

**Primary Battery File**

**National Archives, Washington D.C.**

**Record Group 77**

**Correspondence of the Chief of Engineers**

**Entry 103**

**File, Fort, Battery:**

20301

Ft. Andrews

Btly Whitman

282  
SUBJECT: Fortification work, Boston Harbor.



*Office of the Chief of Engineers,  
United States Army.*

*Washington, D. C.* April 6, 1897.

Lieut. Col. S. M. Mansfield,  
Corps of Engineers,  
Boston, Mass.

Colonel:

With funds appropriated by the Act of March 3, 1897, it is proposed to undertake the following work on the defenses of Boston Harbor, in accordance with the approved project:

Pedocks Island, eight emplacements for 12-inch mortars on carriages model 1896.

Long Island Head, one emplacement for 10-inch gun on disappearing carriage, L. F., model 1896.

You are accordingly requested to submit detailed plans and estimates, with a view to making the necessary allotments.

In considering the location of the eight mortar emplacements on Pedocks Island, provision should be made for the remaining eight mortars of the battery, either on the flank or in rear of the eight emplacements now authorized, as may be found desirable upon future consideration.

The emplacement for 10-inch gun at Long Island Head will complete the battery of five guns at this point. General plans for this battery have heretofore been submitted by you and have been approved. These general plans should be followed in preparing the detail drawings.

In submitting your plans you are requested to recommend the most advantageous method of carrying out the above works, whether by contract

2  
16  
23  
1

2

or by hired labor, with your reasons therefor.

It is desired that the plans and estimates be forwarded without unnecessary delay. in order that as much work as possible may be accomplished during the season.

By command of Brig. Gen. Wilson:

Very respectfully,

Your obedient servant,

20301

Captain, Corps of Engineers,

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

(COPY)  
**UNITED STATES ENGINEER OFFICE,**  
P. O. BOX 5346, ROOM 124 P. O. BUILDING.  
BOSTON, MASS.

July 16, 1897.

Lieut. Colonel S. M. Mansfield,  
Corps of Engineers, U.S.Army.

Colonel:

I have the honor to submit herewith the plans and estimate for emplacements for eight 12-inch mortars on Peddock's Island, as called for by the Engineer Department letter of April 6, 1897.

There was no topographical map of the United States reservation on Peddock's Island in this office, which could be used for locating works and making estimates. This necessitated a detailed survey of the site of the battery and all accessory works; as such a survey would have included about half the reservation, it was decided to survey the entire reservation once for all; this has been done, with the exception of running in the shore line, which will be done at some future time .

The letter of the Engineer Department, already referred to , required that, in designing the emplacements for eight mortars, provision should be made for the remaining eight of a full battery; accordingly, the plans were made for a full battery, but an estimate is submitted for only the west half of it.

There are two sheet, numbered 1 and 2. No.1, is a topographical map of the portion of the U. S. property, included within the crest of the bluff, with the general plan of the proposed battery.

No. 2, shows the plan of the masonry, and a section through the centres of the two north pits. It is proposed, at the present time, to build only that portion of the battery lying to the left of the line, A-B, in the masonry plan on sheet No. 2. As this includes the engine, boiler, storage-battery, and firing rooms, it will be necessary to put in, at the present time, considerably more than half of the masonry required for the entire battery.

In designing the battery, storage-space for two hundred full rounds of ammunition with comfortable room for serving it, was considered an essential requirement. The typical battery was followed, so far as the arrangement of the pits is concerned.

The centres of extreme platforms occupy the corners of a rectangle 140 ft. by 265 ft., in size. This arrangement was followed, not so much because it is the typical one, as because it is the cheapest in this case, other things being equal. The magazines are so arranged as to make each half of the battery entirely independent of the other half, - in both construction and service. The powder magazines are of such a size that 200 rounds can be stored in them, with passages separating charges of different kinds, so that each kind may be readily accessible. It is proposed to store all the projectiles in the long gallery, its extensions, and the recesses for torpedoes shells. The recesses for torpedo shells will accommodate two rows in each recess, with a five ft. passage between the bases of the outer row, and the partition wall which separates the recesses. Each row of shells will contain 120, making a total of 240 for each half of the battery. It is supposed that the shells

are piled four tiers deep, as suggested by the Board of Engineers. On the S. side of the long gallery and its extensions, it is proposed to pile one row of 1,000 lb. projectiles, four tiers deep. On the N. side, there will be two rows of 800 lb. projectiles, four tiers deep. There will be room, without encroaching on the space in front of the magazines or torpedo shell recesses, or the traverse galleries, for 484 projectiles in each row, in each half of the battery. This makes the supply for eight mortars equal to 1,692 projectiles. It is assumed that the projectiles will be stored without their wooden caes, which would seem to be the only logical plan. The room provided in this battery will enable all of them to be stored inside, away from the weather. On the N. side of the long gallery, there is room enough to pile the inner row of projectiles so as to unmask the end projectiles of the outer row. This will enable 800 lb. shells to be delivered from both rows at once. It is proposed to put a trolley line over each line, or row, of projectiles. The trucks for serving the pieces, will not come further than the intersection of the long and short galleries, where they will receive the shells from the trolleys, and the powder from a truck carrying eight charges at once. By putting four trolleys on each line of trolley beams, in each half of the battery, it will be possible to deliver simultaneously, eight, 800 lb. projectiles, or four 1,000 lb. projectiles, as long as the supply in the extensions of the long gallery holds out. After it is exhausted, by running all four

trolleys in the long gallery proper, the same thing will be possible, but the rapidity of the service will be somewhat diminished. When torpedo shell are required, the ~~torpedo~~ trucks will have to come into the long gallery, to the torpedo shell recesses. Service in this case cannot be quite so rapid, but the passage in the long gallery, with a full supply of ammunition, being five feet wide, satisfactory speed should be attained, even in serving torpedo shells.

It should be noted here, that the interior width of the long gallery is fifteen feet and that of the powder magazines, eighteen feet. These wide spans will require rather heavy steel beams; but the increased width is chiefly gained by a reduction in the thickness of walls; and the longer and heavier beams, by virtue of their superior mass, will withstand the effects of shells exploding in the earth cover much better than lighter beams over a shorter span, under the same fibre stress from the static load.

The minimum concrete cover over the magazines has been taken at eight feet, as shown in the typical drawings; over the galleries it has been reduced to six feet. The earth cover over the magazines has a minimum thickness of twelve feet, and is two feet greater over the galleries, firing rooms, etc. There is only one point from which the battery can be seen by a ship; this point is in Nantasket Roads, inside the mined field, - a point from which the Ravelin Battery at Fort Warren could <sup>be</sup> enfiladed, and the battery at Long Island Head taken in reverse. If the enemy gains this point, the mortar battery on Peddock's Island will not concern him. There

is one other point from which a ship, knowing the position of the battery, could reach it by indirect gun fire, at long range. This point is to the seaward of Nantasket Beach, in prolongation of the boundary of the U. S. land on Peddock's Island. The closest range attainable here is about three and one-half miles, and even then, the battery cannot be seen, because it is under the hill.

There is a remote possibility that an enemy, in Broad Sound, engaging the guns at Fort Warren, might send a lang range shot over the hill on Peddock's Island, and that this shot might explode in some part of the mortar battery. With these exceptions, this batter<sup>y</sup> is absolutely secure from hostile fire.

For this reason, the engine and boiler rooms have been placed where they are freely exposed to the sun and air; the vertical cover has been made considerably less than in the typical battery, and walls have been freely reduced in thickness for the double purpose of getting more interior room, and of saving concrete. The convenience of ammunition service has been considered rather than cheapness of construction; yet, the amount of concrete is not excessive, compared with other batteries where an equal amount of ammunition space has been obtained. The security from fire in this case was <sup>a</sup>strong temptation to reduce all the eight foot walls to a thickness of five feet, and the vertical cover of the powder magazines to six feet of concrete, - leaving the earth cover as shown. This would effect a saving of at least 600 cubic yards of concrete, and if there is any special need of economy at this time, the change could be made in construction, and should be done.



The reference of the platforms and the floors of the galleries and magazines was fixed at as low a point as possible, consistent with good drainage. This enables full advantage to be taken of the natural cover afforded by the site.

The Electric light plant will have to be of sufficient power to light the entire battery of sixteen mortars; the large floor area of the magazines and passages will require a rather larger number of lamps than usual; and, as the plant will not, ordinarily, be in the hands of skilled attendants, it is thought that an excess of power of at least 50% over the <sup>theoretical</sup> ~~theoretical~~ requirements should be provided. This is provided for, in the estimate.

The foundations of the walls have been designed for a pressure of about 7,000 lbs. per Sq.Ft. on the bed. Even at this rate, they are rather heavy, but it is very doubtful whether any greater pressure would be safe.

There is no wharf at Peddock's Island, and there is not a road on the Island. A necessary preliminary, therefore, to the construction of the battery, is the construction of a wharf, and a road connecting it with the site of the battery. The site selected for the wharf is on the E. side of the island, where it is well protected, and where the bottom is of fine gravel, instead of large bowlders, as it is on the W. side. It is proposed to run the wharf out to about eleven feet at mean low water, which will make the available depth at low water of spring tides about nine feet. A reasonably rapid delivery of materials cannot be secured with a less depth.

The wharf will consist of a stone bulkhead, filled with rubble, as far out as mean low water; beyond that point, it will consist of oak piles, with Southern pine caps and joists, and an oak floor. It is proposed to build a straight road, fifteen feet wide, with a macadam surface from the wharf to the battery. The positions of the road and wharf are indicated on the plans. It is proposed to strip the surface soil <sup>from the road, and put it on top</sup> of the battery slopes; a little filling will be necessary, at several points along the line of the road, and also between the crest of the bluff and the stone bulkhead; the material needed for this will be taken from the high parts of the road; there will be no difficulty in equalizing cut and fill.

The persons who own the portion of Peddock's Island, not owned by the Government, are accustomed to pasture cattle upon it, in the summer season; for this reason, a fence along the boundary of the Government property is necessary.

The estimates of cost are submitted herewith.

Estimate of Cost of Battery Proper, for 8 Mortars.  
-----00-----

Excavation, 13,000 cu. yds. at 70¢.....	\$9100.00
Embankment, 13,000 " " " 30¢.....	3900.00
Nat.Cem.Concrete, 8,300 cu.yds.at \$5.50.....	45650.00
Port. " " 650 " " " 8.00.....	5200.00
Granolithic pavement, 270 sq.Yds.at 2.50.....	675.00
Cut stone for platforms, 3,700 cu.ft. at \$2.00.....	7400.00
Steel beams, 260,000 lbs. at 2-1/2¢.....	6500.00

Anchor bolts and nuts, 16,600 lbs. at 3¢.....	498.00
C.I. Washers for same, 12,000 lbs. at 2¢.....	240.00
Shell trolleys with dif. blocks, -16, at \$125.....	2000.00
Drainage.....	500.00?
Electric light plant.....	6000.00
	<hr/> 87663.00
Contingencies, 10%.....	8766.30
Total,.....	<hr/> \$96429.30

Cost of Road.

Excavation and embank., 1,800 cu.yds. at \$1.00.....	1800.00
Sand or gravel foundation 500 cu.yds. at \$1.50.....	750.00
Broken stone, 500 cu.yds. at \$2.25.....	1125.00
Contingencies, 10%.....	<hr/> \$3675.00
Total,.....	367.50
	<hr/> \$4042.50

Cost of Fence.

2200 lin. ft., at 20¢.....	440.00
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Cost of Wharf.

Stone bulkhead, with filling, 1,000 cu.yds., at \$4.50 per cu.yd.....	\$4500.00
Oak piles, 2,700 lin. ft., at 40¢ in position.....	1080.00
Timber superstructure, 30,000 b.ft., at 50¢ per 1000 ft.	1500.00

Bolts, spikes, &c., 3,000 lbs. at 3¢.....	90.00
	<u>\$7170.00</u>
Contingencies, 10%.....	717.00
Total, 0.....	<u>\$7887.00</u>

Summary.

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Battery proper,.....	\$96,429.30
Road.....	4,042.50
Fence.....	440.00
Wharf.....	7,887.00
Total,.....	<u>\$108,798.80</u>

Very respectfully,

Your obedient servant,

John Stephen Sewell,

1st. Lieut. Eng.

U. S. Engineer Office, Boston, Mass.	
Date	737 JUL 17 1897

20301  
3

Boston,  
July 16, 1897.

Stevell,  
1. Lt. John Stephen.

Report upon location,  
plans & estimates of a  
battery for eight 12" <sup>11</sup>/<sub>16</sub>"  
mortars in Westcotts  
Island, Boston Harbor,  
Mass.

U. S. Engineer Office	
Date	746 JUL 18 1897

UNITED STATES ENGINEER OFFICE,

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

BOSTON, MASS.

July 17, 1897.

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

General:

I have the honor to transmit herewith a report of my assistant, Lieutenant John S. Sewell, Corps of Engineers, U. S. A., upon the location, plans and estimates of a battery for eight 12-inch mortars on Peddocks Island, Boston harbor, Mass., accompanied by two tracings- a general plan of the battery, and a sheet of details.

The report is very complete and satisfactory, and little is left for me to add. Lieutenant Sewell has had frequent consultations with me during its preparation and it seems hardly necessary to say that it meets my entire approval.

The estimated cost is \$108,798.80.

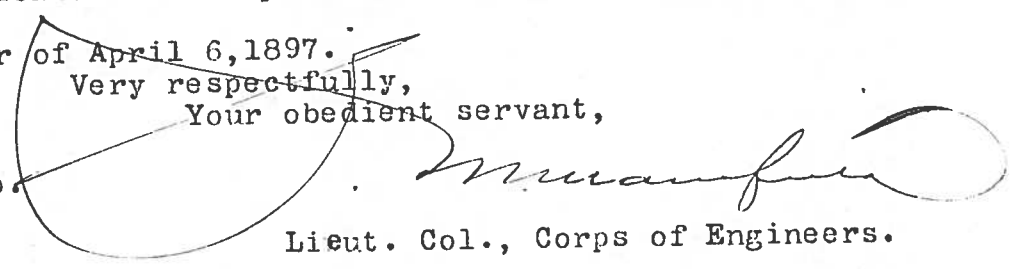
I recommend that the work be carried out by contract after due advertisement, believing this to be the most satisfactory way of doing the work, because of the isolated position, and the entire absence of any available plant belonging to the government.

The submission of this report completes the requirements of Department letter of April 6, 1897.

Very respectfully,

Your obedient servant,

3 inclos.-  
Tracings in sep.  
roll.

  
Lieut. Col., Corps of Engineers.

20301

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20301

Boston, Mass.,

Lieut. Col. D. W. H.

U. S. Engineers	17, 1897.
Boston, Mass.	1897
Received	JUL 23

Chambers a report of Lieut. Duval, C. of E., upon the location, plans & estimate of a battery for 8 12" mortars on Pedocks Island, Boston Harbor, Mass., with two masonry gunwale, plan and a sheet of details; and records that the work be carried out by contract after due advertisement.

3 inclos. (first tracing)  
Incls. 4 & 5 in dist. 1910, B. 1897, 3.

File  
15

REC'D, JACK OFFICE CHIEF OF ENGRS. JUL 2 1897  
Incls 3-5 accompanying

1st Indorsement.

Office, Chief of Engineers,  
U. S. Army,  
July 22, 1897.

Respectfully returned.

Owing to the sheltered site of this battery all 8-foot walls may be safely reduced to 5 feet and this should be done. A reduction of the vertical concrete cover of the magazines is not favorably regarded owing to their great width and to possible exposure from long range shots with high angles of fall. It would seem that some saving of concrete might be effected by reducing the cross-section of the retaining walls in the battery pits. The dimensions of these walls are not given on the drawings but they apparently conform to the typical cross-section which has a higher surcharge. This matter should receive attention in preparing the detail drawings and any reduction warranted by the special conditions should be made.

With the foregoing suggestions the project is approved.

Lieutenant Colonel Mansfield is requested to prepare the necessary detail drawings and specifications as early as practicable. In this connection attention is invited to the blue print of the Ordnance Platform sheet for the 12-inch mortar carriage, model 1896, dated May 26, 1897, sent to you herewith, showing the following changes:  
1. The inner circle of anchor bolts is omitted.

2. The diameter of the mortar pit is changed to 9 feet 9 inches.

The sum of \$108,000 is hereby allotted from the appropriation for "Gun and Mortar Batteries", for construction of gun and mortar batteries, Act of March 3, 1897, to be applied to the construction of a mortar battery on Pedocks Island, Boston Harbor, Mass.

When such record as may be necessary has been made, these papers, with the exception of the blue print, will be returned to this office.

Acting Chief of Engineers.

20301

2

Incls. 3 accomp.

Incls. 4, 5, & copy of 15486  
73

in separate roll.

2d indorsement.

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

July 24, 1897.

Respectfully returned  
to the Chief of Engineers,

U. S. Army.  
Wm. H. H. H.

Lt. Col. Corps of Engineers.

Corps, 7446  
REC'D, JACK OFFICE CHIEF OF ENGRS. JUL 23 1897

Subject: Mortar Battery, Peddocks Island.  
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.

February 3, 1898.

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

General:

I have the honor to forward herewith, for the action of the Department, revised plans for the Mortar Battery on Peddocks Island, Boston Harbor. In the revision of the drawings the 1st indorsement on the original project for this battery (E.D.20301/2) has been kept in mind. All 8 foot walls have been reduced in thickness to 5 feet.

The vertical cover over the powder magazines has an average value of 9 feet of concrete, and 15 feet of earth.

Over the magazines for torpedo shells, the firing, storage battery, boiler, engine and dynamo rooms, the vertical cover has an average value of 8 feet of concrete, and 16 feet of earth, except at the south end of the middle traverse, where the slope of 1/1 reduces the cover over the boiler, engine, and dynamo rooms; this end is not exposed to fire from any direction. Over the long gallery, the vertical cover has an average value of 7 1/2 feet of concrete; on the south side, the average value of the earth cover is 14 1/2 feet, and on the north side, where it is exposed to chance long range shots, the vertical earth cover has a constant value of 15 feet. The horizontal cover on this side is considerably greater

S. M. Mansfield, Corps of Engineers.



than it is on the south side. On all sides exposed to fire, the minimum cover in any direction is  $7\frac{1}{2}$  feet of concrete, and 15 feet of earth. This battery is in so secure a position, that this is regarded as quite safe.

The retaining walls around the pits have been reduced to two feet in height, with corresponding thickness, except on the south side of the north pit, where a greater height is required, to give the necessary earth cover for the long gallery. The slopes of the pits are fixed at  $\frac{3}{4}$  wherever practicable, as it is thought this will lessen the effects of the concussion caused by firing the pieces, and there can be no objection to widening the mouths of the pits, since the probability of thereby catching a shell that would otherwise miss the pit is too small to be considered, in the case of this battery.

As an estimate of cost of this battery has been approved, and funds allotted, no estimate is submitted with these drawings, though it is evident that the amount of concrete required has been materially reduced.

Specifications for the construction of the battery will be prepared at once; the drawings are submitted in advance of the specifications, in order that any changes desired by the Department may be incorporated in the specifications, without delay.

By direction, and in the absence of, Lt. Col. S. M. Mansfield  
Corps of Engineers, U. S. A.

Very respectfully,

(4 inclos.- tracings  
in separate roll .)

Your obedient servant,

*John Stephen Seavell,*  
1st Lieut., Corps of Engineers.

2 OFFICE CHIEF OF ENGINEERS

20301

6

653

DEPARTMENT.

Boston, Mass.,

Feb. 3, 1898.

Manufactured,

Lieut. Col. J. C. H.

by Lieut. John Stephen Churchill.

Under, Newark, means for the  
Boston Battery in Boston  
Chelmsford Station. On these  
means the amt. of concrete has  
been reduced from that indicated  
in app. estimate. Plans are  
submitted in advance of opinion  
on that any change may be  
incorporated in the opinion with  
our delay.

4 miles to 20 (estimated)  
U. S. Engineer Office,  
Boston, Mass. 1098  
Received  
990

RECD. BACK OFFICE CHIEF OF ENGRS. FEB 15 1898  
Incls. 7-10 accy.

1st Indorsement.

Office Chief of Engineers,

U. S. ARMY.

February 8, 1898.

Respectfully returned.

The horizontal cover on the east  
side of the storage battery and  
engine room is not quite suffi-  
cient to resist the penetration  
of a 12-inch shot from the direc-  
tion of Nantasket Beach, and an  
increase of about 5 feet of earth  
cover should be provided.

It is assumed that the beveled  
footings of the foundations shown  
on the drawings were adopted with  
a view to economizing masonry. It  
is believed that the saving of con-  
crete by this form of construction  
is more than offset by the greater  
cost of the forming and the weak-  
ening of the footings at the outer  
edges. The ordinary square form  
of footings are preferred and  
should be employed.

With the above exceptions, the  
plans are 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:

20301

6

Incls. 7-10 in sep. roll.

Captain, Corps of Engineers.

2d Indorsement.

U. S. Engineer Office,  
Boston, Mass.

Feb. 9, 1898.

Respectfully returned  
to the Chief of Engineers,

U. S. A.

by direction, and in  
the absence of

Lt. Col. J. C. H. Churchill,

Corps of Engineers,

John Stephen Churchill,

Lt. Lieut., Corps of Engineers.

Set to 920.

RECD. OFFICE CHIEF OF ENGRS. FEB 15 1898

Subject: Mortar Battery at Peddock's Island.

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.

March 25, 1898.

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

General:

Referring to the specifications for the Peddock's Island Mortar Battery and the first indorsement on the letter of transmittal from this office (E.D.20301/13), I have the honor to submit the following report:

The modifications directed will be at once inserted; the arched ceilings were specified, not from the idea that any strength was gained thereby, but for convenience in the installation of electric wires and speaking tubes; without the arches, some cutting would be necessary over the trolley beams, which is both expensive and unsightly. I am convinced, from a careful consideration of the subject, that the arches are no more expensive than a flat ceiling; Lieut. Cosby assures me that his experience demonstrates that fact. Should these considerations appeal to the Department, I would like to retain the arched ceilings.

Several artillery officers have complained to me that the concussion in the mortar batteries is so severe as to be almost unbearable. As a concession to the convenience of those who have to serve the batteries, the double doors were specified, with the idea of preventing, as far as possible, sudden changes in the atmospheric

pressure in the firing room and magazines. The external openings are more completely splinter proof with two doors than with one.

The double doors are not regarded as an absolute necessity by this office, but rather as a measure of comfort pure and simple.

As this battery is not exposed to horizontal fire the thickness of the vertical walls was reduced. This reduction was made from the inside, which gives room to store the full supply of ammunition inside, without using the cross galleries and pits for cast iron shot; it also makes room to deliver ammunition to all the mortars simultaneously, and to get at any sort of ammunition without disturbing any other. These changes increase the spans of the roof beams, which makes a corresponding increase in the total length of beams required, and in the weight per foot in the beams themselves. The beams were proportioned to convey the full concrete load, should the explosion of a shell crack it and deprive it of its transverse strength; my idea in this is that the function of the concrete is to resist penetration; the beams correspond to the support and backing of an armor plate. Thus if a hostile shell cracks the concrete, the beams can carry it, and the magazines and passages will not cave in, as they might otherwise do. The cracked concrete will still offer considerable resistance to penetration. It is assumed that a shell which will seriously crack the concrete covering, will relieve it of most of its earth load. Steel beams are so cheap, that the cost of the extra weight involved is thought to be only a fair price to pay for insurance against caving in- especially in such wide magazines and passages as those in the Peddock's Island Battery. The weights now figured exceed by only a moderate percentage

those submitted with the original project; much of the apparent excess is due to incorporating the trolley beams for ammunition service with the beams for the roof.

The work covered by these specifications is considerably more than half of that required for the entire battery of 16 mortars; for the remainder of the battery, for instance, only one more door will be required; the engine and dynamo room, the boiler room, the firing room, and the storage battery room, are to be built now, for the entire battery.

If the entire battery were authorized now, there would be no excess of embankment over excavation. I am satisfied that the work can be done within the estimate of cost originally submitted and approved, if not by contract, then by day's labor; especially since, in the latter case, the same plant used to build the work now authorized would be available for the remainder.

All the changes suggested by the Department will be immediately incorporated in the specifications. In addition thereto, unless instructed to the contrary, I shall increase the proportion of cement proposed for Rosendale concrete, so as to make the poorest concrete 1, 2, & 4, and the richest, 1, 2, & 3. The object is to decrease the volume of voids in the finished concrete.

Copies of amended paragraphs, except that relative to the form of ceiling, are transmitted herewith.

It is observed that the paragraph requiring the contractor to board the inspectors, &c., is stricken out. If it is considered objectionable to have the inspectors so provided for, I would respectfully request to be informed of it, since it may be necessary

to provide transportation for them from the town of Hull. The paragraph in question was copied from other specifications for work at isolated points, and it was intended to compel the inspectors to pay their board, and the contractor to accept it, to avoid any charges of undue influence on the part of the contractor over the inspectors.

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.

(1 Inclosure.)

20301

OFFICE CHIEF OF ENGINEERS

20301  
MAR 22 1898  
WAR DEPARTMENT

Boston, Mass.,

Mansfield  
Lt. Sewell, 25, 1898.

Lieut. John Stephens.

Submits report in re-  
gard to specifications for  
Catacomb's Island Boston  
Battery and proposed mod-  
ifications. Copies of  
amended paragraphs,  
except that relative to  
form of ceiling, herewith.

1 Inclo.

U. S. Engineer Office, Boston, Mass.	1098
1069 Received	MAR 31

RECEIVED, EACH OFFICE CHIEF OF ENGINEERS, APR 12 1898  
one 16 copy

1st indorsement.

Office Chief of Engineers.

March 30, 1898.

Respectfully returned.  
The use of arched ceilings be-  
tween roof beams was originally re-  
sorted to on the assumption of  
increased strength, and has been  
subsequently abandoned by most of  
the constructing officers as serv-  
ing no useful purpose and as add-  
ing to the cost. In view of  
Lieutenant Sewell's representa-  
tions he is authorized to employ  
arched ceilings if he is satisfied  
as to their advantages for his  
purposes. Lieutenant Sewell's ex-  
planation of the considerations  
which led to the use of double  
doors and shutters, and of the as-  
sumptions upon which the beams were  
calculated are satisfactory to the  
Department, which only desired in-  
formation on these points.  
The paragraph relative to the  
boarding of inspectors by the  
contractors was stricken out with  
a view to removing the inspectors  
from all possible influence on the  
part of contractors which might  
arise in this connection. It is  
regarded desirable for the in-  
spectors to eat and live separate-  
ly from the contractors and their  
employees, either by arranging  
transportation for the inspectors  
to and from the island or by requir-  
ing the inspectors to mess by them-  
selves in a building erected for  
this purpose by the contractor.  
Lieutenant Sewell is authorized to  
make any modifications in the

specifications to cover this  
point, as he deems best.  
The amended paragraphs here-  
with are approved.

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

By command of Brig. Gen. Wilson:

John Stephens  
Captain, Chf of Engineers.

20301  
15  
Inclo. 16 accomps.

2d indorsement.  
U. S. Engineer Office,  
Boston, Mass.

April 12, 1898.

Respectfully returned to the  
Chief of Engineers, U.S. Army.  
By direction, and in the absence,  
of Lt. Col. S. M. Mansfield, Corps  
of Engineers,  
John Stephens Sewell,  
1st Lt., Corps of Engineers.  
Forts. 1069.

RECEIVED, EACH OFFICE CHIEF OF ENGINEERS, APR 29 1898