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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. <u>9816.</u>	Press ~~Mis.~~
<u>733-84.</u>	
Dated <u>12. Sept.</u> 18 <u>67.</u>	

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
12th September 1867.

No. 283. Read the following letter from the Acting Superintending Engineer, 4th Division, to the Secretary to Government, Public Works Department, dated Madras, 29th August 1867, No. 2,618 :—

1. With reference to the Orders of Government, No. 2,126, dated 15th July 1867, I have the honor to submit a revised estimate, amounting to Rupees 2,750, with survey and plan, for making a boat basin and channel on the north
- | | |
|------------------|--|
| 2 Estimates. | |
| 2 Plans. | |
| 1 Specification. | |

side of the Adyaur river, opposite the mouth of the southern branch of the Coast Canal.

2. The plan submitted with the former estimate is enclosed, and on it is marked, in yellow, the site of the proposed works. As directed by Government, the boat channel has been provided for along the upper face of the causeway which was erected last year, on the high ground adjoining the deep bed of the river, and it is led into a basin, with its bed four feet below mean tide, formed in the breach No. 1 which lately occurred, the sides of which are to be carefully sloped, that on the north face being carefully pitched with stone and the crest levelled and gravelled to a certain width to form a landing stage.

3. This estimate has been prepared by Mr. Fraser, Executive Engineer, at my request, and after my inspection of the site; but I would submit for consideration his remark, when reporting on the

No. 76, dated 23rd July 1867. work, that it would be better, in his opinion, to defer building the boat basin, until it is decided whether a high level fresh water junction canal, or a low sea level canal is to be decided upon, as the plans of the latter will not harmonize, probably, with those for the slip and basin now submitted.

4. Government will perceive that this estimate and plan have one objectionable feature, inasmuch as the boat basin will be constructed in private property, which it will be difficult to obtain. This site was chosen, as advantage was proposed to be taken of the present breach formed in the bank, in order to lessen materially the expense, but to avoid the difficulty, I have submitted another estimate, amounting to Rupees 2,450, for a boat basin, shown in red in the plan, more to the westward and within the Government boundary, and, in order to equalize more the relative cost of the works, I have reduced the size of the basin.

5. As regards the observations of Government in paragraphs 3 and 4, I would observe that, though I consider it was a grave mistake to carry a raised embankment or causeway across the high land adjoining the river, and to build a rectangular groyne at its extremity, thereby tending to divert dangerously the course of the river, the freshes in the Adyaur must be unusually high to flood this land, and to overtop the embankment. That such a flood occurred in December last is well ascertained; it was watched both by Mr. Fraser and myself, and a similar one had not been known for ten years.

6. The groyne, as I have called it above, was not intended to act as such, but as a landing stage, and owing to its not being projected into the deep bed of the river, the work does not act as an ordinary groyne, and there are no eddies round

Proceedings of the Madras Government, Public Works Department.
12th September 1867.

the wharf and deposits of sand, the only existing accumulation of this material being caused by the deposit brought by the flood beyond the site of the two breaches. From this cause, I think, it is immaterial whether the channel and basin be built to the front or to the rear of the raised causeway.

7. I do not think that the work, as now projected, will prove a very successful one. There will always be, when a very high flood occurs, an accumulation in this boat channel, though the soil composing this high ground in front is by no means entirely of loose sand, and, owing to the position of the basin, its stability will be endangered whenever the river is very full. I do not think the basin will be much made use of by the boatmen for unloading, as they will resort, when the Adyaur is at its ordinary level, to the north bank, as at present, immediately below the causeway, and at the extremity of the road west of Norton's Gardens.

8. Should Government, on consideration of these remarks, resolve to defer the execution of either of these estimates, I would suggest that 500 Rupees be expended in removing stones from the landing stage, &c., in order to face the breach No. 1, which should be filled up, and to protect the extremity of the causeway where breach No. 2 occurred. The groyne also on the north bank higher up might be extended and strengthened, and by leaving the western breach open, and removing the accumulation and stones, facility would be afforded for a straighter flow of the river, and I do not anticipate any danger, as apprehended by Mr. Mackenzie, to the property of "Norton's Gardens."

9. As Mr. Fraser has kept me waiting a considerable period for the enclosures, I beg early instructions from Government, in order that effectual progress may be made in the work determined upon before the monsoon breaks on this coast.

No. 284.

ORDER THEREON, 12th September 1867, No. 2,816.

CIVIL WORKS, No. 27.

In Proceedings No. 2,126 of the 15th July 1867 the Government had under consideration the causes which led

to the destruction, during the fresh which occurred last December, of the greater portion of the wharf and boat basin constructed on the northern bank of the Adyaur at the end of a jetty projecting into the stream, as well as the extensive breaching of the embanked roadway connecting the work with the shore. His Excellency in Council was of opinion that the plan proposed by Mr. Fraser for the restoration of the work, though providing for the withdrawal of its head 325 feet, would not materially lessen its dangerous tendency to cause a set of the stream on the opposite bank, nor save the jetty from the risk of being undermined by the lateral current it would itself create. The only safe position for a boat harbour and landing wharf seemed to be near the bank of the river out of the direct course of the stream, and the Superintending Engineer was requested to take the observations of Government into consideration and, in communication with Mr. Fraser, to submit a revised project with the necessary estimates.

2. In compliance with those instructions Colonel Bean now submits an estimate of Rupees 2,750 for the proposed works. As, however, this project will necessitate encroachment on private property, he forwards an alternative one.

Proceedings of the Madras Government, Public Works Department,
12th September 1867.

The Government prefer the latter, but, considering the doubts which are entertained as to whether the landing place will be made use of to any appreciable extent by the boatmen, and seeing that, in the opinion of the Superintending Engineer and Mr. Fraser, it is expedient at all events to postpone the formation of a boat basin until a decision is arrived at as to whether a high-level fresh water junction canal or a low sea level canal is to be adopted, the Government approve of the project being deferred; and the repair of breach No. 1 being indispensable for the security of private property, they authorize the necessary expenditure within the limit of Rupees 500.

(True Extract.)

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

To the Superintending Engineer, 4th Division.
" Controller of Public Works Accounts.
" Accountant General.

Exd. S. T. Augustin.

Specification to be observed in the reconstruction of the Boat Basin at the Adiyar. —

1 The proposed new work is drawn in Red on the accompanying Plan. —

Head of 2 The head of the new work is to be
new work 325 feet in from the old head: It is to be of a circular form, as shown on the Plan, and to be carried round with the slope of the present Rivetment or 1 to 1 to the point marked A: The Rivetment of the head is to be formed with picked stones, which are to be laid at right angles to the slope, and not to be less than 18 inches in thickness: The foundation is to be 5 feet below the surface of the ground.

The stones are to be laid in mortar prepared with certain proportions of chunam, sand and burned clay as may be directed by the Engineer.

3 The Revetment to be finished Parapet
by a Parapet wall $2\frac{3}{4}$ feet above the
level of the Wharf and Roadway;
This will be 9 inches higher than the
present wall, and this additional
height is to be carried all through to
the end: This top ^{9 inches} ~~foot~~ is to form
a coping course, the stones for which
are to be roughly squared: They may
be of Laterite: — They are to be laid
close together and carefully jointed with
mortar prepared with extra care. —

4 The weep holes in the present weep holes
wall are to be filled up, and arrangements Drainage
made to drain across the road and down
the turfed slope.

5 The Boat Basin is to be 210 feet Basin
long and 70 feet wide at the bottom — the
water surface will have a greater ^{area} ~~surface~~: —
The bottom is to be 4 feet below mean

sea level. —

Wharf

6 The wharf will be 278 feet in
length and 50 feet wide, not including
the extra breadth at the ends — at
which places also goods can be landed:

The wharf is to be gravelled over, the
same as the road:

Landing
Incline

The Basin face of the wharf is to
have a slope of 3 to 1 to the bottom of
the Basin: This is to be paved with
stone laid on the flat, the joints
to be pointed with carefully made
Mortar: — The stones are to be
embedded upon a layer of clay 12 inches
thick, well beaten down to the proper
slope: The stone pavement is to be
carried 2 feet below the bottom of the
Basin. —

Breach No. 1

7 Breach No. 1 is to be filled,

or so much of it as may be found necessary, and the roadway finished over in a similar manner to the rest of the road; The Stone revetment being carried on so as to be beyond the influence of the highest floods: The filling through the breach to be a little in excess ^{to} ~~and~~ allow for subsidence.

8. Whenever they have been injured the present wall and Revetment are to be carefully repaired:— At any place where the foundation shows any sign of weakness it must be made secure.—

9. The position of the new work Materials has been decided on partly because it is believed that it will insure a sufficient quantity of material being got from the old work; with the exception of some Laterite gravel for the wharf, and, perhaps, a small quantity of Laterite Stone

for the coping.—

Groynes 10 A small submerged groyne may, with advantage, be run out from the Head of the work as shown on the Plan; and another groyne constructed near the end of the boundary between Mr. Boyson's and Sir Colley Scotlands' Properties: The latter would prevent any rush of water ^{beach} towards ~~the~~ No. 1.—

Channel 11 The channel to connect the River and the Basin is to be excavated as shown on the Plan: The bottom 10 yards wide, and 4 feet below mean sea level and the side slopes 2 to 1.—

E. C. Canal Office
Mount Road
1st July 1867

William Innes E.C.
Executive Engineer

Heard Sept. 1867
Asst. Sup. Eng. H. D. D.

REVENUE IRRIGATION

(NEW WORK.)

ABSTRACT of Estimate No. *1* of 1867-68.

DISTRICT *Madras*

TALOOK *Sydupett* ——— VILLAGE *Adyat*

WORK *Constructing a Boat Basin & landing wharf near Pugh's Garden at the Adyat.*

Quantities.	Description of Work.	Rate.		Amount.	Amount of each part.
		Rs.	A. P.	Rupees.	Rupees.
C. Yards	<u>Earth work</u>				
10917	<u>Earth work</u> ———	.	23	1535-3-	
	<u>Clay work</u>				
247.	Laying clay on the slope of Basin on the south side — — — — —	.	3.	46-5-	
247.	Rough stone work in chunnam for revetting the slope — — — — —	1	4.	308-12-	
	<u>Road making</u>				
164.	Metalling the landing wharf	1	4.	205-0-	
	<u>Turfing</u>				
2075	Sq. yd. of Turfing — — —	.	6.	64-13-	
	Removing 300 yards of stone to northern Brooke —	.	8.	150-0-	
	Contingencies about 5% Cent —			139-15-	
				<u>Rupees — 2450.</u>	

Supr. Engrs Office Lt. Col.
Madras
29th August 1867.

Heard Lt. Col. R.E.
Acting Supr. Engrs Lt. Col. R.E.

3208
11/1/67

2/21/67

[illegible]

Communication

New work

Estimate No. 49 of 1867/68

District Madras, Taluk Sydappett, Range C. by canal, and Work. Constructing a Boat Basin and Landing wharf near Pugh's Garden, at the Adiyar.

Measurement			Particulars of work	Rate	Per	Amount
Length	Breadth	Depth				
			<u>No. 1 Earth work</u>			
145	25	5-6	clearing the breach for Basin on the south side			
225	9	3-6	Making slope for basin on the south side			
110	40	5-9	clearing the breach for Basin on the West side			
125	20	4	Making slope for basin on the West side			
90	18	3-6	clearing the breach for basin on the East side			
70	15	6-9	do do do do do do			
130	15	3-6	Making slope for basin on the East side			
288	28	8-6	do do on the north side			
			1714.50 Carried Over			

ABSTRACT OF ESTIMATE.

In closure in letter No. 2618 dated 29 Dec 1867 to the Secretary to Government, Public Works Department.

Supt. Engineer's Office, Alh Diem.

1714.50

Measurement				Particulars of work	Rate	Per	Amount
Length	Breadth	Depth	Cubic Contents				
			171150	Brought over			
				Earth work continued			
140	3	1-6	1545	Making small bank on 3 sides of Landing Wharf			
290	42	6	73080	Excavating new channel			
330	110	5	66000	Deepening and widening Old channel			
			312375				
330	22	2-6	18150	Deduct for old channel			
Total left				294225 or 10,897 cubic yards of Earth work	2	3	byd 1532 6
				<u>N: 2 Clay work</u>			
288	42	1	12096	or 448 cubic yards Laying (or slip) clay on the slope of basin on the north side	3		byd 54
				<u>N: 3 Plough stone work in channel</u>			
288	43	1	12386	or 459 cubic yards revetting the slope of basin on the north side -	10	4	byd 573 12
				carried over			2190 2

Measurement				Particulars of work	Rate	Per	Amount
Length	Breadth	Depth	Cubic Contents				
				Brought over			2190 2 3
				<u>N: 4 Road making</u>			
310	50	6	67750	or 287 cubic yards, metalling the Landing Wharf	1	4	byd 358 12
				<u>N: 5 Surfing</u>			
220	23		5060	Surfing the slope of basin on south side			
130	20		2600	do do West side			
135	23		3105	do do East do			
210	4-6		1845	Surfing small bank on 3 sides of Landing Wharf			
410	3		1230	God fence on 3 sides of Landing Wharf			
1240	7		8680	Surfing the slopes, both sides of channel			
Total				22526 or 2502 square yards of Surfing	6		byd 78 3
				contingencies at about 5 percent			122 11 9
				Total Estimate			2750

E. C. Canal Office
 Mount Road
 23^d August/67.

William Ross
 Esq. Engineer
 Rear Colonel R.E.
 Supply, East Division

19
N^o 2618. Supg. Engineer's Office 4th Div
Madras 29th August 1867.

From
Lieut Colonel J. Beau Rb.
Ag. Supg. Engineer 4th Div.

To
Colonel C. A. Br. Rb.
Secretary to Government M.D.

Sir,

Enclosures 5

With reference to the Orders of
Government N^o 2126 dated 15 July
1867, I have the honor to submit a re-
vised estimate, amounting to Rs. 2750,
with survey and plan, for making
a boat basin and channel on the
north side of the Adyar River op-
posite the mouth of the Southern
branch of the Coast Canal.

2. The plan submitted with
the former estimate is enclosed, and
on it is marked in yellow the site
of the proposed works. As directed by
Government, the boat channel has
been provided for along the upper
face of the causeway which was
erected last year on the high ground
adjoining

From

The Asst. Engr.

to the Engr.

The Asst. Engr.

to the Engr.

Dated 23rd August 1867

N^o 3228/67

Estimate for Construction

of a boat basin and

channel on the north

side of the Adyar River

opposite the mouth

of the Southern branch

adjoining the deep bed of the river, and it is led into a basin, with its bed 4 feet below mean tide, formed in the breach N^o 1 which lately occurred, the sides of which are to be carefully sloped, that on the North face being carefully pitched with stone and the chest levelled and gravelled to a certain width to form a landing stage.

3. This estimate has been prepared by Mr Fraser, Executive Engineer at my request and after my inspection of the site, but I would submit for consideration his remark, when reporting on the work that it would be better in his opinion to defer building the boat basin, until it is decided whether a high level fresh water junction Canal, or a low sea level Canal, is to be decided upon, as the plans of the latter will not harmonize, probably, with those for the ship and basin now submitted.

H. Government

4. Government will perceive that this estimate and plan have one objectionable feature, inasmuch as the boat basin will be constructed in private property, which it will be difficult to obtain. This site was chosen, as advantage was proposed to be taken of the present breach formed in the bank in order to keep materially the expense, but to avoid the difficulty I have submitted another estimate amounting to Rs. 2450. for a boat basin, shown in red in the plan more to the westwards and within the Government boundary, and in order to equalize more the relative cost of the works, I have reduced the size of the basin.

5. As regards the observations of Government in paragraphs 3 and 4, I would observe that, though I consider it was a grave mistake to carry a raised embankment or causeway across the higher land

No 46 dated
23rd July 1867

land adjoining the river, and to build a rectangular groyne at its extremity, thereby tending to divert dangerously the course of the river, the fishes in the Adyar must be unusually high to flood this land, and to overtop the embankment. That such a flood occurred in December last is well ascertained, it was watched both by Mr. Brier and myself, and a similar one had not been known for ten years.

The groyne, as I have called it above, was not intended to act as such, but as a landing stage, and owing to its not being projected into the deep bed of the river, the work does not act as an ordinary groyne, and there are no eddies round the wharf and deposits of sand, the only existing accumulation of this material being caused by the deposit brought by the flood beyond the site of the two breaches. I now

—this

23.
this cause I think it is immaterial whether the channel and basin be built to the front or to the rear of the raised Causeway.

7. I do not think that the work as now projected will prove a very successful one. There will always be, when a very high flood occurs, an accumulation in this boat channel, though the width comprising this high ground in front is by no means entirely of loose sand, and, owing to the position of the basin its stability will be endangered whenever the river is very full. I do not think the basin will be much made use of by the boatmen for unloading as they will resort when the Adyar is at its ordinary level to the north bank, as at Pieshit, immediately below the Causeway, and at the extremity of the road west of Norton's Gardens.

8. Should Government on
consideration

Consideration of these remarks resolve to defer the execution of either of these estimates, I would suggest that 500 Rupees be expended in removing stones from the landing stage, &c, in order to face the breach N^o 1 which should be filled up, and to protect the extremity of the Causeway where breach N^o 2 occurred. The groyne also on the North bank higher up, might be extended and strengthened and by leaving the western breach open and removing the accumulation and stones, facility would be afforded for a straightened flow of the river, and I do not anticipate any danger, as apprehended by Mr Mackenzie, to the property of "Vortons Gardens".

9. As Mr. Brasen has kept me waiting a considerable period for the enclosures, I beg early instructions from Government, in order that effectual progress may be made in the

work

Public Works Department

2
work determined upon, before the monsoon breaks on this coast.

I have the honor to be
Sir,
Your most obed^t Servant

Wm. Smith M.
Asst. Engin^r 4th Divⁿ

Public Works Department

815
No 2816

Proceedings of the Madras Government
Under date the 12th Sept 1867

Read the following

from The Sup^r Eng^r H. B. Dwyer (H. E. dated 29th Aug 1867 No 2618)

In Proceedings
No 2126 of the 15th July 1867 the
Government had under con-
sideration the causes which
led to the destruction, during
the fresh which occurred
last December, of the greater
portion of the wharf & boat
basin constructed on the
northern bank of the
Adyar at the end of a jetty
projecting into the stream,
as well as the extensive
breaching of the embanked
roadway connecting the
work with the shore. H.

N.
W.P.

Circular

No 15 July 1867 378-38

To The Sup^r Eng^r H. B. Dwyer
from J. H. B. Dwyer
No 2618

The Adyar Engineer
H. B. Dwyer

To
The Secretary to Govt
P.W.D.

Dated 29 August 1867
No 2618

Enc 5th No 2618

Subscribing with
amounts a period 30
thousand rupees to
Rs 2750 with sundry
and other for making a
boat basin of 100 ft
on the North side of the
Adyar River opposite
the mouth of the South
on branch of the
Coral Canal

No 283

No 2816. 12th Sept 1867

C. in Council was of opinion that the plan proposed by Mr. Fraser for the restoration of the work, though providing for the withdrawal of its head 325 feet, would not materially lessen its dangerous tendency to cause a cut of the stream on the opposite bank, nor save the jetty from the risk of being undermined by the lateral current it would itself create.

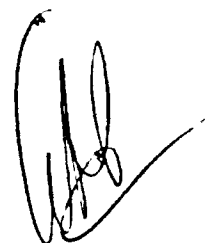
The only safe position for a boat harbour & landing wharf seemed to be near the bank of the river out of the direct course of the stream, & the Superintendent

ing Engineer was requested to take ^{the} observations & consideration of the communication with Mr. Fraser, to submit a revised project with the necessary estimates.

In compliance with those instructions Col. Bean now submits an estimate of £2,750 for the proposed works. As, however, this project will necessitate encroachment on private property, he forwards an alternative one, ~~which~~ ^{the} Government prefer, but, considering the doubts which are entertained as to whether the landing place will be made use

of

of to any appreciable ex-
tent by the boatmen, &
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of the Superintending
Engineer & Mr. Fraser,
it is expedient at all times
to postpone the formation
of a boat basin until a
decision is arrived at as
to whether a high level
fresh water ^{function} Canal or a
low sea level Canal is to be
adopted, the Government
approve of the project being de-
ferred; but ~~they~~ ^{and} consider the
repair of breach No 1 ^{being} indis-
pensable for the security
of private property, ^{they} and au-
thorise the necessary expen-
diture within the limit of
Rs 500.



7.
9 The S. Eng. & Dr. ✓
4 Corbridge ✓
3 Reel and ✓

Sept 13/77

283 284 285
Pub. Works 1867 Depart.

Pro: of Govt. for Sept^r

No. 2816

Pro: of the Madras Govt.
D^y 12th September 1867

Deferring the project
for the construction of a
Boat Basin and channel
on the north side of the
Adyar river, opposite the
mouth of the southern branch
of the Coast Canal and
issuing instructions for the
repair of the breach which
occurred in December last,
in the Causeway across the
high land adjoining the
river

No. 283-284