

(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. 1095 (W)

Press
Mis.

Dated 3/3

1877.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
31st March 1877. No. 1,095.*

Read the following papers:—

No. 781. From Colonel F. J. MOBERLY, R.E., Superintending Engineer,
Chinamput, to the Secretary to Government, Public Works Department,
Cantonment Camp Choolavaram, 23rd January 1877, No. 3,678.

I HAVE the honor to forward plan and sections of the Ennore river near its mouth, estimate for which was sanctioned in G.O., No. 1,213, of 16th May 1876.

2. I would call attention to its condition in the direction of the outlet channel proposed by me and of that at which it was cut in 1876, agreeably to G.O., No. 3,416, of 1st December 1875, there is now very little water north of F G, and consequently it is much more difficult and expensive to keep open a channel at K than it would be at E.

3. I do not hesitate to repeat that Messrs. Binny and Co. have no claim on Government for the injury done to their house. Its foundations had been washed away long before the flood of 1874; it was built in a most exposed situation, and the remains of efforts made at different times to protect it are, or were till lately, plainly visible.

4. In any case it would be better economy to pitch the bank of the river round their property and to cut the bar at its southernmost extremity, than to attempt again to open the river where the tide water can have no good effect.

5. I would urge early consideration of the subject, as, judging from the experience of last year, we may very shortly have to open the bar in the interest of the salt revenue.

6. I proposed to run a stone groyne from the beach at the south side of the cut into the sea as far as 2 feet depth below low water mark to protect the outlet from the blow of the surf wave. The beach up to the Salt Kotar should be covered with casuarina trees, screw pine, and any other plants and creepers that will grow, and prevent the passage of sand when the south wind is blowing. I am of opinion that a jetty on the left bank is not necessary.

7. If the experiment be considered doubtful, I would ask to be allowed to try it at Covelong, where a reef of rock requires only raising and lengthening, and where there is abundance of stone handy.

8. If Covelong Bar can be kept open we may fill the Adyar basin and, through the Junction Canal, the Cooum, as the long prevailing south wind will drive it up in that direction.

9. If the experiment succeed at Covelong, I see no reason why the plan should not answer at Ennore, and still better at Pulicat, where the lake affords a very large tidal basin.

10. The Cocanada Channel has been retained in the same place as I cut it in 1873. The Suez Canal is worked on the same principle, and on a still larger scale the Mississippi.

11. In every case of rivers on this coast I believe that it is important to open the channel as far south as possible, and to maintain it there; the tendency of the current and of the wind-borne sand being to shift the mouth to the north; the tidal ebb and flow will generally scour along the sea face of the groyne which turns the sea current into deeper water; this groyne will, in the course of time, need to be lengthened as the deposit increases.

No. 781-A. Proceedings of the Madras Government in the Revenue Department,
dated 6th March 1877, No. 949.

Proceedings of the Board of Revenue, dated 2nd March 1877.
Read the following letter from R. W. BARLOW, Esq., Collector of the
Chingleput District, to H. E. STOKES, Esq., Acting Secretary to the
Board of Revenue, dated Chingleput, 22nd February 1877, No. 126.

I was about to address the Board regarding the shallow state of the northern
and southern canals owing to there being no freshes, and the consequent closing
of the bars resulting in hindrance to navigation and salt manufacture, when
I received their Proceedings of the 16th instant.

2. I beg to report that it is highly desirable that the Ennore Bar should be
kept open, and some measures of a permanent nature for keeping both it and the
Covelong and Pulicat Bars open seem urgently called for in the interest both of
traffic and of salt manufacture. I should be glad to see Colonel Moberly
permitted to try his experiment either at Covelong or Ennore, whichever is deemed
advisable. I believe the Superintending Engineer has given the subject consider-
able attention.

3. At the same time, I should remind the Board that keeping the bars open
is part of Mr. Woolley's proposals (*vide* paragraph 5 of Government Order, Public
Works Department, No. 1,992, dated 3rd August 1876); but whether in connection
with the main canals or the salt channels I am not aware. I will report regard-
ing the latter shortly, and I am informed by the Superintending Engineer, though
I have received no orders on the subject, that the repair of the main canals was
transferred to Mr. Woolley on the 1st instant.

4. Meantime, I have the honor to report that I have authorised, in antici-
pation of sanction, the measures proposed by the Salt Deputy Collector in his
No. 59, dated 1st instant, extract from which I herewith forward for the informa-
tion of the Board, and beg to draw attention to the state of the canals as therein
described.

5. The plan which accompanied the Board's Proceedings under reply is
herewith returned.

ENCLOSURE No. 1.

From D. V. NARASINGA ROW, Deputy Collector in charge of Salt, Chingleput District, to
R. W. BARLOW, Esq., Collector of Chingleput District, dated Ennore, 16th February
1877, No. 59.

In continuation of my letter to you, dated the 20th ultimo, No. 23, I beg to inform you that
both the Pulicat and Ennore Bars being closed, there is no communication between the sea and
Cochrane's Canal; consequently, the water in it is daily diminishing and the navigation of boats
above 10 tons burden is entirely stopped, while the smaller boats of lesser burden are only plying
between Kattivakum and the northern country; and I believe that in a few weeks more there
will not be sufficient water in the canal for the passage of even these smaller boats.

2. The weather being clear, the salt works at all the divisions are going on, and the
manufacturers have worked 760° pans more in comparison with the number they worked last year

up to date, and a small quantity of salt will be produced soon; but the water in the irrigation
channels intersecting the pans, and which are supplied by the Cochrane's canal is failing, so that
there is great difficulty to proceed with the manufacture. I have arranged to clear immediately the
silt in the centre of the canals, so that there may be no impediment for the daily supply of water
to the pans under operation for some period, and the estimates for the same are submitted for
your sanction with separate letters.

3. The Ennore Bar is kept open at a cost of Rs. 3-10-0 per day from the 18th ultimo, but
as the sea has been very smooth, and has not risen high in agitation, water has not been poured
from it into the back-water. I have therefore arranged to work the Ennore Bar at a cost of Rs. 30
per day for a few days during the present new moon springs, and we will try all our best to secure
some water in the canal; but I am afraid that a full and free communication cannot, under present
circumstances, be maintained at any cost between the sea and the back-water, and the water in the
canal is being daily driven towards the north by the action of the southern wind, and we shall not
perhaps be able to make much salt if the present quantity of water in the canal is not retained.
As mentioned above, the navigation in the canal is already interrupted and free navigation cannot
be resumed until May next, when the sea becomes boisterous in each year and pours large
quantities of water into the back-water, or until we have a good fall of rain and freshes in
the canal.

(True Extract.)

(Signed) R. W. BARLOW,
Collector.

SUBMITTED to Government with reference to G.O., dated 6th February 1877,
No. 685.

2. It is very important that the Ennore Bar should be opened at once to admit
water for salt manufacture, and if it is possible to render the canals navigable, it
should be done. The Bars at Pulicat and Covelong should also be opened, and the
existence of a reef of rock at the latter place points to its suitability for the pur-
poses of Colonel Moberly's experiment. As the opening of the Ennore Bar appears
from the papers recorded in G.O., dated 3rd August 1876, No. 1,992, to come
within the scope of Mr. Woolley's agreement, he should be requested to proceed
with the work at once. It does not appear that much good is likely to result from
the Deputy Collector's operations. Meanwhile, it seems that the brine supply is
failing, and that there is a difficulty in proceeding with the manufacture. The
early orders of Government are therefore solicited.

(True Copies and Extract.)

(Signed) C. A. GALTON,
Sub-Secretary.

Miscellaneous.

COMMUNICATED to the Public Works
Department in continuation of G.O.,
19th February 1877, No. 749, for early
consideration and orders.

(True Extract.)

(Signed) D. F. CARMICHAEL,
Secretary to Government.

No. 781-B. MEMORANDUM.

In dealing with the question of the opening of the Ennore and Covelong Bars, it must be first remembered that the last two seasons have been abnormal ones, and except in such seasons the bars remain either open altogether or sufficiently long as to be no hinderance either to the manufacture of salt or the navigation of the canals, and that the cost of preparing the bars for floods when necessary in ordinary years is very trivial.

2. G.O., No. 2,534, dated 21st September 1876, gives the cost of opening the bar last year as Rupees 4,255, estimates the maximum cost as Rupees 5,000, and points out that the expenditure being only likely to be exceptional, it is unadvisable to take steps for the construction of expensive permanent works of doubtful utility.

3. Colonel Moberly has submitted neither plan, estimate, nor specification for his proposed experiment.

The construction of a single groyne south of the outlets to protect them from the heavy wind-driven and sand-laden waves from the south, from observations made of the action of the harbour pier, &c., promises well; but the height of such a groyne should be greater than that noted by Colonel Moberly and should certainly be extended till it reaches at least a depth of four feet at its end seawards at low tide. At Ennore, where no stone is to be had within a reasonable distance, such a groyne would prove most expensive to construct, but at Covelong, where stone is reported as available on the spot and good foundations already exist in the shape of a reef, the cost of the work would be far more moderate, and therefore if Government desire the experiment be tried at this place the Superintending Engineer will be directed immediately to submit a plan, estimate, and specification for the groyne and cutting and authorized to commence the sand excavation at once. I do not think two openings necessary, it would double the work to be done, maintained, &c., and take a great number of people to carry them out simultaneously.

4. The question of the site for the opening to be made at Ennore must rest with Government to decide. What the Superintending Engineer states with reference to the difference of cost of maintaining a channel open at E and K as shown on the plan accompanying these papers is perfectly correct. The sections at E C and I K show how very much deeper the water is at E than at K, but there can be no doubt that an opening at E would endanger the property in its vicinity or entail a heavy cost for its preservation. The cutting at K answered very well last year, and in all probability will do so again, while, probably with the experience gained it will cost less than it did before.

5. As noted in paragraph 1 of this memorandum, it being but very occasionally that any but the most trivial expenditure has to be incurred in opening the Ennore Bar, no mention has been made about the Ennore Bar in the draft specification for Mr. Woolley's contract for canal clearances still under preparation. If Government desire that Mr. Woolley be requested to tender for the work, the Superintending Engineer will be called upon to submit a specification of the actual work he executed last year in reference to the width of the cutting, the depth below low water of springs at which he maintained it, and the time he kept this depth open, &c. I fear, however, it will be a very difficult matter for the Public Works Department to see that the terms of a contract for the work are strictly adhered to, to do such the constant presence of a

Public Works Officer on the spot would be necessary, and even then complications and disputes would, I think, be very likely to arise, therefore I cannot recommend that a work of this nature be executed by contract.

The exact position at present of the negotiations with Mr. Woolley in reference to the canal clearances is as follows:—

The Chief Engineer, Public Works Department, the Deputy Chief Engineer, and Mr. Woolley some little time ago inspected the canal and the Shedien Coopum Lock, with the view of arriving at some conclusions as to what datum was to be fixed in regards to the depth the canal has been, and has to be, maintained. From inquiries made it appears that hitherto the depth fixed for the canal to be maintained at has been one foot six inches above the Shedien Coopum Lock sill. Mr. Woolley proposed that it should be ascertained what amount of silt exists in the canal at this depth (Mr. Woolley wishing to defer further negotiations until this information had been obtained) and the enclosed orders marked in red ink A B, &c., were issued on the subject. Meanwhile Mr. Woolley agreed to take up the work of clearing the silt between the lock and the Elephant Gate bridge, on the understanding that should the contract fall through the work he should do should be measured up and paid for at the rate of 1 Anna 4 Pies per cubic yard. The Acting Chief Engineer inspected the work this morning. Mr. Woolley informed him he had finished about one-third of it. The level sections of the canal will probably be completed during the week when Mr. Woolley will be in a position finally to conclude his negotiations one way or the other.

(Signed) W. FAREWELL, Colonel,
Acting Chief Engineer, P.W.D.,
Buildings and Roads Branch.
FORT ST. GEORGE,
26th March 1877.

No. 782. ORDER THEREON, 31st March 1877, No. 1,095.

CIVIL WORKS, No. 67.

HIS GRACE the Governor in Council directs that the Ennore and Covelong Bars be opened without loss of time, under

the direction of the Superintending Engineer, by whom the operations required can be more fitly superintended than by Mr. Woolley.

2. The Ennore Bar should be cut in the same place as last year at the point marked K on the plan.

3. His Grace is anxious that the utmost expedition should be used in opening the Covelong Bar. The question of running out a groyne, as proposed by Colonel Moberly in paragraph 6 of his letter of the 23rd of January, should be simultaneously taken up, but the cutting of the bar must not be delayed until the plan and estimates for the project are ready. The submission of these, however, the Superintending Engineer will hasten, and he will report to Government the success which has attended the operations now directed.

(True Extract.)

(Signed) W. FAREWELL, Colonel,
Acting Joint Secy. to Govt., P.W.D.,
Buildings and Roads Branch.

To the Superintending Engineer, Chingleput, with one plan.
" Revenue Department.
" Board of Revenue.

Erd. A. Grubert.
Spare Copies

{ P.W.
{ DEPT.

SECRETARY.

Fort St. George, *15 March* 1877.

OFFICE NOTE.

To Rev. Lutz

My dear Estlin

Wish you kindly
let me have the plan
referred to in the enclosed
letter as I want to send
it up for orders with
reference to the boards
before enclosures that
Colonel Herbert's plan
he tried it in at
Greenacre or Carleton
down
graciously
W. L. Smith

OF

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P. W. DEPARTMENT.

READ the following

Proceedings in the Revenue Dept No 949
dated 6 March 1893

FOR ORDERS

Wm W. Colwell
By Wm W. Colwell, M.D.
Roads & Buildings
Branch

Thank Nat the Sec. of the
S.P. for both directions & for
furnishing a memo of the present
position of this question.
Is the cutting of the bar
within Woolley's contract?
Have we any contract
with Woolley?
Is Mr. Woolley's proposal
such as the Engineer Dept.
will advise? M

above? *mf*

The last I understood respecting cut's at cotton road in the Woolley's contract was that he was going to look into the amount of work on N. Canal. & I presume that there is yet no contract. The direction of the currents would have afforded better prospect of being kept open than a cutting angles to current. B.C. 12/3.

W^o. not attempt to
interfere in this of these
operations & W^o. Woolley.

4. 312 hromb / 77 h. 1075

[Handwritten signature]

3. I do not hesitate to repeat that Messrs Birney and Co have no claim on Government for the injury done.

done to their house. Its foundations had been washed away long before the flood of 1874. It was built in a most exposed situation and the remains of efforts made at different times to protect it are, or were till lately, plainly visible.

4. In any case it would be better economy to pitch the bank of the river round their property and to cut the bar at its southernmost extremity than to attempt again to open the river where the tide water can have no good effect.

5. I would urge early consideration of the subject as, judging from the experience of last year, we may very shortly have to open the bar in the interest of the salt revenue.

6. I propose to run a stone grove from the beach at the south side of the cut into the sea as far as 2 ft depth below low water mark to protect the outlet from the below of the surf wave. The beach up to the salt kotar should be covered with casuarina trees screw pine and any other

plants

plants and creepers that will grow, and prevent the passage of sand when the South wind is blowing. I am of opinion that a jetty on the left bank is not necessary.

7. If the experiment be considered doubtful I would ask to be allowed to try it at Conelong, where a heap of rock requires only raising and lengthening and where there is abundance of stone handy.

8. If Conelong bar can be kept open we may fill the Adyar basin and through the junction canal, the Cooum, as the long prevailing South wind will drive it up in that direction.

9. If the experiment succeed at Conelong I see no reason why the plan should not answer at Ennore and still better at Pulicat where the lake affords a very large tidal basin.

10. The Coouada channel has been retained in the same place as I cut it in 1873. The Suez canal is worked on the same principle and on a still larger scale the Mississippi.

11. In every case of rivers on this coast I believe that it is important to open the channel as far south as possible, and to maintain it there, the tendency of the current and of the wind-borne sand being to shift the mouth to the North; the tidal ebb and flow will generally scour along the lee face of the groyne which turns the sea current into deeper water; this groyne will in the course of time need to be lengthened as the deposit increases.

I have &c.
Signed F. J. Motley, B. E.
Super Engineer Charge Dept.

True Copy

H. K. Roberts, Esq. B. E.
Super Engineer Charge Dept.

9 March 1877

4. 0 31st March 1877

Revenue Department

15

Proceedings of the Madras Government

Read the following Proceedings of the Board of Revenue dated 2nd March 1877 on letter from the Collector of Chingleput District dated 22nd February 1877 N^o 126.

I was about to address the Board regarding the shallow state of the Northern and Southern Canals owing to their being no freshes and the consequent closing of the bars resulting in a hindrance to navigation and salt manufacture, when I received their Proceedings of the 16th Instant.

2. I beg to report that it is highly desirable that the

Ennore bar should be kept
open, and some measures of
a permanent nature, for keep-
ing both it and the Bouloug
and Pulicat bars open seem
urgently called for in the
interests both of traffic and
of salt manufacture. I should
be glad to see Colonel Maclay
permitted to try his experiments
either at Bouloug or Ennore
whichever is deemed advisable.
I believe the Superintending
Engineer has given the
subject considerable attention.

174
3. At the same time
I should remind the Board
that keeping the bars open
is part of Mr. Woolley's
proposals vide para 5 of Govern-
ment order P.W.D. No 1992
dated 3^d August 1876. but
whether in connection with the
main Canals or the salt channels,
I am not aware - I will report
regarding the latter shortly,
and I am informed by the
Superintending Engineer, though
I have received no orders on the
subject, that the repair of the
Main

Main Canals was transferred
to Mr. Woodley on the 1st Instant.

4. Meantime I have the honor
to report that I have authorized
in anticipation of sanction the
measures proposed by the Salt
Deputy Collector in his N^o 59 dated
1st Instant. Extract from which
I herewith forward for the information
of the Board and beg to draw attention
to the state of the Canals as therein
described.

5. The plan which accompanied
the Board's Proceedings under
reply is herewith returned

N^o 4

195

From Mr. 59 dated 1st Instant
J. V. Narasinga Rao
Sg. Collector in charge of Salt
Chingapat District.

To
R. N. Barlow Esq.
Collector Chingapat District.

Sir
In continuation of my letter
to you dated the 20th ultimo N^o 23 I beg
to inform you that both the Fiscal and
Revenue bars being closed there is no com-
munication between the sea and
Lochran's Canal; consequently the
water in it is daily diminishing and
the navigation of boats above 10 tons

burden

burden is entirely stopped while
the smaller boats of lesser burden
are only plying between Kat-
tivakam and the Northern country;
and I believe that in a few
weeks more there will not be sufficient
water in the Canal for the passage
of even these smaller boats.

2 The weather being clear, the
salt works at all the Divisions are
going on, and the manufacturing
have worked 760 peens more in compa-
rison with the number they worked last
year up to date and in small quantity

6
of salt will be produced soon, but the
water in the irrigation channels intersecting
the Pans and which are supplied by the
Cochran's Canal is failing so that there is
great difficulty to proceed with the ma-
nufacture. I have arranged to clear im-
mediately the silt in the centre of the
Canals so that there may be no im-
pediment for the daily supply of water
to the Pans under operation for some period
and the estimates for the same are sub-
mitted for your sanction with separate letters.

3 The Ennore bar is kept open
at a cost of Rupees 3-10-0 per day from
the 18th ultimo, but as the sea has been
very smooth and has not risen high
in agitation water has not been poured
from it into the back-water. I have
therefore arranged to work the Ennore
bar

bar at a cost of Rupees 30 per day for a few days during the present new moon spring and we will try all our best to secure some water in the canal but I am afraid that a full and free communication cannot, under present circumstances, be maintained at any cost between the sea and the back water, and the water in the canal is being daily driven towards the North by the action of the southern winds and we shall not, perhaps, be able to make much salt if the present quantity of water in the canal is not retained as mentioned above, the navigation in the canal is already interrupted and free navigation cannot be resumed until May next, when the sea becomes boisterous in each year and pours large quantities of water into the back water, or until we have a good fall of rain and freshet in the canal &c &c

I have &c

Salt by Col's Office }
Camp Ennore 16 }
February 1877 }

(Signed) S. V. Narasimajulu
By Collector

(True Extract)

(Signed) R. W. Barlow

Collector Submitted

Submitted to Government
with reference to G.O. dated 6 February
1877 N° 685.

2. It is very important that the Ennore bar should be opened at once to admit water for salt manufacture and if it is possible to render the canal navigable, it should be done. The bars at Pulicat & Corvolong should also be opened & the existence of a reef of rock at the latter place points to its suitability for the purposes of Colonel Moberly's experiment. As the opening of the Ennore bar appears from the papers recorded in G.O. dated 3 August 1876, 1992 to come within the scope of Mr. Loolley's agreement he should be requested to proceed with the work at once. It does not appear

23 4
appear that much good is likely
to result from the Deputy Collector's op-
erations. Meanwhile it seems that the
brine supply is failing & that there
is a difficulty in proceeding with
the manufacture. The early orders of
Government are, therefore, solicited.

(True copies & Extract)

/Signed/ C. A. Galton
Sub Secy.

Order thereon 6th March 1877 No 949

Communicated to
the Public Works Department in
continuation of G.O. 19 February 1877
No 749, for early consideration and orders.

/True Extract/

Sd/- J. J. J. J.
Secy. to Govt.

To, The Public Works Department

G.O. 17th March/76. No 671
 " 4th May " " 1106
 " 16th do " " 1213
 " 2nd June " " 1375
 " 13th do " " 1473
 " 20th " " " 1549
 " 23rd " " " 1572 & 1573
 " 18th July " " 76th hui
 " 21st Augt. " " 2195.
 " 21st Sept. " " 2534
 " 3rd Augt. " " 1992
 " 22nd Feby/77 - " 342 hui
 " Chs 1031 of 77 -
 13 July/76 ho 76 hui

P.W.D.

7th 177

2433

Revenue Department

Dated 5th March 1877.

949.

C.O. 643 of 10th March/77.

Memorandum

In dealing with the question of the opening of the Ennore and Covelong Bars it must be first remembered that the last two seasons have been abnormal ones and except in such seasons the bars remain either open altogether or sufficiently long as to be no hindrance either to the manufacture of salt or the navigation of the Canals, and that the cost of preparing the bars for floods when necessary in ordinary years is very trivial.

2. G.O. No 2534, dated 21st Sept. 1876, gives the cost of opening the bar last year as Rs 4255, estimates the maximum cost as Rs 5000, and points out that the expenditure being only likely to be exceptional it is inadvisable to

G.O. 31st March/77 S.B. No. 781

11.3.77
 On 17.3.77 R.17.3.77

to take steps for the construction of expensive permanent works of doubtful utility.

3. Colonel Moberly has submitted neither plan, estimate nor specification for his proposed experiment.

The construction of a single groyne south of the outlets to protect them from the heavy wind driven and sand laden waves from the south, from observations made of the action of the Harbour pier No. 46, promises well, but the height of such a groyne should be greater than that noted by Colonel Moberly and should certainly be extended till it reaches at least a depth of 4 feet at its end seawards at low tide. At Enmore where no stone is to be had within a reasonable distance such a groyne would prove most expensive to construct, but at Cowlang where stone is reported

10
as available on the spot and good foundations already exist in the shape of a reef the cost of the work would be far more moderate and therefore if Govt. desire the experiment be tried at this place the Supg. Engineer will be directed immediately to submit a plan, estimate and specification for the groyne and cutting and authorized to commence the sand excavation at once. I don't think two openings necessary, it would double the work to be done, manning and take a great number of people to carry them out simultaneously.

4. The question of the site for the opening to be made at Enmore must rest with Govt. to decide what the Supg. Engineer states with reference to the difference of cost of maintaining a channel open at E. & K. as shown in the plan accompanying these papers is

is perfectly correct. The sections at E. B. and J. K. show how very much deeper the water is at E. than at K, but there can be no doubt that an opening at E would endanger the property in its vicinity or entail a heavy cost for its preservation. The cutting at K answered very well last year and in all probability will do so again; while probably with the experience gained it will cost less than it did before.

5. As noted in para 1 of this Memorandum, it being but very occasionally that any but the most trivial expenditure has to be incurred in opening the Cunnore bar, no mention has been made about the Cunnore bar in the draft specification for Mr. Woolley's contract for Canal clearances still under preparation. If Govt desire that

that Mr. Woolley be requested to tender for the work, the Superintending Engineer will be called upon to submit a specification of the actual work he executed last year in reference to the width of the cutting, the depth below low water of springs at which he maintained it and the time he kept this depth open &c &c. I fear however it will be a very difficult matter for the Public Works Department to see that the terms of a contract for the work are strictly adhered to, to do such the constant presence of a Public Works Officer on the spot would be necessary, and even then complications and disputes would I think be very likely to arise therefore I cannot recommend that a work of this nature be executed by contract.

The exact position at present of the negotiations with Mr. Woolley in reference

reference to the Canal clearances is as follows.

The Chief Engineer Public Works Dept., the Deputy Chief Engineer and Mr. Woolley some little time ago inspected the Canal and the Shediem Coopers Lock with the view of arriving at some conclusions as to what datum was to be fixed in regards to the depth the Canal has been and has to be maintained. From enquiries made it appears that hitherto the depth fixed for the Canal to be maintained at has been one foot six inches above the Shediem Coopers Lock Sill. Mr. Woolley proposed that it should be ascertained what amount of silt exists in the Canal at this depth (Mr. Woolley wishing to defer further negotiations until this information had been obtained) and the enclosed orders marked in Red Inl. A B & C were issued on the subject. Meanwhile

Mr. Woolley agreed to take up the work of clearing the silt between the Lock and the Elephant Gate Bridge, on the understanding that should the contract fall through the work he should do should be measured up and paid for at the rate of 1 anna 14 pies per cubic yard. The Acting Chief Engineer inspected the work this morning. Mr. Woolley informed him he had finished about $\frac{1}{3}$ of it. The level sections of the Canal will probably be completed during the week when Mr. Woolley will be in a position finally to conclude his negotiations one way or the other.

Warrant Colonel
Sg. Chief Engineer
Buildings & Roads Branch
P.W.D.
May. 26/3

Fort St. George }
26th March 1877 }

Ex-101

No 1095

33 13
Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 31st March 1877.

Read the following:—

From
The Superintg Engineer (No 3678 of 23 Jan 77)
Proceedings Per Dept (— 947 of 6 Mar 77)
Memorandum by Asst Chief } (— of 26 Mar —
Engineer B.M. Branch

Whereby the Governor
in Council directs that
the Inmore and Corvelong
Bars be opened without
loss of time, under the
direction of the Superintd
ing Engineer, by whom
the operations required
can be more fitly superin-
tended than by Mr
Brookley.
2 The Inmore Bar

A.P.

Ly. O 31: March 77 S.D. No. 781 B —

should be cut at the
point ~~Kau~~ ^{San} ~~ton~~ ^{tan} ~~place~~

3. His Grace is anxious
that the utmost expedition
should be used in opening
the Covelong Bar. The
question of running out a
groyne, as proposed by
Colonel Maclachlan in para-
graph of his letter of the 23rd
of January, should be
simultaneously taken
up, but the cutting of
the Bar must not be
delayed until the plan
and estimates for the project
Superintending Engineer's

~~Report~~ are ready.
~~Colonel Maclachlan~~ will
~~hasten their submission~~
and he will report
to Govt. the success
which has attended

The submission of these proposals
The Superintendent Engineer
will hasten

35 16
the operations now directed
W.H.
31.3.77

S. C. Ching Le fat - despatched with 1 Plan No. 10
1.4.77
3452
Recd. Dept
Board of Revenue ✓ Dated 11-4-77

10/24/33
1933/34
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To *to L. E. Chen Legat*

Dated

Issued

Recd.

Encl.

G. O. 31st March 1877, No. 1095

Nos. 781-782

*Emore and Caveling
Bars - Directing the
immediate opening
of the —*

Don't no Reg.