

Primary Battery File

National Archives, Washington D.C.

Record Group 77

Correspondence of the Chief of Engineers

Entry 103

File, Fort, Battery:

15891

Ft. Strong

Btty Hitchcock and Ward

Subject: Emplacements, Boston Harbor.
LT. COL. S. M. MANSFIELD,
Corps of Engineers, U. S. A.

UNITED STATES ENGINEER OFFICE,

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

BOSTON, MASS.

July 2, 1896.

Brig. Gen. W. P. Craighill,

Chief of Engineers, U.S.A.,

Washington, D.C.

General

I have the honor to acknowledge the receipt of Department letter of June 30, 1896 (15891), directing the construction of emplacements for three 10-inch guns and two 5-inch rapid-fire guns in the Battery at Long Island Head for the defense of Boston Harbor.

Work under these instructions has been begun this day and will be pushed to completion with all possible haste.

In this connection it is desirable to know if any work is proposed to be done this season at Fort Warren, for, if not, tools and machinery can be advantageously transferred from Fort Warren to Long Island with economy.

I have provided for a supply of materials for immediate use to avoid delay, and will ask authority to advertise and procure the bulk of material needed by formal written contracts.

Plans and specifications will be submitted for approval at the earliest practicable date; in the mean time work can progress satisfactorily.

Very respectfully,

Your obedient servant,


Lt. Col., Corps of Engineers.

OFFICE OF THE CHIEF OF ENGINEERS

15891
JUL 10 1896

Director,
July 7, 1896

Harvard,
Lieut. Col. J. H.

The connection with
construction of replace-
ments for three 10-inch
guns, and two 5-inch rapid
fire guns in battery at
Long Island Head, shows
also if any work is pro-
posed to be done this
season at Fort Warren, if
with tools & machinery
can be transported with
economy to Long Island.

746	U. S. ENGINEER OFFICE, BOSTON, MASS.	15896
433	JUL 8	

1st Indorsement.

Office, Chief of Engineers,
U. S. Army,
July 7, 1896.

Respectfully returned.

No battery work is con-
templated at Fort Warren beyond the
completion, with funds already al-
lotted, of the emplacements and
platforms now under construction
there.

Funds will be allotted for
the construction of a tank for
the wet storage of torpedo cas-
sible either at Fort Warren or at
some other point in the harbor,
to be selected later.

Your plans for procuring
materials without delaying the
work are highly approved. The spe-
cifications are being copied on
the new form 18a here, to avoid
delay, and will be sent to the
Secretary of War for authority
to print as soon as completed.

Brig. Gen., Chief of Engineers.

15891
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1st Indorsement -

U. S. Engineer Office
Boston, Mass., July 9, 1896
Respectfully returned to the
Chief of Engineers, U. S. A.
JUL 10 1896

LT. COL. S. M. MANSFIELD,
Corps of Engineers, U. S. A.

Subject: Emplacements, Long Island Head.

UNITED STATES ENGINEER OFFICE,

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

BOSTON, MASS.

September 22, 1896.

Brig. Gen. W. P. Craighill,
Chief of Engineers, U.S.A.,
Washington, D.C.

General:

I have the honor to submit herewith a detailed drawing of the battery now under construction on Long Island Head, Boston Harbor, Mass., and an estimate of the cost of

3 emplacements for 10-inch guns on front pintle disappearing carriages, model 1894,

2 emplacements for 5-inch rapid-fire guns,
in accordance with the requirements of letter of June 30, 1896 (15891).

This letter specifies an estimate for two emplacements for rapid-fire guns and probably contemplates utilizing two old service magazines.

Referring to the report of The Board of Engineers on the defense of Boston Harbor dated August 1, 1889, it is stated that "the old parapet, in front of the three easterly guns, is left standing to cover five or six of these rapid firing guns; the other five should be placed on the right flank of the battery, or, as an alternative position, in the four old service magazines modified

after the manner used at Fort Hamilton to afford casemate cover against a boat armament in a night attack on the mine field. About ten flanking guns can thus be served from this commanding position which overlooks the whole field obstructing Broad Sound entrance." Under instructions of the Department dated November 17, 1892 (4566-92), lateral approaches were constructed to the emplacement for one rapid-fire gun utilizing one old service magazine, but the port for the gun has not been opened. The question of providing for the ten rapid-fire guns designated for the right flank of the battery has received much study, and as the result I have indicated upon the drawing herewith my ideas.

The limitations of space forbid the proper grouping of these guns on the extreme right of the battery, but as The Board's plan provides for utilizing the parapet of the old battery in front of the easterly guns to cover five or six of them, it has seemed proper, since the site is ample, to extend this parapet to the right sufficiently far to afford cover for the whole number of ten and provide a covered way for communication therewith, rather than adopt the alternative of utilizing the three remaining old magazines in front of the battery. The position of these old magazines is sufficiently objectionable in itself, and it is extremely doubtful if they could be satisfactorily modified for the purpose; if they could be, they would still be objectionable for their isolation. The question of a magazine for the service of the rapid-fire guns will receive further study. It is believed that the plan indicated

for this rapid-fire battery best meets the conditions and requirements. These guns will be served in barbette, behind substantial parapets, from movable carriages admitting of being retired under cover when not in use, as intended by The Board.

My estimate herewith provides emplacements for three 10-inch guns on disappearing carriages (numbered 2, 3, and 4), and places for ten rapid-fire guns, as follows:

ESTIMATE.

11,665 cubic yards of concrete, @ \$6.50 per cub. yd.	\$75,822.50
10,462 cubic yards of earth excavation, @ 75¢ per c. yd.	7,846.50
9,868 cubic yards of earth embankment, @ 50¢ per c. yd.	4,934.00
225 cubic yards of granolithic surface, @ \$15 per cub. yd.....	3,375.00
6,317 square yards of sodding, @ \$1.50 per sq. yd.....	9,475.50
3 gun platforms, viz.:	
1,235 cubic yards of concrete, @ \$6.50 per C.yd.....	\$8,027.50
90 cubic yards of granolithic surface, @ \$15 per c. yd.....	1,350.00
750 cubic yards of rammed earth, @ \$1 per c. yd.....	750.00
240 cubic feet of stone masonry, @ \$1 per c. yd.....	240.00
225 running feet drains, @ \$1 per r. ft.	225.00
7,500 lbs. of steel beams, @ 5¢ per lb.	375.00

48 bolts, nuts & washers	14,040 lbs.	
84 bolts, nuts & washers	72 per lb.	982.80
750 square yards of sodding, @ \$1 per sq.		
yard.....		750.00
3 iron ladders, @ \$25 each.....		75.00
12 cranes, @ \$100 each.....	1,200.00	13,975.30
Steel beams for magazines, casemates, and		
relocator room, 25,000 lbs. at 5¢ per lb....		1,250.00
750 running feet gas pipe for speaking tubes, @ 10¢ per		
foot.....		75.00
675 running feet of drains, @ \$2 per run. ft.....		1,350.00
6 catch basins and covers, @ \$25 each.....		150.00
Construction of relocater room, including "range finder"		
platform and stairs.....		1,500.00
Electric generator, power plant, and appliances for 75		
16 c.p. lamps.....		3,000.00
Storage battery.....		2,000.00
Trolley rail, hoists, and travelers for magazines.....		600.00
Latrines.....		750.00
150 cubic yards of concrete for rapid-fire gun platforms		
and breast height wall, @ \$6.50 per c. yd....		975.00
3,750 cubic yards earth embankment for covered way to		
rapid-fire guns, @ 75¢ per c. yd.....		2,812.50
Assembling carriages and mounting their guns.....		3,000.00
		<hr/>
Contingencies, 15%.....		132,891.30
		19,933.69
Total.....		<hr/> 152,824.99

Very respectfully,

Your obedient servant,

Wm. M. Felt
Lt. Col., Corps of Engineers,

(1 inclosure--Tracing in separate roll.)

510 York
Boston, 96

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Leont. Oct. 21/77

REPRODUCED AT THE NATIONAL ARCHIVES

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Office, Chief of Engineers,
U. S. Army,

Oct. 2, 1896.

Respectfully returned.
The accompanying tracing

shows five emplacements for high power guns on disappearing carriages. Of these the most easterly is under construction under final authority granted in letter of Aug. 16, 1895. The next three were authorized in letter of June 30, 1896. These four emplacements are to be prepared to receive 10-inch guns, mounted on service (Buffington-Crozier) carriages, model of 1894. The fifth emplacement will be provided with a service carriage, model of 1896, in all probability, and plans for it should be modified accordingly. (See lithograph sheet Emplacement for 10-inch High Power Gun, July, 1896).

The platforms of the remaining emplacements should also be made to conform to the arrangement of the platform as shown on that sheet, in so far as the requirements of the model 1894 carriage will permit. As the arrangements for storing and handling ammunition in this latest design for 10-inch emplacements are superior to those in the earlier designs, the new emplacements at Long Island Head should conform to the latest type, unless a newer and better plan be designed for them. Colonel Mansfield is requested to

change the design of these emplacements in accordance therewith so far as he can do so without delaying work of construction already begun. It is not deemed essential that all of the emplacements of the battery should be alike.

The general plan of the 10-inch battery is approved. The arrangements proposed for the rapid fire guns would seem to need further revision. The 5-inch rapid fire gun is a gun of position, to be placed in a fixed mount. No detailed information regarding the character of this mount has as yet been received from the Ordnance Department. The construction of the two emplacements for 5-inch rapid fire guns, directed in Department letter of June 30, 1896, will have to be deferred for the present. Action on the arrangements proposed by Colonel Mansfield for the rapid fire guns at Long Island Head is also deferred.

so deferred. In accordance with the foregoing, Colonel Mansfield requested to make such modifications in the accompanying plans as he can without delaying construction work, and to return the revised plans with an estimate to this office. In order that no delay may result due to these proposed changes, Colonel Mans-

field is authorized to proceed with work on the 10-inch battery under them in advance of further approval from this office.

Three blue prints are inclosed which, together with the lithograph sheet of 10-inch emplacement, dated July, 1896, previously sent, will furnish all data needed for the desired changes.

Brig. Gen. Chief of Engineers.

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Inclo. 10 and
blue prints of
Inclo. 96 of 9857,
of 11 of 12688, and
of 7 of 16036 in Sep.
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2d indorsement.
U. S. Engineer Office,
Boston, Mass.

October 19, 1896.

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

The tracing herewith has
been modified according to
requirements of preceding
indorsement, as here speci-
fied, and the resulting esti-
mate is reduced by \$654.50.

Emplacement No. 5 for 1896
carriage. The drawing has

been altered to correspond
in every way that the locality
will admit of to the litho-
graphic drawings of "Emplace-
ment for 10-inch High Power
Gun, July 1896."

Emplacement No. 4 for 1894
carriage. The magazine has

been altered to correspond
with design of magazine on
lithograph drawings of "Em-
placement for 10-inch High
Power Gun, July 1896."

The shot storage room under
loading platform has been
modified so as to admit of
the shot being served accord-
ing to plan of Board of En-
gineers of Aug. 14, 1896, for
the 1896 carriage, making the
service of ammunition at this
emplacement identical with
that of the emplacement for
1896 carriage.

The platform has in other
respects been altered to cor-
respond as nearly as prac-

ticable to the design of the
Board of Engineers, Aug. 14,
1896, for the 1894 carriage.

Emplacements Nos. 3 & 2.

No alteration can be made in
the magazines "without delay-
ing construction work."

The loading platforms have
been modified as far as the
condition will permit, to
correspond with the Board
plan of Aug. 14, 1896, for
the 1894 carriage.

In serving ammunition in
these emplacements, the load-
ing truck proposed in con-
nection with the lifts in
emplacement for 1896 carriage
should be used on the loading
platform.

The trolley rail from the
shell room runs to and pro-
jects about one foot beyond
the rear entrance to the
magazines. This admits of
the shell being carried out
in the open without transfer.
One of the cranes shown in
the plan on either side of
this entrance, here takes
the shot by changing hooks
in the ring of the tongs,
lifts it to the loading plat-
form and deposits it on the
loading truck. The powder
may be brought by means of a
similar trolley in a tray or
basket in the same manner to
the other crane and hoisted
at the same time to the load-
ing truck. This method re-

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quires but one transfer for the charge from the magazines to the breech of the gun, and that transfer occurs under full cover of the traverse.

The trolley rail running over the pile of solid shot stored under the loading platform, should project as above beyond the platform at each end. The cranes there indicated can then deposit these shot on the loading platform trucks as above.

Emplacement No. 1. The magazine is built. The loading platform has been altered so far as the conditions will permit, to correspond with the Board plan of Aug. 14, 1896, for the 1894 carriage.

The shot stored under the loading platform can be brought to breech of gun with but one transfer, and the ammunition from the magazines can be handled as in emplacements 2 & 3.

Reduction.
470 cubic yards of concrete at \$6.50 per cubic yard \$3,055.00
Increase.
177 cubic yards of concrete at \$6.50 per cubic yard 1,150.50
Two ammunition hoists at \$500 each 1,000.00

Winch	\$100
Motor	100
2 cages	50
Pulleys	50
Sheet iron	
castings and	
odd parts	75
Cost of setting	
& contingencies	125
	500
Increase in ammunition carrier	250.00
	2,400.50
Reduction in estimate	654.50.

M. M. M.
Lt. Col., Corps of Engineers
Ports. 510.

OFFICE CHIEF OF ENGINEERS

OCT 21 1896

In endorsement.

Office Chief of Engineers,

U. S. ARMY,

Oct. 23, 1896.

Respectfully returned approved.

When such record as may be necessary has been made, these papers will be returned to this Office.

Acting Chief of Engineers.

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Oct. 10 in Sept. 706.

Oct. 24 1896.

Subject: Emplacements. Long Island Head.