

**Primary Battery File**

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

**Record Group 77**

**Correspondence of the Chief of Engineers**

**Entry 103**

**File, Fort, Battery:**

**28657**

**37620**

**Ft. Monroe**

**Btly Irwin**

U. S. ENGINEER OFFICE,  
166 GRANBY STREET,

Norfolk, Va., December 1, 1898.

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

General:-

In accordance with Department letter dated October 24th, 1898, (28657) I have the honor to submit herewith plans for a battery to mount four 15 pdr., 3-inch, guns on balanced pillar mount at Fort Monroe, Va.

As the guns of this calibre are of special value as a defense for the mined fields, it is recommended that they be placed immediately in front of the western portion of the present water battery in such a manner as to form at the same time a protective face-cover for this exposed masonry (which it is hoped may be continued at some future time along the entire face of the water battery with guns in the most exposed faces of rapid-fire type and heavier calibre) and a shelter to the gunners from the blast of parapet guns of the main work. These results may be attained by the construction shown in plan and sections on the accompanying tracing.

Immediately in front of the scarp of the water battery extends a parallel closed arched passage covered with sufficient concrete to attain the top of the scarp with a thickness of ten feet and with a floor reference slightly above that of the water battery casemates.

The cost of this battery will be as follows:-

Total, -----\$10,918.95

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

Through :-

Colonel Peter C. Hains,  
Corps of Engineers, U.S.Army,  
Division Engineer, S.E.Division.

...the ...

DEC 8 1898  
28657

WAR DEPARTMENT,

Dec. 1, 1898.



Casey, Major 28657

Permit to place an effective  
for a battery of four 155 pdr  
(quick) guns on the main  
wall in rear of the main  
battery, 1st Indorsement  
at 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

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Read 100th Indorsement, 10/10/98.

1st Indorsement.  
U. S. Engineer Office,  
Baltimore, Md.  
December 8, 1898.

Respectfully submitted to the  
Chief of Engineers.

This communication was received  
by me December 2, but no tracing  
accompanied it although there was  
a blue print. The district of-  
ficer was called upon by letter to  
supply the missing tracing and re-  
plied that the tracing was inadver-  
tently sent direct to the Chief of  
Engineers.

The location of this battery is  
good, but there is a great objec-  
tion to the masonry wall in rear  
of the gun emplacements. Objec-  
tion has been made by Artillery Of-  
ficers to a much less objectional  
ble wall in rear of mortars, on  
account of splinters from shells  
bursting in the wall. Moreover  
the blast from the discharge of  
heavy guns in the main work in  
rear, will be also objectionable.  
The rear wall affords some pro-  
tection from this blast, but guns  
firing directly over others is  
always objectionable.

As there does not seem to be any  
available ground within the main  
work that is not needed for heavy  
guns and inasmuch as the blast from  
the latter would be much reduced  
by advancing the battery, I would  
prefer to locate the 15 pdrs. as  
close to the water in front of the  
position selected as practicable.  
This I am aware is not an ideal lo-  
cation and yet under the circum-

stances I know of none better.

Colonel, Corps of Engrs., U.S.A.  
Div. Eng., S.E. Div.

2d Indorsement.  
Office Chief of Engineers,  
U.S. ARMY,

December 17, 1898.

Respectfully returned to Major  
Casey.

The location shown on the plans  
is believed to be the best avail-  
able under existing conditions,  
and is accordingly approved. It is  
deemed advisable, however, to so  
modify the details of the battery  
as to afford more protection  
against the blast of the guns on  
the parapet in rear. To accomplish  
this object it is suggested that  
the guns might be placed in the  
casemates of the water battery  
and the existing scarp wall re-  
moved. If this be deemed imprac-  
ticable in connection with a sat-  
isfactory disposition of the mag-  
azines, the proposed gun pits  
might be partially covered with a  
light concrete and metal roof to  
serve as a blast protection. Shall-  
low recesses should be introduced  
in the side walls of the gun pits  
to permit of lowering the guns  
when out of action, as shown on  
the type plans.

Major Casey is requested to

carefully study the most feasible  
plan for securing additional blas-  
tation protection, and to submit modified  
details and estimates accordingly.

By command of Brig. Gen. Wilson:

Captain, Corps of Engineers.

28657  
1  
Incl. 2 in sep. roll.

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

3rd. Indorsement.  
U. S. Engineer Office,  
Baltimore, Md.  
December 20, 1898.

Respectfully transmitted to  
Major T. L. Casey, Corps of  
Engineers.

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

Read 5th Indorsement, 10/10/98.

4th Indorsement.  
U. S. Engineer Office,  
Norfolk, Va., Jan. 10, 1899.

Respectfully returned to the  
Chief of Engineers, U. S. Army,  
with estimate and revised plans  
of battery in accordance with in-  
structions in 2nd Indorsement  
hereon.



*Thos. L. Casey*  
Major, Corps of Engineers,  
U. S. Army.

950 F.M.  
3 inclosures.  
2 tracings sep. roll.

Through:-  
Colonel Peter C. Hains,  
Corps of Engineers,  
U. S. Army,  
Div. Engr. S.E. Division.

5th. Indorsement.  
U.S. Engineer Office,  
Baltimore, Md.  
Jan. 13, 1899.

Respectfully submitted to  
the Chief of Engineers, U.S.A.  
I cannot but regard the mod-  
ified plans as more objection-  
able than the original.

Cover from the blast of  
large guns in rear is undoubt-  
edly attained by the arrange-  
ments suggested, but the defects  
of the battery when subjected  
to an enemy's fire from the  
front are more pronounced.

The problem to so locate  
these guns that they will be  
free from criticism is difficult,  
but I would prefer to place  
these ~~small~~ guns, temporarily at  
least, within the fort proper, on  
the front facing Fort Wool, and  
place one or two of the heavy  
guns outside, if necessary. But  
on a revision of the project

for the defense of Hampton  
Roads this may not be neces-  
sary.

*Peter C. Hains*  
Col., Corps of Engrs., U.S.A.,  
Div. Eng. S.E. Div.

RECD. OFFICE CHIEF OF ENGRS. JAN 14 1899

*Adj. Asst. Corps of Engineers  
Washington D.C. Jan. 15, 1899*  
*Respectfully returned to Col. Peter C.  
Hains Corps of Engrs. Div. Eng. S.E. Div.  
who will please proceed at once  
to Fort Monroe Va. and in consultation  
with the Post Commander and  
Major Thos. L. Casey Corps of Engrs.  
will endeavor to select a site  
for this battery which will be satisfactory.*  
*The Chief of Engineers sent  
Lt. Col. Black, Major of Engrs. from  
his office to Fort Monroe and  
after a complete study of the situation  
Major Black returned and recom-  
mended the plan now presented  
by Major Casey.*

*Col. Hains will please  
submit a project and estimate  
at the earliest practicable  
date for this battery which*

will be acceptable to himself  
and if possible satisfactory  
to the Post Commander  
and the local engineers.

This apparently small  
matter has caused more  
or less anxiety to the  
Chief of Engs. who at this  
time is overwhelmed with  
important work.

John M. Wilson

Maj. Genl. Chief of Engs.  
USA

28657

Incls. 5 accompq.

Incls. 2+6 in sep. roll.

7TH. INDORSEMENT  
U. S. Engineer Office,  
Baltimore, Md. Jan. 23, 1899.

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

I went to Fort Monroe at  
once on receipt of the order  
contained in the foregoing in-  
dorsement of the Chief of Engi-  
neers. I saw Maj. Tiernon,  
commanding Fort Monroe, and Maj.  
Casey, the engineer of that  
district, and with both offi-  
cers discussed fully the ques-  
tion of location of the 4-gun  
battery of 15-pdrs.

Maj. Casey adheres to his  
opinion that the best location  
for the 15-pdr. battery is  
where he proposed to place it.  
Major Tiernon differs entirely  
from this view. He is of the  
opinion that the best location  
is on the parapet of the main  
work; the next best position  
~~is~~ in advance of that proposed  
by Maj. Casey, and as close to  
the water's edge as practica-  
ble. The position as fixed  
by Maj. Casey he regards as in-  
ferior to either of the others.

Maj. Tiernon objects decided-  
ly to the placing of small guns  
in positions where the larger  
ones will fire over them, and  
regards the overhead protection  
as designed by Maj. Casey against  
the blast from guns in rear as  
more objectionable than no  
protection at all. His views  
and mine are in accord and are  
in direct conflict with those  
of Maj. Casey.

It is difficult to determine

950 P. M.  
(1. Incls.) trace. sep. roll.

Through:-

Colonel Peter C. Hains,  
Corps of Engineers, U.S. Army,  
Division Engineer, S.E. Division.

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

the best position for this battery without a full understanding of what the entire project of defense contemplates. The project has already been somewhat modified, and Maj. Casey informs me that he has been directed by the Chief of Engineers to revise it. He has now a plan practically worked out with the object in view. He also informs me that it is his opinion that no heavy guns should be mounted in the main work other than those already mounted or under construction.

I submitted a draft of the foregoing remarks to Majors Tier-  
non and Casey. They both agreed that their views are correctly stated in respect to this question.

In view of all the circumstances, I recommend that the 15-pdr. battery be located on the curtain of the Fort where the two 8-inch barbette rifles are now temporarily mounted; or, on the left face of the bastion to the right of this curtain. Either position will be satisfactory to the Commandant of the Fort.

In accordance with your orders I will submit as soon as practicable, a project and estimate for this battery.

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

SUBJECT:

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

*Washington,* December 16, 1898.

Brig. Gen. John M. Wilson,

Chief of Engineers, U. S. Army .

General:

I have the honor to submit the following report on the fortifications at Fort Monroe:

The location chosen by Major Casey for the emplacements for four 15-pdr. guns on balanced pillar mounts is, I believe, the best available under existing conditions. The details of the battery as proposed by him will have to be so changed as to afford more protection against the blast of guns on the parapet in the rear, and I would recommend that Major Casey's project (28657), and its inclosure, be returned to him for modification.

In constructing the various batteries it has been found wise to deviate from the plans shown in the approved project for the artillery defense of this place. I believe that the project should be modified so as to show the works now constructed and authorized and also so as to complete the plans of defense according to the latest experience and information - the existing project being incomplete, and not strictly in accord, in my judgment, with the latest approved practice.

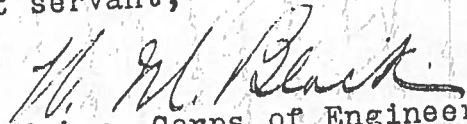
I have the honor to recommend that the approved project be referred to Major Casey, for remarks and recommendations, with esti-



mates, with a view to action by higher authority.

Very respectfully,

Your obedient servant,

A handwritten signature in dark ink, appearing to read "W. M. Black". The signature is written in a cursive style with a prominent initial "W" and a long, sweeping underline.

Major, Corps, of Engineers,

Lt.Col., Chf. Engr., U.S.Vols.

OFFICE CHIEF OF ENGINEERS

DEC 16

28657

WAR DEPARTMENT

Washington,  
Dec. 16, '98.

Black,

John Cat? Mm. M.  
Capt. Eng. W. F. D. S.

Report the location chosen  
by Major Carey for supply for  
your 15000 lbs. guns on railroad  
piles, amounts at Ft. Monroe,  
Va, the best available under  
existing conditions, & etc. that  
Major Carey's project be returned  
to him for modification. Also  
also that the spirit project be  
sent to Major Carey for remarks. &  
then, with all, with a view to  
action by higher authority.  
Letter to Maj. J. D. Carey Dec. 19/98, filed  
on 29248.

K

U. S. ENGINEER OFFICE,

106 GRANBY STREET,

Norfolk, Va., January 10, 1899.

Brig.<sup>d</sup> Gen. John M. Wilson,

Chief of Engineers, U. S. Army,

Washington, D. C.

General:-

In accordance with the 2nd indorsement (on file No. 28657/1), on my communication of December 1, 1898, submitting plans for a battery of four 15-pdr. guns for defense of the mine fields of Hampton Roads, Va., I have the honor to submit herewith new plans for the battery, having in view the instructions conveyed in the indorsement.

The platforms, as shown in the accompanying tracing, are sunken to the level of the longitudinal gallery along the line of scarp, and are covered in the manner shown, by a concrete roof supported upon steel girders. The external springing line of the arched passage is supported by two steel girders placed across the entrance to each platform, and the beams for the concrete roof of the latter are supported upon these posteriorly, and a stout transverse deck-beam anteriorly, the web of which protects the basal parts of the exposed face of the concrete cover. The magazines do not enter directly into the passage as before, but through doors in adjacent casemates in order to avoid direct fire into them, which would result from the lowering of the platforms. The platforms are widened, to admit of a complete swing of the gun, thus obtaining more satisfactorily the effects of the niche in the plans of the Board of Engineers, and,

at the same time, permitting a wider angle of fire for each gun. The traverses between the guns fully protect the gunners from blast of adjacent guns.

I cannot regard the alternative of removing the present scarp wall of the water battery as judicious, as the masonry of the arches remaining would then be exposed to direct fire, and the impact of a six-inch shot upon it would throw the entire mass into the moat behind, thus exposing the main scarp of the fort through the breach.

It is believed that the present plans are the simplest that can be devised for this battery, and give complete protection from the blast of any type of gun which may be mounted upon the main parapet.

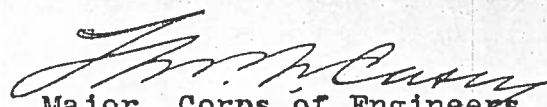
Its cost will be as follows:-

1,495 cu.yds.of Rosendale concrete,at \$5.00 per cu.yd.,	-\$7,475.00
950 cu.yds.of sand, at 50¢ per cu.yd.,	----- 475.00
65 cu.yds.of soil, at 65¢ per cu.yd.,	----- 42.25
65 cu.yds.of clay, at 65¢ per cu.yd.,	----- 42.25
500 sq.yds.of sod, at 50¢ per sq.yd.,	----- 250.00
2,200 sq.ft. granolithic, at 30¢ per sq.ft.,	----- 660.00
5,000 ft.B.M., of lumber, at \$12.00 per M ft.B.M.,	----- 60.00
Beams, doors, hinges, locks, etc.,	----- 200.00
Contingencies,	----- 460.22

T o t a l,-----\$9,664.72

Very respectfully,

Your obedient servant,

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

950 F.M.  
1 inclo., tracing.

OFFICE, CHIEF OF ENGINEERS

JAN 14  
5  
28657  
1899

WAR DEPARTMENT.

*W. J. Felt*

THE BOARD OF ENGINEERS.  
10/99

20  
ENCLOSURE  
No. 2  
1899

Casey, Maj. Geo. S. D.

Submit new plans  
for the battery of four  
15-foot guns for  
defense of the main  
field of Hampton  
Road, Va., having in  
view the status con-  
veyed in E. D. ind.  
of Dec. 17, 1898. Total est.  
cost \$9,664.12 1 inc. E. D. tracg  
order. 6 in War Bldg. Bn. of Oct. 27/8.

REC'D. JACK, OFFICE CHIEF OF ENGRS. AUG 8 1899

REC'D. WAR OFFICE CHIEF OF ENGRS. JAN 24, 1899  
with Serial 1



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

February 3, 1899.

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

General:

In compliance with the orders contained in your indorsement of January 18, 1899 (28657/1) on letter of Maj. Thos. L. Casey, Corps of Engineers, dated December 1, 1898, I have the honor to submit the following project and estimate for a battery of four 15-pounder rifles on balance pillar mounts at Fort Monroe, Va.

After a full discussion with the Commanding Officer of Fort Monroe, and the Engineer of the district, the former and myself were agreed that the best location for these guns is on the curtain of Front 3. There are at present two 8-inch high-power rifles on barbette carriages mounted on this curtain, but no magazines have been built for them, and it is understood that they were mounted for temporary use during the war with Spain, and for the purpose of covering the shoal water between Fort Wool and Willoughby Spit, through which light draft vessels might run into Hampton Roads. It is therefore suggested that the rifle on the right be removed to the angle of the next adjoining bastion where it will serve its temporary purpose as well as in its present position.

This will require the removal of two 8-inch converted rifles, which

(2)

can be mounted in some other location.

The project contemplates the filling up of two of the casemates next adjoining the curtain wall with sand, and the placing of the magazines in the two casemates in the rear, as shown on the sketch herewith. With a view to giving facilities for communication between the rampart and terreplein, a circular iron stairway is suggested, as shown on sketch.

The estimate is approximately as follows:

Excavation, - - - - -	\$200.00
Concrete, 500 cu.yds. at \$7. - - - - -	3,500.00
4 ammunition lifts, at \$300. - - - - -	1,200.00
Sand, 300 cu.yds. at \$1. - - - - -	300.00
Stairway, - - - - -	500.00
Doors, etc. - - - - -	100.00
	<u>\$5,800.00</u>
Contingencies, 20% - - - - -	1,160.00
	<u>\$6,960.00</u>

It is <sup>not</sup> known what it will cost to remove the 8-inch high-power rifle, but I presume it will cost about \$1,500.

Very respectfully, your obedient servant,



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

1 inc. - sep. roll -

OFFICE, CHIEF OF ENGINEERS

FEB 4 1899

WAR DEPARTMENT.

THE BOARD OF ENGINEERS

Feb 3, 1899

Staircase, Carl. P. C.

In compliance with

the orders contained in E. D. ind. of Jan. 18, 1899, on letter of May. Thos. L. Casey, dated Dec. 1, 1898, submit project & cost for a battery of four 15-pdr rifles on ball-ance pillar mount at Fort Monroe, Va.

Total cost \$6,960

Because it will cost about \$1500 to remove the 80 high power rifle.

Inc. 1, E. D. Thos. L. Casey, 9 inches dia, on 57 dia 97.5 &

REC'D. OFFICE CHIEF OF ENGRS. AUG 3 1899  
Incs. 1, 2, 5, 6, 7 & 9 accompany

1st Indorsement.

Office Chief of Engineers,  
U. S. ARMY.

February 6, 1899.  
Respectfully referred to The Board of Engineers, for remark and recommendation.

Brig. Gen., Chief of Engineers,  
28657  
8  
Inclos. 1, 5 & 7 accomp. U. S. Army.  
Inclos. 2, 6 & 9 in sep. roll.

20-1899.  
32  
2nd Indorsement

The Board of Engineers,  
Army Building,  
New York City, August 2, 1899.

Respectfully returned to the Chief of Engineers, inviting attention to the revised project of The Board of Engineers for the defense of Hampton Roads, Va., dated July 28, 1899.

Henry M. Robert  
Colonel, Corps of Engineers,  
President of the Board.

28657  
8  
Inclos. 1, 5 & 7 accomp.  
Inclos. 2, 6 & 9 in sep. roll.

REC'D. OFFICE CHIEF OF ENGRS. AUG 3 1899

W

U. S. ENGINEER OFFICE,

166 GRANBY STREET,

166 GRANBY STREET,

Norfolk, Va., February 10, 1899.

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

General:-

I have the honor to transmit herewith plan and sections of a battery for four 15-pdr. R. F. guns at Fort Monroe, Va., which it is thought will meet all the objections of the recent informal board which considered the subject, and, at the same time, allow of the utilization of the valuable low site along the water battery.

As shown on the tracing the site is virtually the same as in my previous plans for this battery, except that it is moved forward to a minimum distance of 25 feet from the scarp, the alignment of the battery being also swung out slightly, as shown, in order to bring a better seaward command upon the mine-field, as well as to secure a better sand protection for the magazine at the right flank. The entire scarp wall of the water battery is protected by a sodded sand embankment, and the magazines are approached through concrete tunnels as shown. The entire line of the battery is roofed in by 1/4-inch boiler plate supported upon 3 1/2-inch columns, and the rear is closed by a timber construction shown in section. The traverses between the guns are not built up, and the blast of adjacent guns at extreme angles of fire is diminished by 1/4-inch boiler plate attached to the roof by angle iron and bolts, its foot



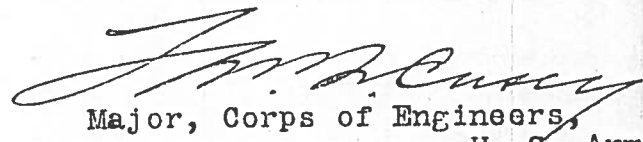
being secured in suitable non-corrosive material.

Projectiles will pass over such a battery, as the chance of hitting a 1/4-inch roof plate edge on, or 3 1/2-inch columns, is very small and would not be attended by adverse results if occurring, and such projectiles would in every case penetrate the wooden backing and bury themselves in the sand embankment behind without producing dangerous splinters. The cover thus obtained would, at the same time, be sufficient to protect the gunners from such ordnance as is intended to be placed upon the main parapet of the work.

The expense attending the construction of this battery will be much less than in the previous plans, and will be approximately as follows:-

535 cubic yards Rosendale concrete @ \$5.50,-----	\$2,942.50
3,356 cubic yards sand @ 50¢,-----	1,678.00
1,290 square feet granolithic finish @ 30¢,-----	387.00
225 cubic yards clay @ 65¢,-----	146.25
225 cubic yards soil @ 65¢,-----	146.25
1,124 square yards sod @ 50¢,-----	562.00
5,000 feet B. M., lumber and nails,-----	90.00
Columns, plates, beams, etc.,-----	805.00
Masonry,-----	15.00
Extra labor and contingencies,-----	338.60
Total,-----	<u>\$7,110.60</u>
	=====

Respectfully submitted,

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

950 F. M.

1 inclosure, tracing, sep. roll.

Through:-

Colonel Peter C. Hains,  
Corps of Engineers, U. S. Army,  
Division Engineer, Southeast Division.



28657 1899

WAR DEPARTMENT.

Norfolk, Va.

23 THE BOARD OF ENGINEERS  
FEBRUARY 10, 1899.  
Received FEB 17 1899

Maj. Thos. I. Casey.

Proj. for four 15 lb. R. S. guns  
at Fort Monroe, Va. at est.  
mated cost of \$1,110.60

1 inc. E. D.

12 in diam. 278

REC'D BACK OFFICE OF ENGRS. AUG 3 1899

Rec'd Eng'r Office, Balto. Feb'y. 14. 1899.

1st. Indorsement.  
U.S. Engineer Office.  
Baltimore, Md.

February 14, 1899.

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

These plans will doubtless  
obviate in a measure the objec-  
tion to the blast of heavy guns in  
rear of them, but I think the  
best place for small guns is in  
the main work.

On a revision of the project,  
which I understand is now under  
consideration, I would prefer to  
place a battery of heavy guns on  
the low ground in front of the  
main work and mount no heavy ones  
on the inside.

*Edw. A. Mearns*

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

2nd indorsement.

Office Chief of Engineers,

U. S. ARMY.

February 15, 1899.

Respectfully referred to The  
Board of Engineers, in connection  
with previous papers in this mat-  
ter.

*John M. Wilson*

Brig. Gen., Chief of Engineers,

28657

11 U.S. Army.

Incl. 12 in sep. roll.

23-1899.

3rd indorsement

The Board of Engineers,  
Army Building,  
New York City, August 2, 1899.

Respectfully returned to the  
Chief of Engineers, inviting  
attention to the revised pro-  
ject of The Board of Engineers  
for the defense of Hampton  
Roads, Va., dated July 28, 1899.

*Henry M. Robert*

Colonel, Corps of Engineers,  
President of the Board.

28657

11

Incl. 12 in sep. roll.

REC'D OFFICE CHIEF OF ENGRS. AUG. 3 1899

W

U. S. ENGINEER OFFICE,  
166 GRANBY STREET.

Norfolk, Va., December 21, 1899.

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

General:-

In conformity with Department letter of September 20, 1899, file No. 28657, I have the honor to submit the following estimate for a battery of four 15-pdr. R. F. guns, recently authorized at Fort Monroe, Va. The accompanying tracing shows the position of the battery, as recently recommended by the Board of Engineers, and gives also all working details.

ESTIMATE.

Removing bell tower,-----	\$ 50.00
Removing observation station and rebuilding on ramps,-----	650.00
1,100 cubic yards of concrete @ \$6,-----	6,600.00
2,850 cubic yards of sand in slopes @ 60¢,-----	1,710.00
567 cubic yards of clay on slopes @ 75¢,-----	425.25
567 cubic yards of soil on slopes @ 75¢,-----	425.25
1,135 square yards of sod on slopes @ 50¢,-----	567.00
1,732 square yards of granolithic finish @ 40¢,-----	692.80
6,160 pounds of steel beams @ 2¢,-----	123.20
110 feet of 4-inch drain pipe @ 20¢,-----	22.00
4 4-inch ells @ 50¢,-----	2.00
3,000 feet B. M. yellow pine lumber @ \$10.50,-----	31.50
4 magazine doors @ \$6,-----	24.00
5 kegs of nails @ \$2.25,-----	11.25
	<u>\$11,334.25</u>
10% for contingencies and superintendence,-----	1,165.75
Total,-----	<u>\$12,500.00</u>
	=====

This estimate does not include the cost of removing the Squier-Crehore range-finder.

Attention is invited to the fact that in the proposed position

" the right flank of this battery extends over U. S. Lighthouse property and envelops the bell tower. In view of this, I would respectfully recommend that the work of construction be deferred until the proposed sea-wall from the Engineer Wharf to the first stone jetty is built, and the sand filling placed behind it, and, that after this has been accomplished the battery be advanced slightly in position in such degree as to have the foot of the exterior slope about 10 feet from the sea-wall. In this position (1) the battery would be slightly nearer the enemy and therefore occupy a more advantageous position, (2) cession of property from the Treasury to the War Department with consequent delays would be avoided and (3) space behind the battery would be left for the road from the Engineer Wharf to supply the exterior batteries, which it is proposed to build further to the eastward, and for the railroad which conveys material from the Engineer Wharf up the beach, both of which would be completely blocked by the battery if constructed as shown on the accompanying tracing. The sea-wall can be built very readily in 60 working days, and will cost for concrete and sand filling \$12,600.

I respectfully urge this recommendation with all earnestness, as a final request on relinquishing charge of a work which has absorbed my best thought and judgment for several years, and feel convinced that further study on the part of those in higher authority will show this course to be for the best interests of the completed scheme of defense for this position.

Respectfully submitted,

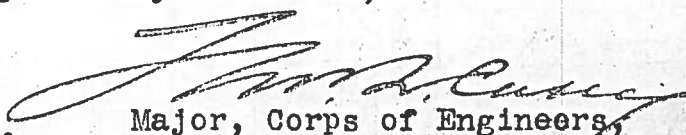
950 F. M.  
6

1 inclosure, tracing, sep. roll.

Through:- Colonel Peter C. Hains,

Corps of Engineers, U. S. Army,

Division Engineer, Southeast Division.

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

WAR DEPARTMENT.  
DEC 27  
28657  
34  
1899

30/03

Woolly, subg. v. l.

substantive estimate for battery of four  
15 ft. R. T. guns, recently authorized  
for our Moors,  
Total amt. of estimate, \$12,500.

CHIVES  
97 | Dubaut,  
(gracings)  
in Chai-tien:  
No. 35, Du. 58, Sh. 276.  
" " " 289 & 291  
No. 36, " "

REC'D. BACK OFFICE CHIEF OF ENGRS, JAN 18 1900

RECD. BACK OFFICE CHIEF OF ENGRS. JAN 12 1900  
JAN 10 3 54 me addl info. (36) accon

Reid H. C. O. Webster, May 4, 1900.  
 Fred Bump O'Fallon Dec 22, 1899  
 " " B. J. May, 31, 1900

December 26, 1899.

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

I do not know what instructions were sent to Major Casey in Department letter of Sept. 20, as the letter did not pass through this office; but I had supposed that the matter of the location of this battery, so long delayed and discussed, had been settled definitely by the Chief of Engineers.

I recommend for approval the plans herewith, and that the work of construction be no longer deferred.

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

2d. Indo-Reman.

Office Chief of Engineer,

U. S. ARMY

December 30, 1899.

Respectfully referred to Maj.  
J. B. Quinn, Corps of Engineers.

The plans herewith are for a battery of four 15-pounder rapid-fire guns, in accordance with the approved revised project for the defense of Hampton Roads, dated July 28, 1899. As located, the battery projects about forty-five feet on to the Light House reservation. Before taking steps to secure the permission of the Light House Board for encroaching upon

its reservation and for the removal of the bell tower, Major Quinn is requested to report what objections, if any, exist to moving the battery laterally to the left about forty-five feet, so as to be entirely clear of the Light House reservation. Such a slight displacement cannot affect the field of fire or effectiveness of the battery, and will still permit of placing all projected works to the eastward, as shown on Sheet C, accompanying the revised project.

In considering the location of this battery, the necessity for preserving the existing communications along the beach front by railroad and wagon road should be kept in view. The Chief of Engineers also desires that, if practicable, the battery be kept far enough to the front not to disturb the cottage belonging to

Capt. Robley D. Evans, U. S. S. N.  
The location of this battery  
has been under consideration for  
over one year and has caused con-  
siderable anxiety to the Chief of  
Engineers, who hopes that the  
matter will now be speedily ad-  
justed for the best interests of  
all concerned.

*By command of J. G. Gen. Wilson:*

28657  
34  
Inclo. 35 in sep. roll.

*Joseph B. Vinton*  
Captain, Corps of Engineers.

Through Col. PETER C. HAINES,

Corps of Engineers,  
Division Engineer, Fort Belknap Division.

3rd. Indorsement.  
U.S. Engineer Office,  
Baltimore, Md.

January 3, 1900.

Respectfully transmitted to  
Maj. J. B. Quinn, Corps of Engi-  
neers, U.S.A., inviting atten-  
tion to the preceding indorse-  
ments.

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

Rec'd. E. O. Hoffelt, Bay View, 4, 1900.

4th indorsement.

U. S. Engineer Office,  
Norfolk, Va.,  
January 11, 1900.

Respectfully returned to the Chief of Engineers, U. S. Army. I have made a careful investigation of the site of the 15-pdr. battery and I believe no serious objection can be made to the advance and lateral movement of the site so as to obviate the objections indicated in 2nd indorsement hereon.

In fact the field of fire would be somewhat improved and the space for the lines of communication greatly benefited..

The line of the proposed seawall is not encroached upon and the battery will not lie upon any of the Light House Reservation.

The accompanying tracing gives the proposed location and

( C O P Y ) - K.

L. S. 28.

HEADQUARTERS ARTILLERY DISTRICT OF THE CHESAPEAKE,  
Fort Monroe, Virginia.

May 20, 1906.

Major E. Eveleth Winslow,  
Corps of Engineers,  
District Engineer,  
Artillery District of the Chesapeake,

Major:-

In reply to your letter of May 14th, I have the honor to state that I should very much like to have Battery Irwin altered and enlarged as follows:

Experience has demonstrated that owing to the very small distances between gun centers it is impossible to fire any one gun with a considerable angle of traverse without driving men in the adjoining emplacement from their gun, this on the side towards which the gun is traversed. These guns are intended to protect the mine fields and the approaches thereto, requiring in almost every case an angle of traverse that will preclude the use of more than two guns at the same time, Nos. 1 and 4. It is possible that the present battery might be altered to accommodate three guns, but the cutting away of such large masses of concrete and reconstructing the magazines would probably cost more than new construction. I therefore recommend that the emplacements for guns Nos. 1 and 4 be retained and that the battery be extended towards the south providing for two additional guns. The distance between centers for the two latter guns need not be so great as between the two guns retained, if necessary to keep cost of construction down, but the battery as a whole would not be symmetrical or look as well. I suggest that a retaining wall be built in rear



-2-

of the two abandoned emplacements; that they then be filled with earth and finished off on top with grass, and that the two additional emplacements be finished in the same way. This for appearance sake only. In this connection I desire to express my appreciation of the courtesy and consideration with which the Chief of Engineers has met my informal request in regard to this proposition.

Very respectfully,

R. D. Potts,

Colonel, Artillery Corps,

Commanding District.

OFFICE OF CHIEF OF ENGINEERS,

31 JUL 1906  
37620  
15

WAR DEPARTMENT.

214 398174

Fort Monroe, Va.;  
May 20, 1906.

Commanding Officer,  
Colonel R. D. Potts  
To  
Major E. Eveleth Winslow.

Replying to letter of the 14th  
instant, states that he would like  
to have Battery Irwin altered and  
enlarged as noted within.

O/K

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

Norfolk, Va., July 9, 1906.

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

General:

1. Referring to Department's 1st indorsement of May 10, 1906, on E. D. <sup>13</sup>37620, I have the honor to report that I have conferred with Colonel R. D. Potts, Artillery Corps, U. S. Army, Commanding Artillery District of the Chesapeake, with reference to certain changes in Battery Irwin, Fort Monroe, Va., and submit herewith plans and estimate for the alterations in said battery.
2. In this connection, I herewith inclose a copy of a letter received by me from Colonel Potts upon the subject.
3. The armament of Battery Irwin consists of four 15-pdr. R. F. guns on balanced-pillar mounts. The primary object of this battery is to cover the mine field; but, since this battery has been built, the mine field has been pushed further to the front, and, in order to cover this field with this battery it is necessary to traverse the guns from 60 to 80 degrees to the left. As this battery is constructed, the guns are only 29 feet apart from center to center, and experiments made at this battery about 18 months ago (Mimeograph No. 89) showed that it was impracticable to fire a gun with this wide angle of traverse without having the cannoneers in the next emplacement to the left vacate their positions.

4. In its present condition, therefore, this battery fails to fulfill its purpose, and it is the desire of Colonel Potts, Commanding the Post and the Artillery District of the Chesapeake, that the battery be altered. In accordance with instructions from the Chief of Engineers, I have consulted with him, and we have decided that the best method of altering the battery will be to construct two new emplacements on the right flank of the battery, and with the front of this addition swung to the left to about the gun-center of the existing emplacement No. 1, through an angle of about 30 degrees, as shown on the plans submitted herewith. The gun-centers as shown on these plans, are to be 62 feet apart, and the new work is to be constructed according to the latest type of emplacements for guns of this size (Sixth Supplement to Mimeograph No. 30).

5. With this arrangement, it will be possible to use the two new emplacements and existing emplacements Nos. 1 and 4 with their guns traversed as far to the left as the parapet of Battery Parrott will permit. Emplacements Nos. 2 and 3 are to be abandoned for mine field use, and if it is not possible to obtain other guns and carriages, the guns and carriages from these emplacements are to be placed in the two new emplacements. However, Colonel Potts seems to think that it is possible that the Ordnance Department will furnish two new guns on pedestal mounts for the two new emplacements, if constructed; and, in this case, the existing guns Nos. 3 and 4 will remain out of action, as far as mine field work is concerned, but can be utilized should an enemy pass beyond the mine field and run directly in front of this battery.

6. The estimated cost of the alterations to Battery Irwin, as de-

scribed above and shown on the drawings, is \$20,000.

Very respectfully,

Your obedient servant,

*E. Eubank*

Major, Corps of Engineers,

U. S. Army.

2921 F. M.

3040 F. M.  
7

1 inclosure accomp.,  
1 tracing in sep. pkg.

Through:

Lieut. Colonel Dan C. Kingman,  
Corps of Engineers, U. S. Army,  
Division Engineer, Southeast Division.

O/S  
4th Indorsement.  
Engineer Office, U.S. Army,  
Norfolk, Va., July 23, '06.

1. Respectfully returned to the Chief of Engineers, U.S. Army.
2. No funds have been reserved in my hands with a view to work on Battery Irwin.

*E. Eubank*

Major, Corps of Engineers,  
2921/4 F.M. U.S. Army.  
1 Inclos. accomp.  
1 Inclos. in sep. pkg.

RECD. OFFICE CHIEF OF ENGRS JUL 21 1906



OFFICE OF CHIEF OF ENGINEERS, 2921 7m  
37620 9061  
WAR DEPARTMENT.

Norfolk, Va.,  
July 9, 1906.

WINSLOW,

MAJOR E. FVELEETH

Referring to E.D.indt.of  
May 10, 1906, (37620-13), re-  
ports that he has conferred  
with the Commanding Officer of  
Artillery Dist. of the Chesa-  
peake, with ref. to certain  
changes in Battery Irwin, Fort  
Monroe, Va. and encloses copy  
of letter rec'd by him from  
that officer on the subject.  
Submits drawing of and  
outlines changes which it is  
proposed to make in the bat-  
tery, the estimated cost of  
which is \$20,000.

FORWARDED BY DIVISION ENGINEER.

2 incs. E.D., #16 trac's.

Received by  
Engr. U. S. Army, NORFOLK, VA. JUL 23 1906  
Savannah, Ga. JUL 10 1906

RECD DIV ENG OFFICE SAVANNAH, GA. JUL 21 1906  
RECD DIV ENG OFFICE SAVANNAH, GA. JUL 10 1906

1st Indorsement  
OFFICE OF DIVISION ENGINEER  
SOUTHEAST DIVISION,  
Savannah, Ga.

July 11, 1906

1. Respectfully submitted to the  
Chief of Engineers, U. S. Army.
2. I examined Battery Irwin at  
the time of my recent inspection,  
and I concur with the District En-  
gineer in his recommendation.

*Samuel J. W. W.*  
Lieut. Col., Corps of Engineers,  
Div. Engr., S. E. Div.

1 Encl. accomp'g.  
1 " in sep. roll.

2d Indorsement.

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

July 18, 1906.

1. Respectfully returned to  
Major Winslow.
2. The Chief of Engineers is im-  
pressed with the desirability of the  
changes shown within, but as the  
change is practically the building  
of a new battery to cover a new  
field, he feels that the funds at  
present in hand are too much needed  
for completing the construction and  
equipment of existing batteries. If  
new funds are appropriated in the  
near future for battery construc-  
tion, the new emplacements will be  
built; otherwise, the battery will  
have to remain as it is.

3. Any funds Major Winslow has  
been reserving with a view to the  
remodeling of Battery Irwin  
should be deposited to the credit  
of the appropriation when the ex-  
act amount of such balances be-  
comes more accurately known.

By command of Brig. Gen. Mackenzie:

*W. V. Allen*  
Major, Corps of Engineers

37620

14

Incl. 0.15 accomp'g.  
Incl. 0.16 in sep. roll.

Through the Division Engineer,  
Southeast Division.

2d Indorsement.  
OFFICE OF DIVISION ENGINEER,  
SOUTHEAST DIVISION,  
Savannah, Ga.

July 21, 1906.

Respectfully forwarded to  
Major Winslow inviting  
attention to the preceding  
indorsements.

*Samuel J. W. W.*  
Lieut. Col., Corps of Engineers,  
Div. Engr., S. E. Div.

1 Encl. accomp'g.  
1 Encl. in sep. roll.