Primary Battery File

National Archives, Washington D.C.

Record Group 77

Correspondence of the Chief of Engineers

Entry 103

File, Fort, Battery:

37221
Ft. Monroe
Bty Parrott

U. S. ENGINEER OFFICE,
166 GRANBY STREET,

Norfolk, Va., January 31, 1901.

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

General:-

In accordance with the Department's instructions contained in the second indorsement, dated October 23, 1900, on file No. 35391/7 I have the honor to submit herewith an estimate of the cost, with detail plans and sections, in a separate package, for the construction of a battery to consist of two 12-inch B. L. Rifles, on disappearing carriages, L. F., model 1897, on the beach-front near the light-house at Fort Monroe, Va., as provided in the approved projec for the defense of Hampton Roads, Va., dated July 18, 1899.

The following tracings relating to the above-mentioned battery will be found in the separate package:-

Sheet 1.- Detail plan and sections of proposed battery.

Sheet 2.- Plan of drainage of proposed battery.

Sheet 3.- Location of borings made at site recommended for proposed battery.

Sheet 4.- Record of borings made at site recommended for proposed battery.

Sheet 5.- Plan of piling for gun platforms.

Sheet 6.- Showing change in site of battery recommended.

The plans submitted follow those of the Board of Engineers for

the armament noted, with the latest adopted improvements for electri wires, conduits, and other minor details provided for in the modifie design for 10-inch B. L. Rifle emplacements, published with Mim. No. 36.

The subject of drainage has been given considerable study, and the plan presented, it is thought, will properly collect and carry off all rain water falling on the work. In brief, the system is to be composed of 8-inch terra cotta pipe under-ground from the exterio wall of main work to the toe of exterior slope to carry off water collected in the intercepting basins from the open surface drains on the parapet and discharged into the former through inclined branches of 4-inch cast-iron pipe run as shown. For the counter-weight walls, 4-inch cast-iron is to be put under-ground and into these lines through intercepting basins and down spouts, the water collected by the open surface drains on the platforms will be dis-charged.

The record of the borings made will show that at a depth of 15 feet below mean low water the material is very soft. Between that depth and -26 feet the borings show sand and mud mixed, and from the latter depth to -48 feet, sand and gravel, blue mud being encountered at about -49 feet,and to this depth it is thought the piles under the gun platforms should penetrate in order to prevent settlement. To reach that level,piles about 60 feet in length are estimated for.

The stratum of blue mud underlying the site proposed for the battery, at a depth of 49 feet below mean low water, seems to be of sufficient consistency to sustain the required weight, when the added friction of the piles driven through the sand and gravel above is taken into consideration.

The settlement of the scarp of the water battery near by the proposed battery site is noticeable and traces of settlement exist in some of the modern works. Under these conditions, it would not seem to be advisable to undertake the construction of this battery without driving piles under the gun platforms.

The proposed arrangement of the piling is shown on the tracing No. 5. It is intended that the gun platforms shall be built independently of the main work, so that should settlement occur at any point therein, the platforms would not be involved.

The location given for the battery on the map accompanying the project of the Board of Engineers is shown on the tracing No. 6 by a broken line. It will be observed that if the battery is construc ed in the approved position the exterior slope on the left flank will extend beyond the mean low water line, and as there is no protection from wave action, the first storm would cut away about one-half or more of the sand cover. To overcome this objection, it is recommended that the left flank be thrown back slightly and that th battery occupy the site indicated by full lines on the above-mentio ed tracing. Even with this location it will be necessary to protec the exterior slope on the left flank by a concrete wall, as the toe will go out beyond the mean high water line. The change recommende in the site will not affect materially the fields of fire of the guns. I have included items in my estimate for building a wall for this purpose, to be 150 feet long.

The estimated cost of constructing the battery is as follows:-

E S T I M A T E.

Setting derricks, engines, concrete mixers, stone bins, water supply, etc.,		$ 1,200.00
500	R.R.Ties, yellow pine, for side track, etc., @ 50¢ each,	250.00
10	Kegs R.R.Spikes, @ $6.00,	60.00
Loading, hauling and ramming about 7,800 cu.yds.of sand for fill to raise site to reference 10', @ 50¢,		3,900.00
150	cu.yds. of Portland concrete in wall at north end to protect foot of slope, @ $7.50 per cu.yd.	1,125.00
Excavating for foundation, making boxing, putting up sheathing, jetting boards 8 feet long in front of wall,		800.00
Building catch basins and manholes and putting in drain pipe before commencing main work,		500.00
Putting up and removing sheathing at main work and platforms,		2,500.00
9,000	cubic yards of Portland concrete in main work and platforms, @ $7.75 per cubic yard,	69,750.00
Setting beams, ring bolts, platform bolts, base rings, etc.,		1,000.00
Mixing and putting on about 3,250 square feet of water-proofing, @ 6¢ per square foot,		195.00
Setting tile against vertical wall and making rubble stone drains,		400.00
Cutting and setting stone lintels, hinge blocks, etc., for doors, windows, etc.,		625.00
Setting columns, iron gates, pipes through concrete, etc.,		250.00
Fitting centers and forming two sets of steps over arch in rear of platforms,		360.00
Putting down about 4,820 square feet of granolithic on platforms, floors, etc., @ 35¢ per square foot,		1,687.00
Putting up pipe railing, making doors, windows, boxing, etc.,		300.00
Setting cranes, making and setting ladders, etc.,		135.00
Dressing and whitewashing inside walls, cutting inside drains, etc.,		150.00
Painting doors, windows, trolley track, piping, lifts, etc.,		100.00
8,000	cubic yards of sand in slope, @ 80¢ per cu. yd.	6,400.00
285	cubic yards of clay on slope, @ $1.00 per cu.yd.	285.00
285	cubic yards of soil on slope, @ $1.00 per cu.yd.	285.00
2,545	square yards of sod on slope, @ 50¢ per sq. yd.	1,272.50
120,000	pounds steel I and channel beams, braces, bolts, etc., @ 3¢ per pound,	3,600.00
28	Platform bolts, @ $5.25 each,	147.00
24	Platform bolts, @ $5.00 each,	120.00
8	Ring bolts, @ $6.50 each,	52.00
1,000	pounds bar iron for steps, ladders, etc., @ 3¢ per pound,	30.00
12,000	pounds Cast-iron columns, grating, covers, etc., @ 2-3/4¢ per pound,	330.00
	carried forward,	$97,808.50

Brought forward,----------	$ 97,808.50
550 feet 2-inch galvanized-iron pipe, @ 15¢ per ft.	82.50
300 feet 1-1/4-inch galvanized-iron pipe, @ 12¢ per foot,----------	36.00
500 feet 1-inch galvanized-iron pipe, @ 8¢ per ft.,	40.00
Mouth pieces for 1-inch pipe,----------	26.00
Fittings and foot-plates,----------	35.00
520 feet C.I.Drain pipe, 4-inch, @ 20¢ per foot,--	104.00
50 feet C.I.Drain pipe, 2-inch, @ 12¢ per foot,--	6.00
Fittings, ells, tees, packing, etc.,----------	50.00
7,720 square feet Porous T.C.Tile, 4-inches thick, @ 8¢ per square foot,----------	617.60
400 Linear feet 8-inch T.C.Pipe, @ 20¢ per foot,--	80.00
12,8-inch T.C.Ells, @ $1.00 each,----------	12.00
6,8-inch T.C.Tees, @ $1.00 each,----------	6.00
60 Piles, 60 feet long, @ $6.00 each,----------	360.00
Handling and driving 60 piles,----------	600.00
36,000 feet B.M., good mercht. Y.P.Lumber, @ $15.00 per M feet B.M.,----------	540.00
32,728 feet B.M., good mercht. Y. P. Lumber, dressed one side and both edges,@ $16.50 per M ft.B.M.	540.00
6,000 feet B.M.,#1 Flooring,lumber for frames,dressed, heart, @ $22.00 per M feet B. M.,----------	132.00
30 barrels Trinidad asphalt, @ $6.00 per barrel,-	180.00
Labor on placing asphalt, etc.,----------	300.00
20 barrels N. C. Tar, @ $5.00 per barrel,--------	100.00
Hardware, nails, hinges, brass locks, bolts, window fastenings, etc.,----------	150.00
9 pairs iron gates, @ $10.00 per pair,----------	90.00
4 Cranes, with drum, blocks, rope, etc., complete @ $120 each,----------	480.00
5,000 Hard red bricks, @ $10.00 per M,----------	50.00
2 Trolley systems with track, trolleys, blocks, etc., complete in position, @ $500.00 each,---	1,000.00
2 Chain lifts with receiving and delivery tables, complete, @ $850.00 each,----------	1,700.00
2 Electric motors for lifts,with necessary connections,complete in position, @ ~~$750.00 each~~,	~~1,500.00~~
Labor and material wiring two emplacements,including cables,wire,lamps,switches,etc.,complete,-----	2,000.00
Storage battery, switch-board and all the necessary appliances, complete,----------	2,000.00
2 Telephones, with pipes, wire connections,etc., complete,----------	300.00
Engine, boiler and dynamo, complete,----------	3,500.00
300 Tons Bituminous coal, @ $3.00 per ton,--------	900.00
3 Urinals, 2 Seats, 2 Wash-bowls, with connections, Plumbing in Lavatory, --	350.00
	$115,675.60
Contingencies 10%,------	11,567.56
Total,--------$127,243.16	

The Department, by letter dated November 9, 1900, 37221, made a provisional allotment of $125,000.00 for building the battery which forms the subject of this communication. As sand for the parapet is not easily accessible, and other features in detail differ considerably from previous work of this description, it is believed that the allotment should be increased to the amount estimated.

Respectfully submitted,

U. S. Army.

6 inclosures, in sep. pkge.

Through:-

Colonel Peter C. Hains,

Corps of Engineers, U. S. Army,

Division Engineer, Southeast Division.

15th. Indorsement.
U. S. Engineer Office,
Baltimore, Md. May 27, 1901.

Respectfully transmitted to Major James B. Quinn, Corps of Engineers, U.S.A., inviting attention to the foregoing indorsement.

Col., Corps of Engineers, U.S.A.,
Div. Eng. S.E. Div.

Asst. to Capt. Norfolk, Va. May 28, 1901

16th indorsement.
Engineer Office, U.S.Army,
Norfolk, Va., June 6, 1901.

Respectfully returned to the Chief of Engineers, U. S. Army, as directed in the 14th indorsement hereon.

Major, Corps of Engineers,
U. S. Army.

1452 F.M.
4

4 inclos. accompg., 6 in sep. pkge.

RECEIVED CHIEF OF ENGRS. JUN 7 1901

OFFICE OF CHIEF OF ENGINEERS

37221/1

1901

WAR DEPARTMENT Norfolk, Va.

JANUARY 31, 1901

6020 File

RECD. BACK, OFFICE CHIEF OF ENGRS. JUN 7 1901

Inclos. 8, 11-19 accomp'g

Inclos. 13-16, 18 & 19 in Map Files, Dr. 3, Sh.

Quinn,

Maj. James B.

In compliance with E.D. instructions (35591-7) dated Oct. 23, 1900, submits estimate & plans for the construction of 2 emplacements for 12" B.L.R. disappearing carriages, on the beach front near the light house at Fort Monroe, Va., for which a provisional allotment of $125,000 was made

RECD. BACK, OFFICE CHIEF OF ENGRS. MAY 29 1901

37221 Incs. 8, 11-17 + 2 add'l incs.

RECD. BACK, OFFICE CHIEF OF ENGRS. MAY 1901

this allotment should be increased to the amount of his estimate.

Recd. Eng. E. D. Norfolk, Va., Apl. 10, 1901.

RECD. BACK, OFFICE CHIEF OF ENGRS. APR 5 1901

Rec'd Eng'r. Office, Balto. MAR 1901

Recd. Eng. E. D. Norfolk, Va., Mar. 4, 1901

Rec'd Eng'r. Office, Balto. FEB 2 1901

MAR 27 1901

U. S. Engineer Office,
Baltimore, Md.,
Feby. 25, 1901.

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

The project and plans for this battery were received at this office on February 2nd. The plans provided for driving a certain number of piles under the gun platform only, resting the concrete of other portions of the work on the sand. I regarded this construction as so objectionable that I returned it to Major Quinn with a request that he make an estimate for piling the entire foundation. I inclose his reply thereto.

So far as the general plan of the battery is concerned, it seems to follow the typical one for the 10-inch emplacement, modified to suit the 12-inch.

The drainage arrangements seem to be satisfactory though it is not stated of what the waterproofing is to be composed. The method of preventing infiltration of water through the concrete, adopted on the underground railway of New York, would seem to be desirable in this case in order to insure dry magazines. It consists of sheets of asbestos paper laid in hot asphalt.

It will be seen upon referring to the record of the borings that there is a soft stratum of mud underlying the sand at a depth below low water of about 16 feet. This soft stratum has a thickness of about 12 feet. Below the soft stratum which reaches to a depth of about 28 feet, there appears to be sand and gravel down to about blue mud are reached. The plan of driving piles through this underlying bed of sand, requiring the piles to be 60 feet long, and driving them with the water-jet, is not, in my opinion, a good one. If piles are to be used, I am of the opinion that the water-jet process for driving them should not be adopted, at least not for the entire distance to be driven. It will be found that when the points of the piles reach the second stratum of sand and gravel the resistance of the piles to penetration will be very great, and no good results will be accomplished by driving them through it.

The distribution of the piles under the foundation, in my opinion, is faulty; some of them are too close together and some too far apart. The load which they are expected to bear (24 tons) cannot be equally distributed by the methods proposed. This load is a rather heavy one for the piles to bear under the conditions that will exist in this work. Major Quinn proposes to cut them off at 6 feet above low tide. As the mean rise and fall of the tide at Fort Monroe is only about 2 1/2 feet, it will be seen that 3 1/2 feet of these piles will be above high water. Such construction is, in my opinion, inadmissible. To cut the piles off at the level of low water and surround their heads with sufficient concrete to hold them in place, would add greatly to the cost of construction:

mend, in lieu of the pile foundation, that a bed of concrete about 4 feet thick be laid over the entire area as far back as the rear wall, but not including the passage behind the battery; and that steel beams (about 10") be bedded in this concrete so as to form a foundation similar to that used in the soft foundations of the high buildings in Chicago. The concrete in this case can be started at about reference (6) above zero. Such a construction will be, in my opinion, cheaper than a pile foundation properly built, as the reference of the magazine floors cannot be set lower than about where Maj. Quinn has located them, viz., at reference (10).

The extension of the seawall is an absolute necessity; but the price estimated by Major Quinn ($41.78 per lin ft.) seems to be excessive. I do not remember what the sea wall south of the wharf cost, but I am of the impression that it was less than $20. per lin. ft. A cheaper construction than that proposed could be made to answer the purpose.

To sum up: I do not approve of the pile foundation suggested by Maj. Quinn. If a pile foundation is to be used the piles should be cut off at about the level of low water and from thence upward the construction would be of concrete. In lieu of it I recommend that a bed of concrete 4 feet thick be laid under the entire masonry.

This concrete to start at reference (6) and be strengthened by steel beams bedded in it. The importance of keeping the gun platforms absolutely level and free from unequal settlement will in my opinion justify the expense. The sea wall should be constructed and the fill behind it made before the battery is begun if practicable. The material for fill could be pumped from the bed of the bay, about 500 or 600 feet beyond the wall.

C. E. Kelly

Col., Corps of Engineers, U.S.A.,
Div. Eng. S. E. Div.
1 inc. add'l.

2d *indorsement.*

Office Chief of Engineers,

U. S. ARMY.

February 28, 1901.

Respectfully returned to Major Quinn, inviting attention to the 1st indorsement.

The cutting off of the piles at such a high level would be likely to result in rotting off near the tops and subsequent settlement. If the foundation is not on piles it is thought to be unsafe to fill in sand and then build upon the fresh filled material. This has been tried at a number of batteries, with very bad settlement and cracks in concrete as the result.

If the foundation suggested by the Division Engineer be adopted, ample provision must be made to prevent the washing out of sand from under the battery, as occurred at Galveston in the hurricane of September, 1900.

For a seawall exposed to the direct attack of heavy surf, a form of riprap protection, using large stone, is generally less expensive than a concrete structure, and is less likely to be destroyed by undermining.

As a final conclusion of this difficult and troublesome question the following is adopted, and Major Quinn is requested to submit an estimate for carrying it out: (1) Build a riprap seawall, either on the lines shown on the tracing, or a little nearer the battery. (2) Fill behind this with sand, the filling being prevented from washing out through the rip-rap wall by a tight line of triple-lap sheet-piles driven as deep as the locality and reasonable cost permit. (3) cover the space between the battery and seawall with riprap, which should continue up the exterior slope to a level above that ever reached by waves. (4) Build the foundation suggested by the Division Engineer, placing the bottom of the concrete, however, on the surface of undisturbed sand, and at no place on recent fill, and crossing the iron beams and splicing them so as to be as stiff as possible. (5) When this is done, load this foundation floor uniformly with sand to a depth of 10 or 12 feet, and allow

it to stand. (6) At a number of points in this sand cover have vertical iron rods, of which the lower ends are firmly bedded in the concrete foundation. The exact level of the top of each of these rods should be determined before any sand fill is put in place, and should be remeasured once a month, and reported in the monthly reports. (7) If no settlement is shown, the battery can be built after the lapse of 6 months. If settlement does occur, the foundation will have to be loaded to a greater depth with sand, till a condition of stability is attained. (8) It is thought that the suggestion of the Division Engineer, that the sand should be taken from the channel, not less than 500 to 600 feet from the wall, is the only solution of the question of supply of sand for parapets and loading of platforms. (9) When the sand is removed from the platforms it should be at once piled up where it is to form the parapet, and before any extensive concrete work is done the iron-rod benchmarks should be tested for some months to see that the shifting of the weight of sand has not again produced motion in the battery platforms.

To be returned.

By command of Brig. Gen. Wilson:

Francis V. Abbot

Major, Corps of Engineers.

Through Col. PETER C. HAINS,
Corps of Engineers,
Division Engineer, Southeast Division.

3d indorsement.

U. S. ENGINEER OFFICE,
612 ST. PAUL ST., BALTIMORE, MD.

March 2nd 1901.

Respectfully transmitted to Major Francis V. Abbot, Corps of Engineers, U. S. A., inviting attention to the foregoing indorsement.

Peter C. Hains

Colonel Corps of Engineers, U. S. A.
Division Engineer, Southeast Division.

Asst. E. C. Gaynor, Co. C, 1st Battn.

4th indorsement.

U. S. Engineer Office,
Norfolk, Va., March 25, 1901.

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

The accompanying tracing is believed to show the points detailed in 2nd indorsement hereon. The ~~detailed~~ estimate for the battery with foundation is $160,336.81. Detailed estimate is herewith. The sea-wall with back fill amounts to $27,505.50; total cost $187,842.31.

Since the substitution of a concrete and steel beam foundation will necessitate changes in the drawings of the battery below reference (10), these drawings have been retained and will be revised and transmitted upon receipt of notification that foundation is approved.

ENGINEER OFFICE, U. S. ARMY,

ROOM 2, CUSTOM HOUSE,

Southern Bell
Telephone 1631.

Norfolk, Va., August 12, 1903.

Brig. Gen. George L. Gillespie,

Chief of Engineers, U. S. Army,

Washington, D. C.

General:-

1. In compliance with Department Letter of May 25, 1903, 37620, I have the honor to transmit, in separate package herewith, revised plans for the two 12-inch Emplacements at Fort Monroe, Va.

2. These plans adhere ~~exclusively~~ closely to the revised type drawings, the field of fire of each gun, being in my opinion, the best that can be obtained. The principal ~~difficulty~~ difference from in the type and plans, is in the extreme right flank, where there is a room already constructed.

3. The estimate for the completion of this battery is as follows:

To complete sea-wall in front of battery.

Driving piles, putting in stone, etc.,----------	$ 5,000.00	
Hauling and placing sand filling in rear of wall,	9,244.00	=$14,244.00

For altering and increasing size of foundation.

Cutting out bolts,----------	$ 240.00	
Removing platform and cutting wall in foundation,	175.00	
Cutting concrete to change catch basins and drainage in foundation,----------	200.00	
Moving sand and enlarging site to increase foundation,----------	315.00	
840 cubic yards of concrete in foundation and wall in rear, @ $7.50 per cubic yard,-------	6,300.00	=$ 7,230.00

Main work above reference (10) and sand parapet.

Painting iron work,	$ 275.00	
Setting up derricks, engines, etc.,	$ 500.00	
Sheathing, etc.,	3,002.62	
13,428 cubic yards of portland concrete, mixed, placed and rammed in position, @ $7.50 per cubic yard,	100,720.00	
30,200 square feet of granolithic work, @ 25¢ per square foot,	7,550.00	
Ransome bars,	2,000.00	
Labor handling and setting steel bars,	350.00	
10,500 square feet of partition tile, in place,	2,055.00	
Water proofing,	750.00	
50,000 hard burnt brick, laid in position, @ $20 per M,	1,000.00	
17,400 ft.B.M., lumber for magazine roof, @ $25 per M ft.B.M.,	435.00	
Carpenters labor putting up same,	350.00	
2,886 square feet of copper for roof, @ 22¢ per lb.,	578.16	
Putting copper roof in place and hanging gutter,	115.44	
Hold down bolts in place,	412.00	
6 ring bolts, complete with rings,	310.00	
Steel doors, complete with hinges,	280.00	
4 sets steps,	700.00	
23 steel columns, complete,	460.00	
Steel I-beams and comulns in place,	1,334.17	
4 cranes, complete, with drum, blocks, rope, etc.,	480.00	
1,100 feet of 2-inch galvanized-iron pipe, for railing, complete with all necessary fittings,	825.00	
300 lineal feet of 4-inch cast-iron drain pipe, @ 20¢ per lineal foot,	60.00	
16 cast-iron catch basins,	48.00	
4 chain ammunition hoists, complete, in position with motor, etc.,	8,800.00	
290 lineal feet of trolley track, complete with blocks,	550.00	
Taking down sheathing and dressing walls,	300.00	
Whitewashing walls, inside of magazines,	150.00	
Painting exterior walls of battery with two coats of paint,	450.00	
Hardware, nails, locks, etc.,	275.00	
Building slope,	17,662.50	
Electric plant,	14,720.00	
300 tons of bituminous coal, @ $3 per ton,	900.00	
Pluming in Lavatory,	350.00	$168,119.
		20 456.
Contingencies,	Total	$210,000.

Balance available from allotments of November 9, 1900, (37221) and May 8, 1901, (37221)	108,000.
Additional amount required,	102,000.

4. It is proposed to build the emplacements by hired labor, with material purchased under contract after advertising for proposals, in accordance with existing regulations, or by public notice of ten (10) days, these methods being in my opinion the most economical and advantageous to the United States.

Very respectfully,

Your obedient servant,

Captain, Corps of Engineers,
U. S. Army.

1452 F. M.
24
1 inclosure, sep. pkge.

Through:
Lieut. Col. James B. Quinn,
Corps of Engineers, U. S. Army,
Division Engineer, Southeast Division.

OFFICE OF CHIEF OF ENGINEERS 1452
25
37221/1903
41 F.M.
WAR DEPARTMENT
9443.

Norfolk, Va.,
August 12th 1903.

WINSLOW, Capt. E. Eveleth:

In compliance with Dept. letter of May 25, 1903, (37620), submits its plans and estimates (revised) for two 12-inch emplacements at Ft. Monroe, Va. Addl. amount required for completion, $102,000.

2 in Map Files, Dr. 58, Sh. 2?0
1 cl. E.D. (tracing) in sep. roll

Rec'd 97
Nov. 21, 1904. Letter to Capt Winslow

1st indorsement.
OFFICE OF DIVISION ENGINEER,
SOUTHEAST DIVISION.
Savannah, Ga., August 14, 1903.

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

2. The change to the type form, after an expensive foundation had been completed, involves a considerable addition to the first estimate of cost.

3. The adaptation is believed to be the best that can be designed and the project is submitted with the recommendation that it be favorably considered.

James D. Dunn

Lt. Col., Corps of Engineers,
Div. Eng., S. E. Div.

2d indorsement.
Office Chief of Engineers,
U. S. ARMY.
August 27, 1903.

1. Respectfully returned to Captain Winslow, approved, subject to modification in the following details:

2. An angle-iron should be worked into the top of the riser between the working platform and the surface on which the base-ring rests, as shown on sheet 1 of the 12-inch type emplacement drawings and, more clearly, on the accompanying platform sheet.

3. All hydrants must be placed in the rear of the battery, and no water-pipes placed in concrete masses. The 6-inch drain from the hydrant under the parapet to the counter-weight well will also be omitted.

4. Ventilators will be provided as shown on the accompanying blue print.

5. Telautograph niches must be provided, one for each emplacement, as indicated on the blue print. They must be of the type shown on the small blue print herewith and, more in detail, in the Twelfth Supplement to Mimeograph No. 48.

6. Rooms must be provided for the maneuvering sets of such size as will answer the requirements of the accompanying blue print. This may be done by partitioning off portions of the rooms shown in the project.

7. The estimates appear to call for some 14,268 cubic yards of concrete, while the type plans call for 10,400 cubic yards. A hasty examination of the plans fails to show where the additional $26,000 worth of concrete is needed. Captain Winslow is requested to inform this office whether he found the type estimate incorrect.

8. Work on this battery should proceed as far as is possible with the funds now in Captain Winslow's hands, keeping in mind a possible delay in receiving any additional funds till a new Fortification bill becomes law. Concrete work should be completed as far as the money permits, leaving embankments etc., till further funds can be allotted.

9. This paper and Inclosure 4 to be returned; the blue prints to be retained.

Francis V. Greene
Acting Chief of Engineers

37221
41
Inclo. 42 & blue prints of
37221 & 40078
42 166,170,176,178
in sep. roll.

Through Lieut. Col. JAMES B. QUINN,
Corps of Engineers,
Division Engineer, Southeast Division.

9443

3rd indorsement.
OFFICE OF DIVISION ENGINEER,
SOUTHEAST DIVISION.
Savannah, Ga., August 29, 1903

Respectfully forwarded to Captain Winslow, inviting attention to the preceding indorsement.

James D. Dunn

Lt. Col., Corps of Engineers,
Div. Eng., S. E. Div.

6 Encls. in sep. roll.

4th indorsement.
Engineer Office, U.S. Army,
Norfolk, Va., Oct. 1, 1903.

1. Respectfully returned to the Chief of Engineers, U.S. Army, in compliance with the 2nd indorsement hereon.

2. The modifications directed by the Chief of Engineers in that indorsement have been noted and will be complied with in the construction.

3. The difference in the quantity of concrete noted in Par. 7 of that indorsement is due to the following facts, and not to error in calculation: The foundation on which the emplacements are to be built was constructed for plans approved May 22, 1901, and consists of a number of I-beams set in concrete. The depth of the wells shown in those plans was but 6 feet 6 inches, and, in the more recent plans, to which the design submitted conforms, the depth of these wells has been increased, and, as it is impossible, on account of the I-beams in the foundation, to lower the actual reference of the bottom of the wells, this increase in depth of the wells could only be affected in the new design by an increase in the height of the parapet, and, in fact, of the entire battery. As shown in the type plans, the bottom of the mass of concrete does not extend below the reference of the floors of the magazines. In this construction, it is necessary to commence this concrete with the original foundation. There is also a slight increase in the concrete work necessary in adopting the new plans to the already completed work at the west end of the battery.

Captain, Corps of Engineers,
1452/25 F. M. U.S. Army.

1 tracing, in sep. pkge.
Through:
Lieut. Col. James B. Quinn,
Corps of Engineers, U.S. Army,
Division Engineer,
Southeast Division.

5th indorsement.
OFFICE OF DIVISION ENGINEER,
SOUTHEAST DIVISION.

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

Lt. Col., Corps of Engineers,
Div. Eng., S. E. Div.

1 encl. in sep. roll.
9443.
RECEIVED OFFICE CHIEF OF ENGRS. OCT 5 1903

O/K

ENGINEER OFFICE, U. S. ARMY,
ROOM 2, CUSTOM HOUSE.

Norfolk, Va., June 16, 1906.

Brig. Gen. A. Mackenzie,
Chief of Engineers, U. S. Army,
Washington, D. C.

General:

1. I have the honor to report that Battery Parrott, Fort Monroe, Va., containing two emplacements for 12-inch B. L. Rifles, has now been completed, with the exception of the storage of some of the construction plant, and a few minor details of the battery, which should, in the ordinary course of events, be completed before the return of these papers. I therefore respectfully recommend the formal transfer of this battery to the garrison. The armament was put in place about one year ago, and the battery has been, for a long time, in the hands of the garrison, as far as the use of the armament is concerned.

2. Three tracings, showing the plans of the electric, drainage and ventilating systems of this battery, are forwarded by to-day's mail, in a separate package, for the action of the Department.

Very respectfully,
Your obedient servant,

E. Talbot Wilson
Major, Corps of Engineers,
U. S. Army.

3141 F. M.
3 tracings in sep.pkge.

STH

Norfolk,
June 16,1906.

Winslow,
Major E.E.

Reports completion with exceptions noted of two emplacements for 12"B.L.Rifles,Battery Parrott,Ft.Monroe,and recommends formal transfer to the Artillery. Incloses three tracings showing drainage, etc.

3 Inclos.E.D.
(Tracings)

*

Usual

June 23/06.- Letter to M.S. with incls. 47-49.

A

WAR DEPARTMENT,

OFFICE OF THE CHIEF OF ENGINEERS,

WASHINGTON.

June 23, 1906.

The Military Secretary.

Sir:

1. I have the honor to report the completion of Battery Parrott, Fort Monroe, Va., comprising two emplacements for 12-inch rifles on disappearing carriages, and to recommend that the necessary instructions be now issued for their transfer to the troops for use and care under the provisions of A. R. 1535.

2. Tracings showing the ventilating, drainage, and electric systems, and containing instructions for the garrison, are submitted herewith. It is recommended that these tracings be approved by the Secretary of War, and that, if approved, his signature be appended thereto, and the tracings then returned to this office, in order that blue prints may be prepared for the information and guidance of all concerned.

Very respectfully,

A Mackenzie

Brig. Gen., Chief of Engineers,

U. S. Army.

37221
46
Inclos. 47-49 accompg.

OFFICE OF CHIEF OF ENGINEERS

37221
51

WAR DEPARTMENT.

3141
5 F.M.

Washington, D.C.
June 29. 1906.

Chief of Engineers

Re completion Battery Pratt, Fort Monroe, comprising two emplacements 12 inch rifles on D.C., and recommends instructions be issued for their transfer to troops for use & care, under A.R. 1535.

Encloses tracings for approval & signature Sec. War, and requests their return.

1 Incls. E.D.

37221
47-49 accpg.

3 inclos. M.S.

Inclos. 47-49 in Map Files, Dr. 58, Sh. 290.

RECD. BACK. OFFICE CHIEF OF ENGRS. JUL 2 1906

Encl. Office, Div. Engr. NORFOLK, VA. JUN 30 1906

REC. Dist. Engr. Office, Norfolk, Va.

8

1st Indorsement.

To the
Secretary of War.

M.S.O., June 25, 1906.
3 Inclosures.

Reed,
Capt.

2nd Indorsement.
War Department,
June 26, 1906.

Approved as within recommended.

Robert Shaw Oliver

Acting Secretary of War.

1 3d

Rec'd Back M.S.O. [illegible]

3d Indorsement.

To the
C. of E., inviting attention to the inclosed copy of letter from this office of this date to the commanding general, Atlantic Division.

M. S. O., June 26, 1906.
4 inclosures.

[illegible] JUN 28 1906

4th *indorsement.*

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
WASHINGTON.

June 28, 1906.

1. Respectfully referred to Maj. E. Eveleth Winslow, Corps of Engineers, for his information and guidance.

2. Major Winslow is requested to have one or more blue prints of each of the tracings posted in the emplacement to which it pertains and to furnish such additional copies as may be desired by the Post Commander. He will also send one copy by mail to the Chief Engineer Officer of the Atlantic Division. Attention is invited to G.O.No.65, H.Q.A., A.G.O., 1901. An inspection of the emplacements should be made by the Engineer Officer, in person, incompany with the Artillery Officer who is to sign the receipt.

3. When the necessary record has been made, these papers will be returned to this office with report of date of transfer, and with receipt of the Artillery Officer, on which the condition of the emplacements should be stated. An additional page covering the emplacements, for incorporation in the last report of completed batteries from the Norfolk District, as required by Pars. 50 and 57, Digest of Orders and Circulars, should also accompany these papers when returned.

By command of Brig. Gen. Mackenzie:

Frederick V. Abbot
Major, Corps of Engineers

37221
51

Inclo. 52 accompg.
Inclos. 47-49 in sep. roll.

HEADQUARTERS
ARTILLERY DISTRICT OF THE CHESAPEAKE,

FORT MONROE, VIRGINIA.

July 5,1906.

The Military Secretary,
Department of the East.
Governor's Island,N.Y.

Sir:-

I have the honor to report that, in compliance with par. 1,2 and 3. General Orders No.,65, Headquarters of the Army,A.G.O., May 11,1901, I made a careful and thorough inspection of Battery Parrott located at this post, accompanied by Major E.Eveleth Winslow,Corps of Engineers,District Engineer,Captain Joseph P. Tracy,A.C.,Artillery Engineer, and Captain William Chamberlaine,A.C., Battery Commander. I find the Battery, Emplacement, guns and all mechanical and electrical appliances connected with the battery in satisfactory condition. Galleries and magazines are dry. All doors were opened and closed and found to operate satisfactorily. Ammunition hoists operate satiafactorily and the means of ammunition supply is adequate to the most rapid fire of the guns. All drains were free and open; the parapet is free from gullies and there is no evidence of drifting sand. Ramps, covered ways and approaches in satisfactory condition. The guns were found in condition for service, and were tested as to level and graduation. Breech mechanism and working surfaces were inspected found free from rust and in general all requirements of paragraph 3 were complied with and the conditions found satisfactory with exception of the limits of fire of No.1 gun. Enclosed herewith is a tracing showing limit of traverse to left of this gun, both by electric stop and by hand, from which it appears that in both cases a portion of the channel is not covered by this gun as shown on the tracing.

The power for electric equipment of Battery Parrott is an unbalanced triphase current of 220 volts, running a polyphase motor directly connected to a D.C. generator. The current from the last named generator is used to charge the storage battery (consisting of 60 cells Chloride Accumulator Type E 13) or can,by means of the distributing panel, be used to supply light to the various lighting circuits or run the motor generator sets(supplied by the Ordnance Department)for electricaltraversing, elevating or retracting of the pieces and shot and powder hoists.

This battery was temporarily turned over to the Artillery in April 1905 for use during the Army and Navy exercises of that year. The guns were mounted by the 118th.Company, Coast Artillery. The various tests required under G.O. 65 were made at that time and since and everything found to operate in a satisfactory manner.

The battery consists of two 12-inch guns model 1900, mounted on L.F. Disappearing carriage model 1901.

Very respectfully,
R.D. Potts,
Colonel,Artillery Corps,
Commanding District.

Headquarters Artillery District of the Chesapeake,
Fort Monroe,Virginia, July 6,1906.

Official copy respectfully furnished Major E.Eveleth Winslow, Corps of Engineers, for his receipt.

By order of Colonel Potts:

Fort Monroe, Va.,
July 5, 1906.

Commanding Officer,
Colonel R. D. Potts.

In compliance with Pars. 1, 2 and 3, General Orders No. 65, Headquarters of the Army, A.G.O., May 11, 1901, reports results of inspection of Battery Parrott, Fort Monroe, Va., transferred to the Artillery.