

(1) Number of pages 30
(2) Date of repair 31-12-42
(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public works

DEPARTMENT.

G.O. No. 3799	Press ~~Mis.~~
338-342	
Dated 19-12-	18 65.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
19th December 1865.*

Read the following letters:—

No. 338. From the Superintending Engineer, 6th Division, to the Secretary to Government, Department Public Works, dated Tanjore, 1st December 1865, No. 1,497.

1. With reference to paragraph 2 of G. O. No. 3,101, dated 19th October, I have the honor to inform you, I am of opinion that if undertaken in February and March, the southern portion of the canal may be excavated without the aid of a dredge of any kind, and if funds are only forthcoming at the proper season there will be no difficulty whatever in excavating the northern portion of the canal. At the same time I would observe that the canal when completed cannot be kept in an efficient state without the aid of a steam dredge. The large dredge at Negapatam is unsuited for the purpose, it is too broad for the canal, and its buckets work on one side of the boat instead of in the centre; I beg, therefore, that a small steam dredge with buckets working in the centre of the boat may be provided for the canal as soon as possible. It is much required in the portions of the canal lately completed. Some spoon dredges are being made up in the District.

2. Unless the under-tunnels are built, and the clearing of the Ramanaden and Paupan Voikals, and of the Cooduchuttyaur, is carried out in February, March, and April next, this portion of the canal cannot be formed till the same months in 1867, it is, therefore, absolutely necessary that a sum of Rupees 30,000 should at once be placed at my disposal for the canal work during the current year; the balance on the old estimate on the 31st October was Rupees 4,771, making Rupees

Rupees 39,240.

34 771 in all, which is below the estimate for the southern portion of the

canal, but the minor masonry works may be carried out after April, and provision be made for the under-tunnels in the northern portion from the allotment now requested.

3. It is observed that provision has not yet been made for the land taken up for the portion of the canal lately excavated, but it is possible that a saving on the estimate may cover the amount due to the land-owners.

No. 339. From the Superintending Engineer, 6th Division, to the Secretary to Government, Department Public Works, dated Tanjore, 1st December 1865, No. 1,500.

1. I have the honor to inform you that a storm raged on the coast at Negapatam from Friday evening the 24th ultimo, till Sunday night the 26th.

2. The waves are said to have been far higher than they have been for years, they rolled into the Cuddaviaur river mouth, and broke upon the Jetty, or training wall, the superstructure of which has been very much shaken throughout. At the spots *a a a* in the enclosed sketch, the face wall has been completely destroyed above high water mark, and the rough cubes, of which the rear or backing consisted, were thrown from 20 to 30 feet in rear of the gaps, large holes appear all along the river face, and through the last length from *b* to *c*, which stands in the sea, water passes freely.

Consisted

*Proceedings of the Madras Government, Public Works Department,
19th December 1865.*

3. With the exception of a portion of the last length from *b* to *c*, which stands on caissons, the foundations of the training wall consist of brick cubes, these do not appear to have been much disturbed though some slight settlement must have taken place, or the superstructure would not have settled unevenly as it has done. The whole face wall will have to be re-built next season on the present foundations, and the wall will always be subject to injury from settlement. Were the Jetty, or training wall, thrown back in rear of the present foundations, using them as a footing, a permanent training wall might be built, but the old foundations would prevent boats from approaching the Jetty, and though this would be of great advantage to the Jetty itself, it would confine the space in which boats could discharge their cargoes within so small a limit as to interfere with the trade of the port.

4. After the close of the monsoon, an estimate for the repair of the Jetty will be submitted.

5. The mouth of the Cuddaviaur has been widened to about 210 yards by the washing away of the northern extremity of the spit of sand between the river and the sea, and is 65 yards broader than it was on the 20th November 1860, as will be seen from the enclosed sketch, though the sea has made some slight encroachment on the sand spit it did not break through the artificial bank which separates the sea and river, but at *d d d*, beyond the artificial bank, a few waves seem to have passed over the sand spit, but no deep channel was cut and the ridge is above ordinary high water mark.

6. Between Negapatam and Nagore the ridge of sand which separates the sea from the old course of the Cuddaviaur, where the river wandered at will over a sandy plateau and found its way to the sea by several mouths before the Jetty was constructed, was overtopped in many places, and the water now rests in the hollow immediately in rear of the ridge, no injury however has resulted from this.

7. I was not able to make an examination of the bar on the 29th, but it does not appear to have been in any way affected by the late storm, and as the monsoon has been very scant and partial, and the volume of drainage water discharged by the Cuddaviaur has not been so large as usual, there is less water over the bar than is usual at this season.

8. The masonry nose and revetment of the north bank of the Vettaur, which prevents the river from disemboguing in the French territory, was hardly affected by the storm.

9. I have not heard whether the Tranquebar groynes were injured, but I fear they must have suffered.

No. 340. From the Superintending Engineer, 6th Division, to the Secretary to Government, Public Works Department, dated Tanjore, 1st December 1865, No. 1,501.

1. I have the honor to request that you will be good enough to inform me whether a special allotment of the undermentioned sums can be made during the current year:—

*Proceedings of the Madras Government, Public Works Department,
19th December 1865.*

Name.	Amount of Estimate.	Balance on 31st October on allotment for 1865-66.	Probable expenditure up to 30th April 1866.	Balance requiring sanction.	Remarks.
	RS.	RS.	RS.	RS.	
1. Canal from Vedar-niem to Negapa-tam.	64,000	4,771	31,771	30,000	Vide letter No. 1,499, dated 1st December 1865.
2. Re-building Lower Coleroon Anicut.	*1,00,000	15,024	40,024	25,000	Estimate will shortly be submitted.
3. Restoring face of Negapatam Jetty.	*6,000	...	4,000	4,000	Vide letter No. 1,500, dated 1st December 1865, 3rds approximate estimate.
4. Salt embankments and new Vadi at Tranquebar.	5,190	2,000	4,000	2,000	Rupees 2,000 sanctioned in G. O. No. 2,606, dated 7th September 1865.
5. Sluices in the Cole-roon north bank.	12,380	...	6,000	6,000	Vide letter No. 1,477, dated 28th November 1865.
Special allotment required ...				67,000	

* Approximate amounts.

The balances of the allotments on the 31st October of the old estimates are not nearly sufficient for the work, which must be carried out in Nos. 1, 2, and 3, unless it is determined to postpone them for a year, this as regards two and three is out of the question, and Government have in G. O. No. 2,347, dated 28th September, desired that the canal be pressed to completion as speedily as possible. Nos. 4 and 5 though much required can be postponed till 1866-67, but it is very difficult to procure labor at Tranquebar, and unless the earthwork can be carried out before the 30th April 1866, it is probable that complaints will be made by the Salt Department relative to the non-completion of the Salt Vadi, &c.

(Separate Revenue.)

2. I beg that I may be informed, at an early date, of the sums I may reckon upon for these works, in order that I may make timely preparations for their commencement; such preparations as can be made at this season of the year for Nos. 1 and 2 are being made, but a large portion of No. 1 ought to be carried out by contract, and Contractors should be advertised for in the local Gazette; but this cannot be done unless I am assured that funds will be forthcoming for such work as must be carried out within the current year, or be postponed till the end of 1866-67.

No. 341. From the Superintending Engineer, 6th Division, to the Secretary to Government, Department Public Works, dated Tanjore, 2nd December 1865, No. 1,507.

1. In continuation of my letter dated 1st instant, I have the honor to report upon the damage done to the groynes at Tranquebar by the late storm, compiled from a Memorandum of Inspection of the groynes by Captain Hasted on the 28th ultimo.

Considered

*Proceedings of the Madras Government, Public Works Department,
19th December 1865.*

King's Bastion, north of Fort.—A piece of the top of the wall 6 yards x 1 yard has been destroyed, and the whole wall for a length of 17 yards has settled *en masse* and been thrown a few inches forward, this portion had settled previously, and was separated from the rest of the sea wall by cracks. The earth in rear of the wall has sunk or been washed away to a depth of 3 feet.

Groyne No. 1.—Twenty yards of the head of the groyne have been washed away, the rest of the groyne has been much shaken, while the brick cubes with which it has been lately repaired have almost entirely disappeared.

Groyne No. 2.—Stone and cubes have been carried away from the head and sides, and the upper surface is much broken up.

Groyne No. 3.—About five yards of the head have been washed away and two caissons in rear have disappeared, this would reduce the length of the groyne by about 12 yards. The rest of the groyne is but little injured.

Groyne No. 4.—The contents of a caisson at the extremity have been washed out, the stones and brick cubes which protected the sides have been washed away or have sunk in the sand, and the body has been much shaken.

Groyne No. 5.—A caisson at the head has been broken up and washed away.

Groyne No. 6.—About six yards immediately in rear of a caisson at the head have been much injured.

Groyne No. 7.—Near the Custom House has been but little injured.

2. The groynes have lately been repaired with brick cubes instead of stone, the former have almost entirely disappeared, and it is quite clear that brick cubes are not at all suitable for groynes exposed to the fury of the sea, particularly newly built cubes, they are easily broken up.

3. The sea level is said to have risen about three feet higher than usual, and the waves breaking into the common mouth of the Oopanaur and Nundalaur rivers breached the banks of the former in several places, and formed one breach in the latter, no injury to the Salt pans is however reported.

4. It appears to have rained incessantly for nearly 36 hours, but the actual rain fall has not been reported.

No. 342. ORDER THEREON, 19th December 1865, No. 3,799.

CIVIL WORKS, No. 53.

1. In the first of the papers above recorded the Superintending Engineer of the 6th Division replies to the Order of the 19th October, No. 3,101, enquiring whether, in his opinion, the clearing out of the channels connected with the Vedarniem Canal can be most advantageously performed by means of a Steam or a Hand Dredge. In the second and fourth he reports the occurrence of damage to the Jetty at Negapatam and to the groynes at Tranquebar from the action of the sea during the late gale on the coast, and in the third

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19th December 1865.*

he applies for an additional grant of Rupees 67,000, for the undermentioned works:—

	Amount applied for.
	RS.
1. Vedarniem Canal	30,000
2. Lower Coleroon Anicut	25,000
3. Negapatam Jetty	4,000
4. Salt embankments, &c., at Tranquebar	2,000
5. Sluices in the Coleroon north bank	6,000

2. In the Order of the 19th October last, No. 3,101, the Superintending Engineer was instructed to proceed with the Vedarniem Canal from any balance which remained unspent of the sum of Rupees 9,345 which had been allotted for the work, and he was informed that, if possible, a further grant would be made hereafter. The Government regret that no funds are yet forthcoming from other allotments, and they do not believe that it will be practicable to make any sensible increase to the amount, which is at the Superintending Engineer's disposal.

3. The construction of the Lower Coleroon Anicut being a work which cannot be postponed, must be proceeded with, with the utmost vigour, in anticipation of a further grant later in the year.

4. The Government are unable to supplement the allotment for the salt works at Tranquebar.

5. With reference to the fifth item, the attention of the Superintending Engineer will be drawn to the Order of the 19th instant, No. 3,793.

6. The repair of the Jetty at Negapatam and of the groynes at Tranquebar should be undertaken from the Superintending Engineer's *repair* allotment, stone being employed, if practicable, in preference to brick cubes.

7. The Government have no Steam Dredge at their disposal for employment on the Vedarniem Canal, and, moreover, they are of opinion that the application of steam power in excavating, in shallow water, loose soil that may be more easily, expeditiously, and cheaply removed by manual labor can never be advantageous or economical.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 6th Division.
,, Controller of Public Works Accounts.
,, Revenue Department.

Exd. S. T. Augustin.

Consisted

1500

Sup^r Engineer's Office B.D.
Tanjore 1st December/65.

From, Captain R. F. Baker, R.E.
Superintending Engineer B.D.

To, Colonel C. A. Carr, R.E.

Secretary to Government.
D. P. W.

Sir,

I have the honor to inform
you that a storm raged on the Coast at
Negapatam, from Friday Evening the
24th Ultimo, till Sunday night the 26th.
The waves are said to have
been far higher than they have been
for years, they rolled into the Cudda-
vian River Mouth, and broke upon
the jetty, or training wall, the super-
structure of which has been very much
shaken throughout. At the spot
a a a in the enclosed sketch the
face wall has been completely de-
stroyed above High Water Mark, & the
rough cubes of which the pier on backing
consisted

Consisted were thrown from 20' to 30' in
rear of the gaps, large holes appear
all along the River face, and through
the last length from b. to c, which
stands in the sea, water passes freely.

3. With the exception of a portion
of the last length from b to c. which
stands on caissons, the foundations
of the training wall consist of brick
cubes, these do not appear to have
been much disturbed though some
slight settlement must have taken
place, or the superstructure would
not have settled unevenly as it has
done. The whole face wall will have
to be rebuilt with reason on the pre-
sent foundations, & the wall will always
be subject to injury from settlement.
Were the Jetty, or training wall thrown
back in rear of the present foundations
using them as a footing, a permanent
training wall might be built, but the
old foundations would prevent boats
from approaching the Jetty, & though
this

this would be of great advantage to
the Jetty itself, it would confine the
space in which boats could discharge
their cargoes within so small a limit
as to interfere with the trade of the Port.

4. After the close of the monsoon
an estimate for the repair of the Jetty
will be submitted.

5. The mouth of the Cuddaviam
has been widened to about 210 yards
by the washing away of the Northern
extremity of the Spit of sand between the
River and the Sea and is 65 yards
broader than it was on the 29th November/60.
as will be seen from the enclosed sketch:
though the Sea has made some slight
encroachment on the sand spit it did
not break through the artificial bank
which separates the Sea & River, but
as it did beyond the Artificial Bank
a few waves seem to have passed over
the sand spit, but no deep channel
was cut and the ridge is above ordinary
High water mark.

6. Between Negapatam & Nagore
the ridge of sand which separates
the Sea from the old course of the Cudd-
lavian, where the River wandered
at will over a sandy plain & found
its way to the Sea by several mouths
before the jetty was constructed, was
overtopped in many places & the water
now rests in the hollow immediately
in rear of the Ridge no injury however
has resulted from this.

7. I was not able to make an
examination of the bar on the 29th
but it does not appear to have been
in any way affected by the late
storm and as the monsoon has been
very scant and partial, & the volume
of drainage water discharged by the
Cuddavian has not been so large as
usual there is less water over the
bar than is usual at this season.

8. The masonry wall and pierment
of the north bank of the Vettan which
prevents

prevents the River from disemboguing
in the French Territory was hardly
affected by the storm.

9. I have not heard whether the
Tranquebar Grogner were injured,
but I fear they must have suffered.

I have the honor to be

Sir,

Your most Obedt Servt
W. T. Bates Captain R. N.
Superintending Engineer B. D.

No 1501 Supg Engineer's Office 6th Dec 1865
 Major 1st December 1865.

From Captain R. F. Baker R.E.
 Supg Engineer 6th Dec
 To Colonel C. A. Orr R.E.
 Secretary to Government P.O. D.

Sir
 I have the honor to request that you will be good enough to inform me whether a special allotment of the undermentioned sums can be made during the current year

Name	Amount Balance on 31 st Dec 1865	Balance to be estimated up to 31 st Dec 1865	Probable Balance on 31 st Dec 1865	Remarks
1 Canal from Vedasa-niam to Rajapattam	64,000	4,771	34,771	20,000. Vide letter No 1499 dated 1 st Decr 1865.
2 Rebuilding Lower Coleroon Ainnant	100,000	15,024	4,0024	25,000. Estimates will shortly be submitted.
3 Restoring face of Rajapattam Jetty	6,000	"	4,000	4,000. Vide letter No 1500 dated 1 st Decr 1865. ² / ₃ appropriate estimate.
4 Salt-embankments and New Vadi at Tranquebar	5,190	2,000	4,000	2,000. Rs 2000 sanctioned in G.O. No 2606 dated 7 th Sept 1865.
5 Sluices in the Coleroon North Bank	12,388	"	6,000	6,000. Vide letter No 1477 dated 29 th Novr 1865. ² / ₃ appropriate estimate.
Special allotment required Rs 67,000				

The Balances of the allotments on the 31st October of the old Estimates are not nearly sufficient for the work which must be carried out in Nos 1, 2 and 3. Unless it is determined to postpone them for a year, this as regards 2 and 3 is out of the question and Government.

Copies of letter to England
 of 11th January 1866.

23rd 1865 2 of allotment
 from No 14820.

The Supg Engineer
 6th Dec

The Secretary to
 Government

2
 21st Decr

21st Decr 1865

Received by J. D. S. Secretary
 1/65

Encl. 1

Referring to the same
 a letter of 14th Sept 1865
 & the instructions given to
 the J. D. S. in that regard
 hereby
 No 3799-14th Decr 1865

110029

Government have in G. O. No 2347 dated (Separate Re-
venue
28th September desired that the Canal
be pressed to completion as speedily as
possible - Nos 4 and 5 though much re-
quired can be postponed till 1866/67, but
it is very difficult to procure labor at
Tranquebar and unless the earth work can
be carried out before the 30th April 1866,
it is probable that complaints will be made
by the Salt Department relative to the
non completion of the Salt Vadi &c

2 I beg that I may be informed at an
early date of the sum I may reckon upon
for these works in order that I may make
timely preparations for their commence-
ment; such preparations as can be
made at this season of the year for
Nos 1 and 2 are being made but a large
portion of No 1 ought to be carried out
by contract and contractors should be
advertised for in the local Gazette,
but this cannot be done unless I am
assured that funds will be forthcoming
for such work as must be carried
out within the current year or be post-
poned till the end of 1866/67 -

I have the honor to be

Sir
Your most obed^t servant

J. F. Bates Captain R.E.
Superintendent of the

From,

No. 1
Colonel C. A. Carr. R. E.
Secretary to Government
D. S. D.

2

1810. The Secretary to the
Society

1898

80/501

Requesting that a
Special Agent may
be stationed for certain
spots for expenditure
within the course of year

2008 799-14118003 1865-

a Steam Dredge. The large Dredge at Negapatam is unsuited for the purpose, it is too broad for the Canal, and its Buckets work on one side of the Boat instead of in the Center. I beg, therefore, that a small steam Dredge with Buckets working in the Center of the Boat may be provided for the Canal as soon as possible. It is much required in the portions of the Canal lately completed. Some Spoon Dredges are being made up in the District.

Unless the undertunnels are built, & the clearing of the Ramanadu and Panpan Vokals, & of the Coodi-shettyan, is carried out in February, March and April next, this portion of the Canal cannot be formed till the same months in 1867, it is, therefore, absolutely necessary that a sum of Rupees 30000 should at once be placed at

Rs. 240.

at my disposal for the Canal Work during the Current year; the balance on the old Estimate on the 31st October was Rupees 4771-¹⁹-, making Rs. 31771-¹⁹-, which is below the Estimate for the southern portion of the Canal, but the Minor necessary works may be carried out after April & provision be made for the undertunnels in the Northern portion from the allotment now requested.

Rs. 1716.

G.O. 3669.

22nd December/64.

It is observed that provision has not yet been made for the land taken up for the portion of the Canal lately excavated, but it is possible that a saving on the Estimate may cover the amount due to the Land Owners.

I have the honor to be
Sir,

Your most Obedt Servt

Captain R. S. Bates
Superintending Engineer
6th Dec

Sup^d Engineer's Office
Sampun 2^d December/65

No 1507

From, Captain R. H. Baker R.E.
Superintending Engineer B.D.

To, Colonel C. A. Orr R.E.
Secretary to Government
D. P. W.

Sir,

In continuation of my letter
dated 1st Instant I have the honor
to report upon the damage done to the
groynes at Tranquebar by the late
Storm, compiled from a Memo of In-
spection of the groynes by Captain Hester
on the 28th ultimo.
Things Bastion. North of Fort. Apine
of the top of the Wall 6 x 1 - has been
destroyed & the whole wall for a length
of 17 yards has settled in mass & been
thrown a few inches forward, this portion
had settled previously & was separated
from the rest of the Sea Wall by cracks
The Earth in rear of the Wall has
sunk

19 Books/6500-3101
22 Books/64-3669

22 Books/6500-3101
22 Books/64-3669
The Chief Engineer's
D. P. W.

For the Secretary to
the Government
D. P. W.

Dated 1st Dec
Secretary to Government
D. P. W.

Referring to the Memo
concerning the damage
done to the groynes
by the late storm
I have the honor to
acknowledge the receipt
of your letter of the
28th ultimo and to
inform you that the
same has been forwarded
to the proper authorities
for their consideration.

No 300

22 Books/6500-3101
22 Books/64-3669

sunk or been washed away to a depth of 3'.

Groyne No. 1. 20 yards of the head of the Groyne have been washed away; the rest of the Groyne has been much shaken while the Brick cubes with which it has been lately repaired have almost entirely disappeared.

Groyne No. 2. Stone & cubes have been carried away from the head and sides and the upper surface is much broken up.

Groyne No. 3. About 5 yards of the Head have been washed away & 2 Caissons in rear have disappeared, this would reduce the length of the Groyne by about 12 yards. The rest of the Groyne is but little injured.

Groyne No. 4. The contents of a Caisson at the extremity have been washed out; the stone & brick cubes which protected the sides have been washed away or have sunk in the sand & the body has been much shaken

shaken.

Groyne No. 5. A Caisson at the head has been broken up & washed away

Groyne No. 6. About 6 yards immediately in rear of a Caisson at the head have been much injured.

Groyne No. 7 - Near the Custom House has been but little injured.

2. The groynes have lately been repaired with brick cubes instead of stone, the former have almost entirely disappeared & it is quite clear that brick cubes are not at all suitable for groynes exposed to the fury of the Sea, particularly newly built cubes, they are easily broken up.

3. The sea level is said to have risen about 3' higher than usual & the waves breaking into the common mouth of the Copanama & Mundalam Rivers breached the banks of the former in several places & formed one breach in the latter, no injury to the Salt pans is however reported.

4 It appears to have rained in-
creasently for nearly 36 hours, but the
actual rain fall has not been
reported.

I have the honor to be
Sir,

Your most Obedt Servt
F. Davies Captain R.E.
Supg Engineer 6th Division

Order

Reporting damage done
to the sea engines &c
at Mangalore by the
late storm.

1003799-19 Dec 1865

to the Secy to Govt
Rt Hon
Dated 23rd Dec 1865
Recd to S
Dec 1865
The Supg Engineer
6th Division

Civil Works Public Works Dept
No 3799
Proceedings of the Madras Government
Under date the 19th December 1865
Read the following

From the Superintending Engineer
of the 6th Division.
Reporting on the Rectification
Canal Work. Requesting that certain
annual funds may be sanctioned
for work to be done within the cur-
rent year and that a small steam
Dredge should be supplied for use on
the Canal.
From Do Do Do
Reporting occurrence of a storm
at Negapatam and the injuries done
to the Jetty in that Harbour thereby
From Do Do Do
Requesting that a special allot-
ment may be sanctioned for certain
works for expenditure within the
current year.
From Do Do Do
Reporting damage done to the
sea engines &c at Mangalore by
the late storm.
From Do Do Do

In the first of
the papers above record-
ed the Superintending En-
gineer of the 6th Div re-
plies to the order of the
19th October, No 3101, en-
quiring whether, in his
opinion, the clearing

W.L.

out of the channels
connected with the Ve-
darnim Canal can be
most advantageously per-
formed by means of a
steam or a hand dredge.
In the second and fourth
he reports the occurrence
of damage to the jetty at
Negapatam and to the
groynes at Tranquebar
from the action of the sea
during the late gale on
the Coast, and in the
third he applies for
an additional grant
of Rupees 67,000
for the undermentioned works.

Vedarnim

	Amount applied for
1 Vedarnim Canal	Rs. 30,000
2 Lower Coleroon Canal	" 25,000
3 Negapatam Jetty	" 11,000
4 Salt embankments year at Tranquebar	" 2,000
5 sluices in the Coleroon north bank	" 6,000

By the order of the
19th October last, No. 3101,
Supt. Engrs. were instructed
to proceed with the Vedarnim
Canal from any balance
which remained unspent
of the sum of Rs. 9,345 which
had been allotted for the
work, and he was informed
that, if possible, a further
grant would be made here-
after. The Govt. regret that
no funds are yet forthcoming
from other allotments, and
they do not believe that it
will be practicable to make
any sensible increase
the amount, which is
the Superintending
3 The construction
the Lower Coleroon Area

a work which cannot be postponed, must be proceeded with, with the utmost vigour, in anticipation of a further grant later in the year.

4. The Government are unable to supplement the allotment for the salt works at Tranquebar.

5. With reference to the fifth item, the attention of the Supg Engr will be drawn to the order of the 19th Instant no 3778.

6. The repair of the jetty at Negapatam and of the groynes at Tranquebar should be undertaken from the Supg Engr's repair allotment, none being employed, if practicable, in preference to brick cubes.

7. The Government have no steam dredge at their disposal for employment on the Vedarnien Canal, and, moreover, they are of opinion that the application of steam power

power in excavating in shallow water, loose soil that may be more expeditiously, easily, and cheaply removed by manual labor can never be advantageous or economical.

LB

6 to S.E. & D. ✓
4 to Fortified ✓
2 to New Dept ✓

41

Decr. 20th December

Copy in a letter to England
of 11 January No. 2 of 1866.

R148.

Copy of same only disp'd in the
above letter.

221-9-21-III

No 1865 Dept
Pro: of Govt for Dir

No 3799
Pro: of the M. Govt
of 19 Decr 65

To be sent to
the
M. Govt
of 19 Decr 65

For the
M. Govt
of 19 Decr 65

No 338 @ 342