening of the 7th December, the water flowing into the sea was as black as ink. The dragging by the steam launch has also done some good and the state of the Cooum is sweeter this year than it has been for many a long year. I worked the steam launch and drag in person on the 8th and 9th and then put the Cooum Maistry in charge until Supervisor Kistnasawmy Mudaliar returned from circuit. The Supervisor then worked the drag on the 11th and 12th. His report on the work done is appended. I would recommend that when the Cooum is in flood again, that another trial be made with a launch with a more powerful engine, so that all work be done against the stream, not with it, as there is danger of getting too near the bridges when working down stream.

The sketch of launch with drag given to me by Mr. Wilson is enclosed.

Enclosure.

From M.R.Ry. V. KISTNASAWMY MUDALIAR, Supervisor, to the Assistant Engineer, Madras, dated 13th December 1896.

With reference to your endorsement of 10th December 1896 on Executive Engineer's No. 2080, dated 9th December 1896, I beg to report that I personally superintended on the 11th and 12th instants, the dredging of the Cooum river near the Government House bridge, with the aid of steam launch, and to report below the report of the experiment made.

2. The drag consisting of wooden stakes, tied together with chains attached, hanging therefrom, was let into water and drawn by steam launch ; it could not stir up the loose slushy soil as desired, for the steam launch could not be worked up in the shallow place, along the border of the river, where much of the filthy matter has accumulated, but in deep water close to the border as far as possible where the launch moved the drag came on gently sliding on the slush, stirring up the loose bed, where it existed here and there, freely.

The water level in the Cooum was low when the Supervisor worked the steam launch.
(Intld.) J. L.

3. As it was found that this kind of drag proved to be a little weighty which could not be easily drawn, another contrivance less weighty was made by which a rake was used as a drag. This rake had sharp pieces of iron 6 inches long and fixed vertically in the horizontal piece of iron 3 inches apart. This was let into the water with four men pressing it down, so that the sharp ends of the vertical pieces of iron may rake up the bed below. The rake was then drawn by the launch along the border as far as the depth would allow. This improved light contrivance, produced a pretty fair result, by which a portion of the slushy loose soil, along the southern border of the river, just below and up the Government House bridge was stirred up and the filthy matter was allowed to be carried into the sea with the current of water going down at low tide. But the chief difficulty I had to contend to continue the work any further was the impossibility to work up the launches in the shallow places along the border of the river, as you are aware that the launch requires at least 3 feet of water. As the flood in the river had since almost subsided the river has become tidal and consequently there is not more than 1½ feet of water over the border of the river where generally much of the filthy matter is deposited. In spite of the shallow depth of the water, the launch can possibly be induced to slide through the slushy soil dragging the rake along the border, but I am afraid should undue pressure be put in the launch to induce it to work in such shallow depth of water, the cold water pipe may take in muddy water and pass it into condenser boiler pump which will be more or less filled by slush and sand, resulting in damage to the engine work. With the subsidence of flood in the river I do not think it is safe to continue to do the dredging work with the aid of the launch for fear that she will be spoiled.

4. Besides this I had employed a gang of a dozen coolies each with an ordinary mamooty to loosen the slushy bed and allow the filthy matter to be carried away with the current which worked satisfactorily for two days.

* * * * *

No. 2280.

Copy forwarded to the Superintending Engineer, II Circle, with reference to his Endorsement, No. 418 B.C., dated 1st instant.

(Signed) J. E. PAUL,
Ex. Engr., Buckingham Canal Divn.

22nd January 1897.

No. 462 B.C.

Forwarded to the Chief Engineer for Irrigation in reference to his No. II/103 B.C., dated 11th December 1896.

2. The undersigned strongly recommends that during the next floods in Cooum, the effect of stirring up the bed by means of a rake drawn by a fairly powerful steam launch be again tried.

3. A rake to be used in the main canal, Kistna Western division, has lately been made in the Bezwada shops and particulars regarding this can be obtained from the Kistna Western division officer.

4. It is probable that "Kingston" scouring dams might be used with advantage in the Cooum, when the floods have subsided, and whilst the river is tidal, and if the Executive Engineer, Buckingham Canal, will place himself in communication with the Executive Engineers, Kistna Eastern and Northern divisions, he can obtain drawings and full particulars regarding the working of these dams.

5. To this memorandum is appended one section of the Cooum river and some of the junction canal from which it appears that boats of light draught might be fitted with dams of the "Kingston" type and thus replace the punts upon which these dams are usually mounted.

The matter will require considerable thought, and the holders of the patent Messrs. Burn & Co. of Calcutta should be addressed.

The head of water required to make the dam work is about 0·5 foot, and the rise and fall of the tide in the Cooum should be sufficient to give this head when the river is fully tidal.

(Signed) W. L. C. BADDELEY, Major, R.E.,
Superintending Engineer, II Circle.
4th February 1897.

No. 43 I.

Note by the Chief Engineer for Irrigation.

The experiment was made at the instance of the Honourable Mr. Bliss, C.I.E., and indicates that much good might be done by this process with a more powerful steam launch or by manual labour in the shallower parts of the river. It is essential to success that there should be a good current.

(Signed) W. HUGHES,
Chief Engineer for Irrigation.
11th February 1897.

ORDER—No. 209 I., dated 1st March 1897.

The difficulty evidently is to get a launch which shall be both of sufficient power and of low draught. The Salt department is enquiring about a new launch. Perhaps, when procured, that may do better. When next there are floods in the Cooum, gangs of men may be employed to stir up the filth in the shallows, so that it may be carried out to sea.

2. The Superintending Engineer, II Circle, should, after enquiry, submit detailed proposals for using the Kingston scouring dams referred to in his report.

(True Extract.)

Under Secretary to Government,
Irrigation Branch.

To the Superintending Engineer, II Circle.
„ Chief Engineer for Irrigation.
„ Revenue Department.
„ Local and Municipal Department.

Exd. P. Seetharam.

From Orders

No 209 I of 1-3-97

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

From the Supdg. Engineer, Second Circle, (Hd. No. 462-BC dated 4.2.97).
Note by the Chief Engineer for Irrigation. (Hd. No. 43. I. dated 11 Feby 1897).

The experiment was made at the instance of the Hon: Mr. Bliss C.I.E. and indicates that much good might be done by this process with a more powerful steam launch or by manual labour in the shallower parts of the river. It is essential to success that there should be a good current.

Issue

WH
23/2/97

To — The Supdg. Engineer, Second Circle
Chief Engineer for Irrigation
Revenue Dept.

Please initial orders also

No. 209 I of 1-3-97

Order thereon.

The difficulty evidently is to get a launch which shall be both of sufficient power and of low draught. The Salt department is enquiring about a new launch. Perhaps, when procured, that may do better. When next there are floods in the Cooum, gangs of of men may be employed to stir up the filth in the shallows so that it may be carried out to sea.

2. The Supdg. Engineer, Second Circle, should, after enquiry, submit detailed proposals for passing the Kingston scouring dams referred to in his report.

23/2/97

W.H.
23-2-97

11/3/97

To The Supdg. Engineer, Second Circle
" Chief Engineer for Irrigation
" Revenue Dept.
" Local & Municipal Dept.

E. I. Form No 1—1,000—27-11-96.

~~W.C.~~
For the Mr Bliss C.I.E.

Public Works (1897) Department.

1. Sec. The papers sh'd go to the Hon. Mr. Bliss.
2. Enquiry sh'd be made about the Kingston scouring dams mentioned in Maj. Baddeley's report of 4.2.97. No. 462 B.C.

A.S.H.
15.2.97

CURRENT No. ~~S. B. C~~ 2076

Order Submitted to Government. The experiment was made at the instance of the Hon. Mr. Bliss and indicates that much good might be done by this process with a more powerful steam launch or by manual labour in the shallower parts of the river. It is essential to success that there should be a good current. Further experiments will be made as occasion serves.

11.2.97. W. Hughes
Joint Secy to Govt.
P.W.D. I Branch

From Major W. L. C. Baddeley R.E.
Supdg Engr. II Circle

No. 462 B.C

Dated 4 February 1897

Received ~~8~~ 25-2-97

Enclosures ~~3~~ 5 (×1 ×2 plans)

Spare copies

SUBJECT.

Cleansing the Cooum in December floods. Forwarding with remarks report on the —.

The difficulty evidently is to get a launch which shall be both of sufficient power and of low draught. The Salt Dept. is now enquiring about a new launch—Perhaps, when procured, that may do better. Any way, whenever there are floods, gangs of men might be employed to stir up the filth in the shallows so that it may be carried out to sea.

7/2/97

B.R.
8-2-97

To D.J.

Reg'd 17-2-97

B.9-2-97

BACK PAPERS.

G.O.	No.	Department.	Date.
I	103. B.C		11.12.96
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7 O.	–	9 12 96	with Els/Bc DO
GO	957 I	16 1 96	
GO	415 I	13 v 96	

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Executive Engineer's Office,
Buckingham Canal Division,
~~Madras Basin,~~
~~PERAMBUR.~~

II
W 103 BC d/ 11-12-96

Egmore
9th Decr. 1896

2119/109

Sir,

I went to the Salt Depot Yesterday rigged up a drag & set the Steam launch to work between the Elephant Gate Bridge and the Salt Bridge on the North. The

ems S.E. G

At the instance of
te Hon Mr Bliss C.S.
erbal instructions
ave been given to
the Exec: Engr. B. Canal
Dvn to try the
xperiment of towing
, drag or rake along
e bottom of the Cooum
hile in flood with
te object of stirring
p some of the filth
hich lines its bottom
nd thus getting rid
of it —

For this purpose the
Steam launch belonging
to the Salt departt. has
been placed at the
Exec Engr's disposal
It is requested that
the Exec Engr. may
report on the results
of the experiment

11/12
96

Between Laws Bridge & Govt. House Bridge, where it will do some good.

Yours truly J. Cabot

Issue	103 BC	11. 12 96	
Do	–	9. 12 96	with EE/BC DO
Do	4577	16 1 96	
Do	4153	13 2 96	

II

W 103 BC d/ 11-12-96

Memo S.E.G

At the instance of the Hon Mr Bliss C.E. verbal instructions have been given to the Exe: Eng: B. Canal Divn to try the experiment of towing a drag or rake along the bottom of the Cooum while in flood with the object of stirring up some of the filth which lines its bottom and thus getting rid of it —

For this purpose the steam launch belonging to the Salt Depart: has been placed at the Exe Eng: disposal

It is requested that the Exe Eng: may report on the results of the experiment

11/12/96

The floods Seem to have pretty well cleared away all the loose slush on the Canal here

The velocity of the water was very great & it was dangerous to venture to get thro. the Bridge, As soon as the water falls & the bridge can be crossed the launch will be brought to work between

THER PAPERS.

G.O.	No.	Department	Date.
I			

Issue	103 BC	11. 12 96	
To	–	9- 12 96	with EE/BC D.O
GO	4579	16 1 96	
GO	4151	13 v 96	

II

W 103 BC d/ 11-12-96

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11/12
96

The Hon. Mr. Bliss

E.I. Form No. 4 (a)—500—14-1-93.

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

READ the following:—

D.O. letter from the Exec: Eng: Buckingham Canal Dn. dated 9th inst.

FOR ~~ORDERS~~. information

The accompanying letter has just been received from the Ex. Eng: B. Canal Dn.

W.H.

J.J.F.
9/12
96

D.S.

I saw the launch at work as I passed over Govt. House bridge on my way back from Council. There was a native only in charge & they were endeavouring to tow the drag up-stream, for which the launch did not seem powerful enough. In order to give an experiment of the kind a good chance I think a Euro. shd. have supervised it — The people on board seemed duffers from the way they handled the launch one time when she ran ashore — she would probably be there now but for some directions I gave them from the bridge

H.B.
9/12/96

The only Europeans at present in the Buckingham Canal Dn. are Capt. Lalor the ~~acting~~ Ex: Eng: officiating and the S. Sub D. officer Mr Bond — the latter was away from Madras on the Canal on the 8th when instructions were given to Capt. Lalor to carry out the experiment — Capt. Lalor said that he would himself direct operations and I have no doubt he did so, so far as his other work permitted. He will be asked to report results more fully —

W.H. 10/12

Seen. It is a pity there was no Euro. avail-able. H.B.

Yes. I should much like to know the result. So far as I can see it is the only practicable & cheap way of getting rid of some of the filth in the river bed

J.J.F.
10/12

H.B.
11/12/96

D.S.

FOR ORDERS.

E.I.

Your subm.ⁿ might be issued as a note by the Chief Eng. for Irrigation and the following order passed —

omitting the last sentence "Further "Experiments will be made" "as occasion permits"

Order

The difficulty evidently is to get a launch which should be both of sufficient power and of low draught. The Salt Dept. is enquiring about a new launch. Perhaps when procured that may do better.

When next there are floods in the Cooum gangs of men may be employed to stir up the filth in the shallows so that it may be carried out to sea —

The Supt. Eng. II Circle should ~~[illegible]~~ after enquiry submit detailed proposals for moving the Kingston Scouring dams referred to in his report —

J.H.
20/2/97

W.H.
20-2-97

J.C.B.
B.P. 20.2.97 Fair pass
[illegible]

FOR ORDERS.

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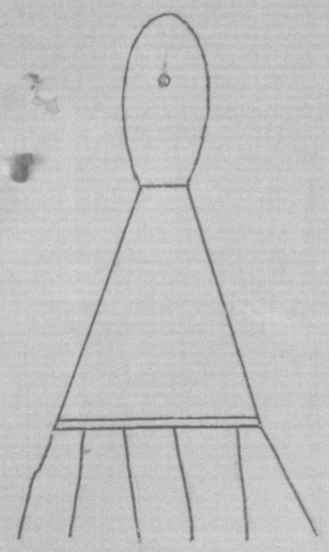
J.H.
20/2/97

W.H.
20.2.97

SCB
20.2.97



m Captain J. Lalor, Officer
rthern Sub Dn. to the Executive
ckingham Canal Dn. dated
97, No. 199.

the honour to submit a
work done by the Steam
the river Cooum.

December 1896 I received
the Under Secretary
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the Steam Launch and by means of a drag to stir up the slush and filth of the Cooum, so that the river may be cleansed while in flood and all sewage washed away to sea.

I immediately proceeded to the Salt depot and got the inspector to get ready the Steam Launch. While this was being done, I had made ready a drag formed of 4 Casuarinas tied together with ropes; to these casuarinas, 9 hanging chains were lashed and this drag was fastened to the stern of the Steam launch, so that when the vessel moved, the chains dragged the bed and disturbed the slush &c. The flood level being high on on the afternoon of the 8th December it was not possible to get the launch through the Elephant Gate Bridge, so the drag was worked between the Elephant Gate Bridge and the Salt (wooden) Bridge, and the Slush in the Cooum where not removed by the floods was stirred up and carried away by the flood waters to the Sea.

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Shallow

Shallow water on the Sides and it was not advisable to work the launch in less than 3 ft. of water, the Stuff on the Sides was not accessible with the launch. I would observe here that the launch worked very well in deep water when going down stream but worked very slowly when moving upstream. As the Engine being only 4 H.P. was not sufficiently powerful to work against the force of the flood water.

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CHIEF ENGINEER
FOR IRRIGATION.
6 FEB 97
No.

The sketch of launch with drag given to me by Mr. Wilson is enclosed.

No. 2280
22.1.97

P.W. E.H. 2076/97

Copy forwarded to the Supg Engineer, 2nd Circle, with reference to his endt. No 418 B.C. of 1st Inst.

(Sd) J.E. Paul
Exe Engr. Buckingham Canal

---

3 S.P

Letter from Supervisor M.R.Ry. V. Kistnasamy Moodr. to H. M. Band, Esqr., Assistant Engineer, Madras, dated 13th December 1896.

With reference to your Indorsement of 10-12-96 on Exe Engineer's No. 2080, d/ 9-12-96 I beg to report that I personally superintended on the 11th & 12th instants, the dragging ~~up~~ of the Cooum river near the Government House Bridge with the aid of Steam launch, and to report below the report of the experiment made.

2. The drag consisting of wooden stakes, tied together with chains attached, hanging therefrom, was let into water & drawn by Steam launch, ~~and~~ it could not stir up the loose slush soil as desired, for the steam launch could not be worked up in the shallow place, along the border of the river, where much of the filthy matter has accumulated, but in deep water close to the border as far as possible where the launch moved the drag came on gently sliding on the slush, stirring up the loose bed, where it existed here and there, freely.

The water level in the Cooum was low when the Supervisor worked the steam launch.
(ind) J.L.

3. As it was found that this kind of drag proved to be a little weighty which could not be easily drawn, another contrivance less weighty was made by which a rake was used as a drag. This rake had sharp pieces of iron 6" long and fixed vertically in the horizontal piece of iron 3" apart. This was

let

CHIEF ENGINEER
FOR IRRIGATION.
6 FEB 97
No. 832

SUPG. ENGR'S OFFICE
No. 1163
25 JAN 97
P.W.D.
SECOND CIRCLE

P.W. E.3
2076/97

No. 462 B.C.
4.2.97

5P

Forwarded to the Chief Engineer for Irrigation, in reference to his no II/103 B.C. d/ 11.12.96.

Enclos 3
1 Copy of Supervisor's report
1 Sketch
1 Sections sheet
3

2. The undersigned strongly recommends that during the next floods in Cooum, the effect of stirring up the bed by means of a rake drawn by a fairly powerful steam launch be again tried.

3. A rake to be used in the main Canal, Kistna Western Dn. has lately been made in the Bezwada shops and particulars regarding this can be obtained from the Kistna Western Dn. Offices

4. It is probable that "Kingston" scouring dams might be used with advantage in the Cooum when the floods have subsided, and whilst the river is tidal, and if the Ex. Engineer, Buckingham Canal, will place himself in communication with the Ex. Engineers, Kistna Eastern and Northern Dns, he can obtain drawings and full particulars regarding the working of these dams.

5. To this memo is appended one

Section

Section of the Cooum river and some of the Junction Canal from which it appears that boats of light draught might be fitted with dams of the "Kingston" type and thus replace the punts upon which these dams are usually mounted.

The matter will require consider:able thought, and the holders of the patent Messrs: Burn & Co of Calcutta should be addressed.

The head of water required to make the dam work is about 0.5 foot, and the rise and fall of the tide in the Cooum should be sufficient to give this head when the river is fully tidal.

CHIEF ENGINEER
FOR IRRIGATION.
[illegible].97
No. 81 B.C

W. Baddeley

Major R.E.,
Supg Engineer, II Circle.

P.W. E.5
2076/97