

(1) Number of pages 30(2) Date of repair 19-10-42

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.**Government of Madras.***Public Works* **DEPARTMENT.**

G.O. No.	3150	Press
		Mis.
Dated	2-11-	1864.

Not to be folded or roughly handled*1/8*

*Proceedings of the Madras Government, Public Works Department,
2nd November 1864.*

Read the following papers :—

No. 40. From Captain J. BEAN, R. E., Officiating Superintending Engineer, 6th Division, to Major J. H. M. SHAW STEWART, R. E., Deputy Secretary to Government, Public Works Department, dated Tanjore, 27th September 1864, No. 1,472 :—

SIR,

G. O. dated 18th March 1864, No. 826.
Official Memorandum, dated 9th August 1864, No. 45
G. O. dated 18th August 1864, No. 2,372
G. O. " 23rd August " " 2,419.

1. In reply to the Government orders as per margin, I have the honor to forward a plan and estimate amounting to Rupees 40,000, for extending the Negapatam Jetty to a length of 40 yards. The documents now furnished afford a reply to the requisitions contained in paragraph 5 of the first Order quoted above, but not to those of paragraph 4 of the same, which I regret to say I am unable at present to comply with for reasons stated below.

2. I have not furnished estimates for the items Nos. 2 and 3 in the above paragraph, because, first, the Jetty has been lately repaired, and the Range Officer has furnished no reply to my requisition on the subject; and secondly, we have lately repaired the groynes on the right bank of the river and strengthened the protective works on the sand spit. My estimate, if approved of, can be entered in the Budget of 1865-66, whilst the information called for in paragraph 4 will follow shortly.

3. In the plan for the extension of the Jetty, I have only allowed for rubble-stone and excluded chunam, as I think it will be better to permit the work to settle and to find its own level, in the first instance, before building with brick or stone in chunam. Captain Oakes, late District Engineer, in his several estimates for the Jetty, allowed a rate considerably above that which I have entered in my estimate, but at that time the Railway was not opened, no quarry was accessible near the line, and the Ports of Tanjore and Trichinopoly were not available for supplying stone. His rates were for stone brought from Velangunny, south of Negapatam, Rupees 14 per cubic yard, and from Ceylon, Rupees 9 per cubic yard; I have allowed Rupees 5, and this is the very lowest rate for which it can be procured.

4. In my section of the work, I have allowed for piles being driven 5 feet apart from centre to centre, at the foot of the slopes, connected together by transverse and longitudinal pieces, tying the heads, &c. These piles of Eroot and Karamaradoo wood can be obtained from the Western Coast, I have ascertained, for 40 Rupees each, and the whole expense including driving will cost about 80 Rupees each. I think they will help to prevent displacement at the toe of the slopes, to strengthen the work, and to break the force of the waves and currents against the Jetty itself. Colonel Horsley, late Chief Engineer, in his letter to Government, dated 18th

G. O. No. 578, 26th March 1862.
January 1862, No. 9,068, recommended such a section for the work, and the throwing in of large rough stone up to low-water level. Colonel Lawford in former years* adopted a plan, at a

* 1854.
cost of Rupees 7,200, of filling large boxes or cassions with masonry or concrete and forming the Jetty of them placed side by side; but they subsequently sunk and have since entirely disappeared. Though I advocate the use of timber piling, the cost adds much to the estimate, viz., Rupees 10,683-8-0, and it may be dispensed with if Government see fit, the money being applied to extending the work.

5. The sections given of the Jetty have been made from the section of the sea bed taken in the direction of the present wall, by Mr. H. Roberts. It will be seen that the depth allowed by me is greater than that shown in the sections, but I have allowed for the settlement of the material when thrown into the sea, and for the scour which will be immediately formed in front of the work by the action of the tides and river freshes.

*Proceedings of the Madras Government, Public Works Department,
2nd November 1864.*

6. As regards the surveys of the Harbour and soundings, as well as the information required by Government regarding the currents, winds, &c., I am unable to furnish them as yet, owing to the dilatoriness displayed by Mr. H. Roberts the Range Officer in carrying out my instructions. All the orders above quoted have been duly communicated to him, and on his representation I sent him two Apprentices to assist him in surveying. On receipt of your Memorandum of the 9th August, I requested him to forward the survey, but this he did only ten days ago, and in such a very incomplete state that I had to return it to him. The further information also required he has not furnished, and considering that he has spent a large portion of his time at his head quarters at Negapatam, I cannot account for the delay. He has within the last few days applied for three month's privilege leave, on the plea that his health suffers, but I do not consider that I can grant his request, even though the replies to these orders are furnished, until numerous other requisitions made to him are attended to.

[†] In pencil without the soundings shown and neither headings nor names
23rd September 1864

No. 41. From Captain J. BEAN, R. E., Officiating Superintending Engineer, 6th Division, to Colonel C. A. ORR, R. E., Secretary to Government, Public Works Department, dated Tanjore, 11th October 1864, No. 1,618

1. In continuation of my letter* of the 27th September 1864, I have now the honor to forward the survey and soundings of the Negapatam Harbour, received from Mr. Roberts, Assistant Engineer on the 9th instant, together with the information regarding the tides, currents and winds, called for by Government in Order No. 826, of the 18th March 1864.

2. The survey is drawn on a scale of 16 inches to one mile, and contains, I believe, all that is necessary to show the correct plan of the Harbour, and the course of the rivers which discharge at its mouth. In the survey, the lines of soundings taken from the beach to three fathoms water are shown, as well as the lines of sections taken at intervals across the river mouth. The instructions given to me required soundings to be taken to five fathoms water. Mr. Roberts states that he laid down one section accordingly in a line with the mouth of the river, but that he found it almost impracticable and inexpedient to extend the others to the same distance seaward, as he had not sufficient time and it was very difficult to preserve a direct course. The soundings are given to three fathoms depth low-water, and as they are uniform Mr. Roberts says that the beach shelves off gradually, and that five fathoms water is found at $1\frac{1}{2}$ and 2 miles distance from the coast, within which the ships anchor.

3. Since April last observations have been taken almost hourly of the rise of tides within the Harbour, a short distance from the mouth. The registers give for:—

	Feet.	Inches.
Ordinary tides, a rise of ...	1	8
Neap tides ...	1	1
Spring tides ...	2	2

The highest tide noted was registered as three feet two inches.

4. There was some trouble experienced in registering a series of correct observations on the currents, but a few were taken, and the result accords with the testimony of the natives residing on the coast, from whom the information here given is taken. The direction of the current from April to September is northwards, and from October to March southwards.

5. The direction of the wind was obtained from a register kept by the Master Attendant since 1862. From February to the end of March the winds blow from the east more usually with a northerly direction; from April to the end of May from the south; from June to the end of September from the west, veering to the south towards the close of the day, and from October to January from the north-east.

*Proceedings of the Madras Government, Public Works Department,
2nd November 1864.*

6. It will be observed from the survey, that the bar at the mouth of the Harbour is nearly in a north-east direction, and that the sand spit at the end forming the southern entrance has worked up very much to the northwards. The water, also, on the bar at ordinary low-tide is now only 3 feet in depth, which gives 4' 8" at high tide. This is the state of the mouth in the dry weather, but the effects of the north east Monsoon will be almost certain to cause the position of the bar to shift considerably.

No. 42. Minute by the Honorable the President —
(Here enter 19th October 1864.)

No. 43. ORDER THEREON, 2nd November 1864, No. 3,150.

1. The Government are now in possession of the facts upon which they can form an opinion as to the possibility or otherwise of improving the so-called "Harbour" of Negapatam.

2. A reference to the plan and to the Memoranda accompanying it shows:—

- 1st. That Negapatam is an open Roadstead.
- 2nd. That the waters shallows gradually, the three fathom line being about half a mile and the five fathom line about two miles from the shore.
- 3rd. That the rise of tide is very trifling. At neap-tide it is 1 foot 1 inch, at ordinary tides 1 foot 8 inches, at springs 2 feet 2 inches.
- 4th. That the so-called "Harbour" is in fact but the outlet of a small stream which drains an insignificant tract of country.
- 5th. That the width of the stream at its outlet is but 100 feet, and in the pool or back-water inside about 250 feet.
- 6th. That the current along shore runs northward from April to September, and southwards from October to March.
- 7th. That the action of the wind and current is greater during the first period, as shown by the tendency of the mouth of the river to travel northwards.
- 8th. That the depth of the water over the bar is three feet: this however will be deepened when the flood water of the monsoon comes down.
- 9th. That the pool or back-water, as is always the case, is deeper than the bar, but the maximum depth is six feet at low-water.

3. Looking to the facts above stated, the Government are of opinion that any attempt to keep the bar permanently open would be unavailing, unless at a cost very far in excess of the amount, the interest of which could be expected to be realized by Harbour dues or any other mode of charge.

4. The utmost depth which is expected to be maintained within the back-water is six feet, and this, at the cost of constant dredging. It is obviously impossible to maintain a depth of six feet over the bar by any amount of scour which can be obtained with a rise of tide of only 1-8 or 2 feet.

5. The money which has already been expended having been unprofitably laid out the outlay of any more, at all events upon the prolongation of the present Jetty, would be a sheer waste. A report will accordingly be made to the Home Government of the opinions arrived at after an inspection of the papers submitted by the Superintending Engineer.

(True Extract)

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

To the Superintending Engineer, 6th Division.
" Financial Railway Department.
" Consulting Engineer for Railways.

Exd. S. T. Augustin.

3

MINUTE BY THE HONORABLE THE PRESIDENT.

1. The Government is now in possession of the facts upon which only would it be possible for an Engineer to express an opinion as to the possibility or otherwise of improving the so-called "Harbour" of Negapatam. A reference to the plan and to the Memoranda accompanying it will show:—

- 1st. That Negapatam is an open Roadstead.
 - 2nd. That the water shallows gradually, the three fathom line being about half a mile from the shore, and the five fathom line being about two miles from the shore.
 - 3rd. That the rise of tide is very trifling. At neap-tide it is 1 foot 1 inch, at ordinary tides 1 foot 8 inches, at springs 2 feet 2 inches.
 - 4th. That the so-called "Harbour" is in fact but the outlet of a small stream which drains an insignificant tract of country.
 - 5th. That the width of this stream at its outlet is but 100 feet, and in the pool or back-water inside about 250 feet.
 - 6th. That the current along shore runs northwards from April to September, and southwards from October to March.
 - 7th. That the action of the wind and current is greater during the first period, as shown by the tendency of the mouth of the river to travel northwards.
 - 8th. The depth of the water over the Bar is three feet; of course, however, this will be deepened when the flood water of the monsoon comes down.
 - 9th. The pool or back-water, as is always the case, is deeper than the bar, but the maximum depth is six feet at low-water.
2. Looking to the facts above stated, I have no hesitation in expressing my opinion that any attempt to keep the bar permanently open would be unavailing, unless at a cost very far in excess of the amount, the interest of which could be expected to be realized by Harbour dues or any other mode of charge. The utmost depth which is expected to be maintained within the back-water is six feet, and this at the cost of constant dredging. It will be impossible to maintain a depth of six feet over the bar by any amount of scour which can be obtained with a rise of tide of only 1-8 or 2 feet. The money which has already been expended has been wasted, and the outlay of any more, at all events upon the prolongation of the present Jetty, would be sheer waste.

(Signed) W. T. DENISON,

19th October 1864.

No 1618.

Supg: Engrs Office 6th Dⁿ
Tanjore 11th October 1864

From,

Captain J. Dean R.E.

Offs: Supg: Engineer 6th Dⁿ

To,

Colonel C. A. Dyer R.E.

Secretary to Government
P. W. D.

Enclosures 2

Sir,

No 1472

In continuation of my letter of the 27th September 1864, I have now the honor to forward the Survey and soundings of the Nagapattam Harbour, received from Mr. Roberts Assistant Engineer on the 9th Instant, together with the information regarding the tides, currents, and winds, called for by Government in Order No. 826 of the 18th March 1864.

2 The Survey is drawn on a scale of 16 inches to one mile and contains, I believe, all that is necessary to show the correct plan of the Harbour and the course of the Rivers which discharge at its mouth. In the Survey, the lines of soundings taken from the beach to 3 fathoms water are shown, as well as the lines of sections taken at

at intervals across the River mouth. The instructions given to me required soundings to be taken to 5 fathoms water. Mr. Roberts states that he laid down one section accordingly in a line with the mouth of the River, but that he found it almost impracticable and inexpedient to extend the others to the same distance seaward, as he had not sufficient time and it was very difficult to preserve a direct course. The soundings are given to 3 fathoms depth low water, and as they are uniform Mr. Roberts says that the beach shelves off gradually, and that 5 fathoms water is found at $1\frac{1}{2}$ and 2 Miles distance from the coast, within which the ships anchor.

3 Since April last observations have been taken almost hourly of the rise of tides within the Harbour a short distance from the mouth. The registers give for

Ordinary tides a rise of	$1\frac{1}{2}$	inches
Neap tides	1	— 1
Spring tides	2	— 2

The highest tide noted was registered as 3 feet 2 inches.

4 There was some trouble experienced in registering a series of correct observations on the current, but a few were taken, and the

the result accords with the testimony of the natives residing on the coast, from whom the information here given is taken. The direction of the current from April to September is northwards, and from October to March southwards.

5 The direction of the wind was obtained from a register kept by the Master Attendant since 1862. From February to the end of March the winds blow from the east more usually with a northerly direction, from April to the end of May from the South; from June to the end of September from the west veering to the South towards the close of the day, and from October to January from the north east.

6 It will be observed from the survey that the bar at the mouth of the Harbour is nearly in a north east direction, and that the sand spit at the end forming the Southern entrance has worked up very much to the northwards. The water, also, on the bar at ordinary low tide is now only 3 feet in depth, which gives 4' 8" at high tide. This is the state of the mouth in the dry weather, but the effects of the North east

East Monsoon will be almost certain to cause the position of the bar to shift considerably.

I have the honor to be
Sir,
Your most obedient servant.

Yours faithfully
Rear Capt. R.C.
Offg. Supt. Engineer 6th Div.

17041.

Copy in letter to England
of 10th November 1864.

To
The Secretary to Govt
P.M.D.

17041
10th Nov 1864
The Supt. Engineer (41)

17041
10th Nov 1864
The Supt. Engineer (41)

Forwarding survey and soundings of the ship in the harbor and surrounding information regarding the tide currents and wind called for in 17041.

Marine

New Work.

Abstract Estimate of 1864/65

Tanjore District
Negapattinam Taluk.

Work—Extending for 40 Yards the Negapattinam Jetty—on the North side of the Harbour.

Quantity	Description of work	Rate	Amount	Amount Each Part.
4933 ³ / ₄	Cubic Yards of Rubble stone & Cyp	5	24668 12	
2203 ¹ / ₂	— do feet of Timber — 11 ft	1	2203 8	
106	Piles 40 feet long — each	80	8480	
	Dredging the bed of river & Surveying the project.		2200	
	Sundries & Contingencies — about 6 per Cent.		2147 12	40000
Total Estimate Rupees				40000

Supt. Engrs Office
6th Div. Tanjore
27th September 1864

Rear Capt. R.C.
Offg. Supt. Engineer 6th Div.

Copy in as letter to Englum
of 10: November 1864

14242/64.

No. 1472-

Supt: Engrs Office 6th Dec
Tanjore 27th September 1864

From,

Captain J. Swan R.E.
Offs: Supt: Engineer 6th Dec

To,

Major J. Shaw Stewart R.E.
Deputy Secretary of Government
P. W. D.

Sir,

G. O. dated 18th March 1864
No. 826.

Official Memo dated 9th
August 1864 No. 45

G. O. dated 18th August 1864
No. 2572

G. O. dated 23rd August 1864
No. 2419

In reply to the Government
Orders as per margin, I have
the honor to forward a plan and
estimate amounting to Rs. 40,000
for extending the Negapatam
jetty to a length of 40 yards.
The documents now furnished

afford a reply to the requisitions contained
in para 5 of the first Order quoted above
but not to those of para 4 of the same
which I regret to say I am unable at
present to comply with for reasons stated
below.

2. I have not furnished Estimates
for the items Nos. 2 and 3 in the above
para because, first, the jetty has been
lately repaired and the Range Officer has
furnished no reply to my requisition on
the subject, and, secondly, we have lately
repaired the groynes on the right bank

of the River and strengthened the protective works on the sand spit. My Estimate if approved & can be entered in the Budget of 1865-66, whilst the information called for in para 4 will follow shortly.

3 In the plan for the extension of the Jetty, I have only allowed for rubble stone and excluded Chunan, as I think it will be better to permit the work to settle and to find its own level, in the first instance, before building with brick or stone in Chunan. Captain Oaker late District Engineer in his several Estimates for the Jetty allowed a rate considerably above that which I have entered in my Estimate, but at that time the Railway was not opened, no quarry was accessible near the line, and the Towns of Tanjore and Trichinopoly were not available for supplying stone. His rates were for stone brought from Velangur, south of Nagapattinam, Rs 14 per Cubic yard, and from Ceylon Rs 9 per Cubic yard. I have allowed Rs 5, and this is the very lowest rate for which it can be procured.

4 In my section of the work, I have allowed for Piles being driven 5 feet apart from centre to centre at the foot of the slopes, connected together by transverse and longitudinal pieces tying the heads of these Piles of

G.O. No. 578.
dated 26th March 1862

Erool and Karamaradoo wood can be obtained from the Western Coast, I have ascertained, for 40 Rs each, and the whole expense including driving will cost about 80 Rs each. I think they will help to prevent displacement at the toe of the slopes, to strengthen the work, and to break the force of the waves and currents against the Jetty itself. Colonel Horsley late Chief Engineer in his letter to Government dated 18th January 1862 No. 908 recommended such a section for the work, and the throwing in of large rough stone up to low water level. Colonel Lawford in former years adopted a plan, at a cost of Rupees 7200, of filling large boxes or caissons with masonry or concrete and forming the Jetty of them placed side by side, but they subsequently sunk and have since entirely disappeared. Though I advocate the use of Timber piling, the cost adds much to the Estimate, namely, Rupees 10683. 8. and it may be dispensed with if Government see fit, the money being applied to extending the work.

5 The sections given of the Jetty have been made from the section of the Sea bed taken in the direction of the

the present wall by Mr. H. Roberts.
It will be seen that the depth allowed
by me is greater than that shown
in the sections, but I have allowed
for the settlement of the material when
thrown into the sea, and for the scour
which will be immediately formed in
front of the work by the action of the
tides and river freshes.

As regards the surveys of
the Harbour and Soundings as well
as the information required by Government
regarding the currents winds &c, I
am unable to furnish them as yet,
owing to the delatoriness displayed
by Mr. H. Roberts the Survey Officer in
carrying out my instructions. All the
orders above quoted have been duly
communicated to him, and on his
representation I sent him two Apprentices
to assist him in surveying. On receipt
of your Memorandum of the 9th August,
I requested him to forward the Survey,
but this he did only ten days ago and
in such a very incomplete state that
I had to return it to him. The further
information also required he has not
furnished, and considering that he has
spent a large portion of his time at
Mogadishu, I cannot

in pencil
without the
soundings on
and neither
readings nor
names.

23rd September
1864.

cannot account for the delay. He has
within the last few days applied for 3
months privilege leave on the plea that
his health suffers, but I do not consider
that I can grant his request, even
though the replies to these Orders are
furnished, until numerous other re:
quisitions made to him are attended to.

I have the honor to be
Sir,

Your most Obedient servant

Henry Capt. R.C.
Off. Sup. Engineer 6th Div.

10

System and to the
Memoranda

Circular of Gov. Hays

orders of Government.

March 27th Coll AR.
1860
Dear Sir,

It appears to me that the date upon which my
the Govt could judge of the propriety adopting
any plan for the improvement of the station, has
not been forwarded owing to the neglect of Mr. Allen,
then officer should be called upon to account for his
conduct, and I cannot think that such he can pass a
satisfactory explanation records as usually for
such. I want him to show up his letter. The
Garden is altogether easily as a bond of the
work, and will be taken away in a few days.

Circulation for the
orders of Government.

Chesnut St. Coll. Ark.
Dec 18/64 }
12/18/64 }



2040.

2. 15th Oct 1884. A. 174

and 3150 - 2nd October, 1864.

an insignificant fact
of country.

5. That the width of the
stream at its outlet is
but 100 feet, and in
the pool on backwater
inside about 200 feet.

6. That the current along
shore runs northwards
from April to September
& southwards from
October to March.

7. That the action of the
Moon & Current is
greater during the period
of action by the line
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the River to travel north-
wards.

8. The depth of the water
over the Bar is 3 feet.
I conceive however this
will be deepened when
the flood water of the Moon
soon comes down.

9. The Pool on backwater,
as is always the case, is
deeper than the Bar
but the maximum
depth is 6 feet at
low water.

looking to the facts
above stated - I have no
hesitation in expressing
my opinion that any
attempt to keep the
bar permanently
open would be un-
=vailing unless at
a cost far ^{the interest} ~~any far~~ ^{in the interest}
except of the amount
which could be expected
to be realized by Harbour
duty or any other mode
of charge - the utmost
which is expected to
be maintained within
the backwater is 6 feet
and this at the cost of
constant dredging - it
will be impossible to
maintain a depth of
8 feet over the Bar by
any amount of labour
that can be obtained
with a rise of tide of
only 1.2 or 2 feet -
the money which has
already been expended
has been wasted, and
the outlay of any more
shall result upon the

Intimation of the present
felter could be there
want

Decision

19 Oct 64

4
S. W. 1864 Dep't
Pro: of Govt for November
No 4578

Minute by the
Honorable the
President

Dated 19th October/64
Recd 22nd

Giving his opinion
on the subject of the improvement
of the Harbour of Negapatam, Tan-
-jore &c.

No 42
Copy in a Letter to England
of 10th November 1864

no 3150-2nd Nov 1864

no 3150
Proceedings of the
Public Works Department
Under date the 2nd Nov/64

From the Superintend^t G. S.
Proposing an Estimate of Rs. 40000
for extending the Negapatam Jetty to a
length of 40 yards

Proposing Survey and
Soundings of the Negapatam
Harbour & furnishing in foundation
regarding the tide currents &
windy cases for in G. S. No 826
of the 18th March/64

Minute by the Honorable the
President

Recd the following
proposal

27th Sept 1864 No 1472

11 Oct 64 No 1618

19th Oct 64

The Government
are now in possession of
the facts upon which they
can form an opinion
as to the possibility or
otherwise of deepening
the so-called "Harbour"
off Negapatam

2. A reference to the
Plan and to the
Memoranda

Memoranda concerning
surveying it shows

1st - That Negapatnam is
an open roadstead.

2nd - That the water shallows
gradually, the 3 fathoms
line being about $\frac{1}{2}$ a
mile from the shore
and the 5 fathoms
line being about 2
miles from the shore.

3rd - That the rise of
the tide is very trifling -
At neap tide it is
1 $\frac{1}{2}$ ft. at ordinary tides
1 $\frac{1}{2}$ ft. at springs - 2. 2.

4th - That the so-called
Harbour is in fact
but the outlet of a
small stream which
flows into the sea.

5th - That the width of
the stream at its outlet is
but 100 feet and in the
pool or backwater in
spite about 250 feet.

6th - That the current
along the shore runs North
ward from April to
September and South
ward from October
to March.

7th - That the action of
the wind and current
is greater during the
first period, as shown
by the tendency of the
mouth of the river to
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8th - That the depth
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of the monsoon comes
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9th That the pool or
backwater, as is always
the case, is deeper than
the bar, but the maximum
depth is 6 feet at
low water.

3rd Looking to the
facts above stated, the
Govt. are of opinion that
any attempt to keep
the bay permanently
open would be unavailing,
unless at a cost very far
in excess of the amount,
the interest of which
could be expected to be
realized by Harbour dues
or any other mode of
charge.

1st The utmost depth
which is expected to be
maintained within the
backwater is 6 feet,
and this, at the cost of
constant dredging - It is
obviously impossible to
maintain a depth of 6
feet over the bar by any
amount of accretion which
can be obtained with a
rise of tide of only 1.0
or 1.2 feet.

5th The money which
has already been expended
having been ^{unprofitably} laid
out, ~~and~~ the
outlay of any more, at
all events upon the pro-
longation of the present
Jelly, would be a sheer
waste. - A report
will

all accordingly be
made to the Home
Government of the
provisions arrived at
after an inspection of
the papers submitted
by the Superintendent Engineer.

Attest

576
11
3
S. R. 6' 6"
Railway Dept
" Engineer for
Railways
J. M. 2

Copied in a letter to England
of 10th November 1864.

(19)

90 W 18th Decr
Pro. of Govt for Aus

D 7th 3/50
Pro. of the M Govt.
D 2nd Nov 1864

C No 1437/65

Papers relative
to the improvement
of the Negapatam
Harbour. (Tanjore)
D. to W. with orders
thereon.