

Primary Battery File

National Archives, Washington D.C.

Record Group 77

Correspondence of the Chief of Engineers

Entry 103

File, Fort, Battery:

24901

Ft. Warren

Btty Bartlett

Subject: Gun emplacements- National Defense.

UNITED STATES ENGINEER OFFICE,

P. O. BOX 5346, ROOM 124 P. O. BUILDING,

BOSTON, MASS.

April 14, 1898.

Brig. Gen. John M. Wilson,
Chief of Engineers, U.S.A.,
Washington, D. C.

General:

Referring to Department letter of March 18, 1898, authorizing the construction, with funds allotted from the appropriation for National Defense, of emplacements for three 12-inch guns at Grover's Cliff, and for two 10-inch guns at Fort Warren, I have the honor to submit the following partial project, covering the working plant at Fort Warren; it is hoped to have complete preliminary plans and estimates ready very shortly, -the difficulties of the sites having made some little study necessary before even an approximate location could be made.

At Fort Warren, it is proposed to install an engine and three derricks on the wharf and sea wall, for unloading materials; an engine and mixer, for mixing concrete, an engine for the derricks on the work, and the necessary stone and sand bins, dump cars, etc.

We have on hand one engine in good condition, suitable for hauling materials up the inclined trestle from the wharf to the proposed bins; one single cylinder, single drum engine, about twenty five years old, and in poor condition; a sufficient supply of flat cars and rails, but no dump cars. We have also two derricks suitable for handling concrete. It is proposed to make the bins of sufficient capacity to hold about 450 cubic yards of stone;

and 225 cubic yards of sand. There is a cement shed of sufficient capacity. The estimated cost of the proposed new plant is as follows:

3 new engines at \$1,400,-----	\$4,200.00
1 concrete mixer at \$450,-----	450.00
6 dump cars,-----	640.00
2 turntables,-----	180.00
4,000 ft. 1/2" crucible cast steel rope,-----	500.00
Blocks & winch for derricks,-----	600.00
	<u>\$6,570.00</u>
Sand and stone bins- 95,000 b.ft., lumber at \$30. including iron and labor,-----	\$2,850.00
	<u>\$9,420.00</u>
3 wharf derricks, complete,-----	600.00
Contingencies- Including fender piles against sea- wall to enable boats to lie against it and discharge- lumber,&c., for R.R. ties- laying tracks- building engine sheds, etc., etc., etc.	900.00
Total,-----	<u>\$10,920.00</u>

The prices for engines, &c., in the above estimate are practically ^{full} catalogue prices; it is probable that the discounts will amount to fully \$1,000.00

The above plant is the least with which the work can be successfully done; it is intended to run it day and night, when it is once started; it will probably make it possible to finish the emplacements about the last of September, 1898.

By direction, and in the absence, of Lieut. Col. S. M. Mansfield,
Corps of Engineers.

Very respectfully, your obedient servant,

John Stephen Searll,
1st Lieutenant, Corps of Engineers.

24901
OFFICE CHIEF OF ENGINEERS
WAR DEPARTMENT.

N.D. U. S. Engineer Office
Boston, Mass. 1898

22 RECEIVED

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Office of the Chief of Engineers

1-22-98

Letter of

March 15, 1898, relative to

the proposed construction

RECD. BACK OFFICE CHIEF OF ENGRS. APR 22 1898

1st indorsement.
Office Chief of Engineers,
U. S. ARMY.

April 16, 1898.

Respectfully returned approved.
When such record as may be necessary,
has been made, this paper will be returned,
to this Office.

By command of Brig. Gen. Wilson:

Charles E. Keane
Captain, Corps of Engineers.

24901
3

2d. indorsement.
U. S. Engineer Office,
Boston, Mass.
April 20, 1898.

Respectfully returned to
the Chief of Engineers, U. S. Army.
By direction, and in the ab-
sence of Lt. Col. S. M. Mansfield,
Corps of Engineers.

John Stephen Smith

1st. Lieut. Corps of Engineers.
N.D.
22.

RECD. OFFICE CHIEF OF ENGRS. APR 22 1898

Subject: Empl. Ft. Warren,- Nat. Def.

UNITED STATES ENGINEER OFFICE,

P. O. BOX 5346, ROOM 124 P. O. BUILDING,

BOSTON, MASS.

April 21 , 1898.

Brig. Gen. John M. Wilson,
Chief of Engineers, U. S. A.,
Washington, D. C.

General:

I have the honor to submit the following project and estimate for two emplacements for ten inch guns on disappearing carriages, at Fort Warren, Mass. A project and estimate for working plant, with description of general methods of work, was submitted in a letter from this office under date of April 14, 1898, E.D.(24901/3.)

The two emplacements covered by this project will complete the complement of four ten-inch guns in the Ravelin; the space is small, and they will have to be put in with contracted intervals; but the magazines for the fourth gun, being inside of the scarp wall of Bastion A, can be made of full size. To make room for the gun platforms and magazines, a large amount of old masonry must be removed by blasting. The centre of the fourth gun platform,-the one nearest the Bastion- comes vertically over the slope of the ditch, near the bottom; to insure the platform against settling, it will be built up solid from the bottom of the ditch; the portion of the parapet over the ditch will be built on a rammed foundation.

Drawings will be finished and submitted at the earliest practicable moment.

The estimate of cost is as follows:

Excavation, 5,200 cu.yds. @ 80¢.....	\$4,160.00
Excess of fill, 3,000 cu.yds. @ 80¢.....	2,400.00
Blasting out old concrete, 800 cu.yds. @ \$2.00.....	1,600.00
Carried forward,.....	<u>\$8,160.00</u>

(2)

	Brought forward,...	\$8,160.00
Removing cut stone from old work, 150 cu. yds. @ \$10.00.....		1,500.00
Natural cement concrete, 5,600 cu. yds. @ \$5.25,.....		29,400.00
" " " 500 " " " \$6.00,.....		3,000.00
Portland " " 800 " " " \$7.00,.....		5,600.00
Steel beams, 60,000 lbs. @ 3¢,.....		1,800.00
Electric light plant,.....		3,000.00
Ammunition Service,.....		2,000.00
		<u>\$54,460.00</u>
Contingencies, 10%,.....		5,446.00
		<u>\$59,906.00</u>
Working plant, as submitted,.....		\$10,920.00
	Total,.....	<u>\$70,826.00</u>
Mounting guns and carriages, if done by Engineers,.....		3,000.00
		<u>\$73,826.00</u>

The above is considered a rather close estimate, but every effort will be made to keep within it.

By direction, and in the absence, of Lieut. Col. S. M. Mansfield, Corps of Engineers.

Very respectfully,

Your obedient servant,

John Stephen Sewall

1st Lieut., Corps of Engineers.

1st indorsement.

Office Chief of Engineers,

April 23, 1898.

Respectfully returned approved.
The sum of \$24,000 additional
is hereby allotted from the ap-
propriation for National Defense,
Act of March 9, 1898, to be appli-
ed to the completion of two 10-
inch emplacements at Fort Warren.
This paper to be returned.

By command of Brig. Gen. Wilson

Joseph E. Starker
Captain, Corps of Engineers.

2d indorsement.
U. S. Engineer Office,
Boston, Mass.
April 25, 1898.

Respectfully returned to
the Chief of Engineers.
By direction, and in the ab-
sence, of Lt. Col. S. M. Mansfield,
Corps of Engineers.

John Stephen Sears
1st. Lieut. Corps of Engrs.

M. D.
33.

24901
(5-1)

WAR DEPARTMENT,

Quincy
April 21, 1898.

Chas. F. Smith
Lieut. Col. A. E. M.

*Respectfully returned to
for a copy of the same for
the Bureau, Mass. 23826.
Will exhibit arrangement
at earliest practicable
moment*

M. D.
U. S. Engineer Office,
Boston, Mass.
34 Received APR 25 1898

Return to

K
RECD. OFFICE CHIEF OF ENGRS. APR 27 1898

RECD. OFFICE CHIEF OF ENGRS. APR 27 1898

Subject: Estimate for completion of Emplacements at Fort Warren.
UNITED STATES ENGINEER OFFICE,

P. O. BOX 5346, ROOM 124 P. O. BUILDING,

BOSTON, MASS.

July 29, 1898.

Brig. Gen. John M. Wilson,
Chief of Engineers, U.S. Army,
Washington, D. C.

General:

I have the honor to submit herewith an estimate of cost of work necessary to complete the 10-inch gun emplacements, Nos. 1, and 2, in the Ravelin Battery, and the 10-inch gun emplacement in Bastion "B," Fort Warren, Boston Harbor, Mass., and request that funds be allotted for the completion of these works.

Ravelin Battery.

Ammunition service,- to complete,.....	\$166.42
Magazine doors,.....	184.80
Concrete floor in shell rooms and passages,.....	798.00
Railing in rear of loading platforms,.....	458.93
To complete drainage,.....	130.90
Grates of man-holes in drainage system,.....	40.00
Complete sodding,.....	10.00
To complete observation stations,.....	200.76
Walks and ladders leading to observation stations,.....	152.16
Ladders to top of wall,.....	50.78
Painting parapet wall surfaces,.....	120.00
	<u>\$2,312.75</u>
Contingencies 12 1/2%,.....	289.09
	<u>\$2,601.84</u>

Bastion "B."

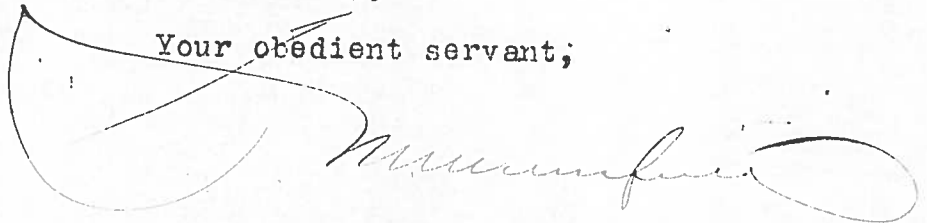
Ammunition service, -to complete,	\$ 83.21
Magazine doors,	92.40
Concrete floor in shell rooms and passages,	532.00
Railing in rear of loading platforms,	229.48
Grates of man-holes in drainage system,	12.50
Ladders to top of wall,	25.38
Painting parapet wall surfaces,	64.00
	<u>\$1,038.97</u>
Contingencies 12 1/2%,	129.87
	<u>\$1,168.84</u>

Recapitulation.

Ravelin Battery,	\$2,601.84
Bastion "B,"	<u>1,168.84</u>
Grand total,	<u>\$3,770.68</u>

Very respectfully,

Your obedient servant;



Colonel, Corps of Engineers.

70th

1490

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WAR DEPARTMENT

Boston, Mass.

July 29, 1898.

Manufactured,

West. S. M.

Subscribed to, \$182,601.84

to complete the 10" gun emplacements

Nov. 143, Ravelin Battery, and

of \$1168.84 to complete 10"

gun emplacements in Bastion "B",

Fort Warren, Mass.; and also

total \$3,770.68; and also

allocation of funds for

their purchase.

Free

5400. MAX OFFICE CHIEF OF ENGINEERS. AUG 11 1898

1st indorsement.

Office Chief of Engineers,

U.S. Army,

August 2, 1898.

Respectfully returned.

The sum of \$5,800 additional is

hereby allotted from the appropriation

for "Gun and Mortar Batteries",

Act of May 7, 1898, for the completion

of the three 10-inch emplacements

in the Ravelin and Bastion

"B", Fort Warren.

To be returned.

By command of Brig. Gen. Wilson:

24901

2nd indorsement.

U. S. Engineer Office,

Boston, Mass.,

August 10, 1898.

Respectfully returned to the

Chief of Engineers, U.S. Army.

Colonel, Corps of Engineers.

Forts 1490.

MAX OFFICE CHIEF OF ENGINEERS. AUG 2 1898

(C O P Y)
UNITED STATES ENGINEER OFFICE,
P. O. BOX 5348, ROOM 124 P. O. BUILDING,
BOSTON, MASS.

October 21, 1898.

Colonel S. M. Mansfield,
Corps of Engineers, U. S. Army,
Boston, Mass.

Colonel:

I have the honor to submit an estimate for the completion of emplacements for two 10-inch guns on disappearing carriages at Fort Warren, Boston Harbor, Mass. With this estimate is also submitted a list of the bills contracted for labor and material up to October 20, 1898, which have been paid from the money allotted for this purpose, and a similar list contracted for material up to the same date, but not paid for. Also a comparison of the original estimate with the cost up to date and the estimated amount for the completion of the emplacements.

In the estimate it will be noticed that the principal item is for 3,526 yards of concrete costing \$22,258.00, and for \$1,500.00 for electric lighting. This sum will be needed for purchase of lamp equipments for magazines and passages, and for wiring and installing the same.

With the above exceptions, all of the material required to complete the work is believed to be on hand, and the other items are principally required for placing the material in place.

A comparison of the original estimate with the total estimated cost shows that the cost of excavation and removal of old materials of all kinds was under-estimated by above \$4,000; the cost of con-

crete in place by about \$16,000; electric light plant by \$5,600; contingencies by about \$3,600; purchase of plant by about \$4,500; stone and sand storage bins by about \$1,600; while a great many other items were not estimated separately, and many items for miscellaneous purposes were not estimated for at all, such as for search light, mining casemate, cement testing laboratory, range finding stations, shipping guns, etc., and were constructed and their proper share charged to this appropriation.

In the emergency work, the cost of construction was not as economical as in ordinary work as everything was sacrificed to rapid work and for this reason, the total of the various items for concrete in place aggregate \$7.70 a yard, as against about \$5.40.

The expenditure for plant, &c., is believed to be greater than warranted in ordinary circumstances for the work, but was necessary in the emergency, and will be available for the other emplacements to be hereafter constructed at Fort Warren, thus decreasing their cost by a considerable amount.

The emplacements are ready for the guns to be mounted, and it is thought that by December 15, that the emplacements will be practically completed.

Very respectfully,

Your obedient servant,

Chas. S. Bromwell,

1st Lieut., Corps of Engineers.

(4 incl.)

U. S. Engineer Office,
Boston, Mass.

1898

307 Received OCT 22

24101

11

Boston, Mass.,
October 21, 1898.

Bromwell,
1st Lieut., Chas. S.,
to Col. S. M. Mansfield.

Submits est. of cost for com-
pletion of emplacements for two
10-inch guns on disappearing
carriages at Fort Warren, Mass,
etc.

4 inclos.

RECEIVED OFFICE CHIEF OF ENGINEER, OCT 21 1898

Subject: Two 10-inch gun emplacements, Fort Warren, Mass.
UNITED STATES ENGINEER OFFICE,

P. O. BOX 5346, ROOM 124 P. O. BUILDING,

BOSTON, MASS.

October 22, 1898.

Brig. Gen. John M. Wilson,
Chief of Engineers, U. S. A.,
Washington, D. C.

General:

I have the honor to submit herewith copy of report by my Assistant, Lieut. Bromwell, upon a deficiency of the allotment of funds from the appropriation "National Defense (War)" made for the construction of two 10-inch gun emplacements in the Ravelin of Fort Warren.

To complete the work there will be required the additional sum of \$43,631.55, as is clearly shown by an examination of the itemized statement of expenditures incurred and to be incurred.

Referring to the original estimate for this work, submitted by my Assistant Lieut. Sewell under date of April 21, 1898, it appears that he considered his estimate a rather close one.

Under ordinary circumstances the estimate might possibly have sufficed, but under the emergency requiring rapid construction and calling for the completion of the work by the 1st of January 1899, economy of construction had to be sacrificed. Under the circumstances this revised estimate is not unreasonable. I have therefore to ask an additional allotment for this work of \$43,631.55.

Very respectfully, your obedient servant,
1 Inclos. M.D. 307 with
4 inclos. accomp.


Colonel, Corps of Engineers.

1st indorsement.

Office Chief of Engineers
U. S. ARMY

October 25, 1898.

Respectfully returned to Colonel Mansfield, with the information that the entire balance available from the allotment from the appropriation for "National Defense", Act of March 9, 1898, applicable to the construction of the two 10-inch emplacements at Fort Warren is insufficient to provide for the unexpectedly large increase over the original estimate.

The sum of \$25,000 is hereby allotted from the above named appropriation to be applied to continuing the work of construction.

The authority of the President has been requested to apply certain small unexpended balances to the completion of works of National Defense, and in case this is granted an effort will be made to furnish additional funds.

Meanwhile it is desired that the order of the work be so arranged as to complete the more important items of construction first, leaving the others until additional funds can be provided.

It is noted that certain items of expenditures incurred, such as searchlight, mining casemate, and range finding stations appear to have been incorrectly charged to the allotment for battery construction. Unless there be strong reasons to the contrary the work of mounting the guns and carriages should be performed

by the garrison and the \$3,000 submitted for the purpose saved to the appropriation. These papers to be returned.

Acting Chief of Engineers

24901

10

Incls. 11-15 accomp.

2nd indorsement.

U. S. Engineer Office,
Boston, Mass.,

Oct. 29, 1898.

Respectfully returned to the Chief of Engineers, U.S.A.

Unless a further allotment of funds be made for this work, it will be impossible to carry it on more than about ten days longer.

Colonel, Corps of Engineers.
N.D. 323.

1 inclos. N.D. 307, &

4 inclos. accomp., Nos. 1-4.

RECD. OFFICE CHIEF OF ENGRS. OCT 30 1898

24901
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Boston, Mass.

N.D.

323

26

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Oct. 29, 1898.

Respectfully returned to the Chief of Engineers, U.S.A. Oct. 21/98, inclosing comprehensive statement of cost of work completed & to be completed on emplacements 10" guns on casemate at Ft. Warren, Mass., (Capt. David S. May), together with list of funds paid, and cost of funds required, amounting to \$143,631.50, for completing these emplacements which he thinks will be financially accomplished by Dec. 15.

Col. Mansfield desires that an estimate be made of a new estimate for this work.

Letter to Col. Mansfield Oct. 11/98, attch

from the Chief of Engineers

Oct. 11-15, 1898.

NATIONAL DEFENSE (WAR).

---00000---

Itemized cost of work to complete emplacements for two 10-inch guns on disappearing carriages at Fort Warren, Boston Harbor, Mass.

Item.	Original Estimate	Cost to Date	Estimate to Complete	Total Estimated Cost	Above Original Estimate	Below Original Estimate
Excavation:	6,500.00	11,056.00	625.00	11,681.00	5,181.00	---
and Mill.						
Blasting						
concrete & removing						
cut stone.	3,100.00	2,503.00	---	2,503.00	---	597.00
Concrete.	30,000.00	31,451.03	22,750.00	54,199.03	16,199.03	---
Steel						
Beams.	1,000.00	1,747.01	---	1,747.01	---	747.01
Electric						
light.	3,000.00	7,101.46	1,500.00	8,601.46	5,601.46	---
Ammunition						
Service.	2,000.00	1,926.33	100.00	2,026.33	26.33	---
Contingen-						
cies.	5,446.00	4,011.72	4,201.00	8,002.72	2,556.72	---
Mounting						
Guns.	3,000.00	---	---	---	---	3,000.00
Plant:						
Engines,						
Cars,						
Mixer,						
Turntable						
Centrics.	6,570.00	10,565.00	350.00	10,915.00	4,345.00	---
Derrick.	1,700.00	1,007.92	200.00	2,007.92	307.92	---
Stone &						
and Sigs.	2,350.00	4,401.55	---	4,401.55	2,051.55	---
Miscella-						
neous:						
Elec. Itg.						
Search Lt.						
Winning						
Concrete,						
Rebar-						
Long.	---	1,750.01	---	1,750.01	1,750.01	---
cut Stone.	---	2,350.53	50.00	2,350.53	2,350.53	---
Derrick.	---	365.56	60.00	425.56	425.56	---
Anchor &						
Ring Bolts	---	220.00	---	220.00	220.00	---
Magazine						
Doors &						
Guard Room						
Windows.	---	963.65	370.00	963.65	963.65	---
Shipping						
Material.	---	300.00	---	300.00	300.00	---

Item.	Original:	Cost to Date.	Estimate to Complete:	Total Estimated Cost.	Above Original Estimate:	Below Original Estimate:
Asphalt.	---	520.65	150.00	670.65	670.65	---
Ladders & Railings.	---	122.65	125.00	247.65	247.65	---
Range Finding Stations.	---	401.61	---	401.61	401.61	---
Mortar, Pointing, and Plastering.	---	---	1,575.00	1,575.00	1,575.00	---
Speaking Tubes.	---	---	250.00	250.00	250.00	---
Totals.	73,826.00	83,420.36	32,794.00	116,220.36	46,243.55	3,849.19

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N.D. 307
U.S. DEPARTMENT OF THE ARMY
1
1898

Itemized cost of work to complete
emplacements for two 10-inch
guns on disappearing carriages
at Fort Warren, Boston Harbor,
Mass.

2490.1
12

UNITED STATES ENGINEER OFFICE,

P. O. BOX 5346, ROOM 124 P. O. BUILDING,

BOSTON, MASS.

May 25, 1899.

Col. Chas. R. Suter,
Corps of Engineers,
Boston, Mass.

Sir:

I have the honor to submit the following estimate for completing emplacements No. 3 and 4, Ravelin Battery at Fort Warren.

By the end of the month these emplacements will be entirely completed except sodding the superior slopes, grading and sodding a portion of the exterior slope and setting the base rings.

The money asked for last fall would probably have been sufficient if it had not been necessary to repair the entire face of these emplacements due to the failure of the concrete made from Rosendale cement. At that time it was impossible to secure an adequate supply of Portland cement in the markets.

It is further understood from conversation with the Commanding Officer at Fort Warren that it will be impracticable for the garrison to mount these guns and therefore an estimate is submitted for that purpose.

20000 sq.ft. sodding @ 5¢	\$1000.00
300 yds.earth fill @ 50¢	150.00
400 " grading @ 50¢	200.00
Setting base rings,	300.00
Roadway in rear of emplacements,	400.00
Moving guns from wharf, mounting and assembling,	3000.00
Contingencies and Office expenses,	<u>450.00</u>
Total,	\$5500.00

-----2-----

The base rings will be set at once but it is deemed impracticable to mount the guns or to complete the roadway until the concrete plant used in the construction of the 12" guns shall have been removed.

Very respectfully,

Your obedient servant,

Thomas Bromwell

1st Lieut., Corps of Engineers.

N.D. U. S. Engineer Office,
Boston, Mass.

492 Recd. May 26 49

OFFICE, CHIEF OF ENGINEERS

24901
23
1899

WAR DEPARTMENT, Mass.

May 25, 1899.

Bromwell,
Adjutant, Chas. C.

Submits estimate

for completing emplacements 3 & 4 Ravelin of Battery, Fort Warren. States that the money asked for - last fall would have been sufficient but for the non-success of Rosedale cement. Suggests for Garrison to mount the guns. Submitted by Colonel Suter.

RECD. BACK OFFICE CHIEF OF ENGRS. JUN 1 1899

Recd. U. S. Engr. Office, Boston, May 31, 1899

1st Indorsement.

U. S. Engineer Office,
Boston, Mass.,
May 26, 1899.

Respectfully submitted to
the Chief of Engineers, U.S.A.,
approved.

If it is desired to make any further allotment from the appropriation for National Defense, it is thought that \$1800 of the within estimate can be expended before June 30th, 1899.

Chas. C. Suter
Colonel, Corps of Engineers.
N. D. 492.

2d Indorsement.

Chief of Engineers,
U.S.A.R.M.

May 29, 1899.

Respectfully returned to Colonel Suter.

It is preferred that the work of mounting guns and carriages should be done by the troops when over practicable. As it appears that some time must elapse before this work can be done, Colonel Suter is requested to present the question officially at the proper

time, in order that the views of the Department Commander as to the ability of the garrison to undertake the work of mounting may be obtained.

The sum of \$2,500 is hereby allotted from the appropriation for "Gun and Mortar Batteries", Act of March 3, 1899, to be applied to the completion of emplacements Nos. 3 and 4, Ravelin Battery, Fort Warren, Mass., as indicated within, except mounting the guns.

This paper to be returned.

Acting Chief of Engineers.

24901

23
Recd. U. S. Engr. Office, Boston, May 31, 1899

3rd Indorsement.

U. S. Engineer Office,
Boston, Mass.

May 31, 1899.

Respectfully returned to the
Chief of Engineers, U. S. Army.

Colonel, Corps of Engineers.
N. D. 492.

RECD. OFFICE CHIEF OF ENGRS. JUN 1 1899

NATIONAL DEFENSE (WAR).

---00000---

Summary of Estimate of Cost for completion of replacements for two 10-inch guns on disappearing carriages at Fort Warren, Boston Harbor, Mass.

---00000---

Pay Rolls, estimated to October 20, 1898, \$ 3,536.32

Unpaid bills, 16,934.93

Estimate for completion, 32,794.00

Total, 53,265.25

Balance shown in ledger, October 19, 1898, 7,021.70

\$46,243.55

Credit with cement on hand,

2,000 bbls. Rosendale @ 70¢, \$1,520.00

600 " Portland @ \$1.82.... 1,092.00

2,612.00

Amount required for completion and for which an allotment is asked.

\$43,631.55

N.B. 4
307
1898
24901
13

Estimate to complete emplace-
ments for two 10-inch guns on
disappearing carriages at Fort
Warren, Boston Harbor, Mass.

FROM SECRETARY OF WAR. JULY 21, 1893