

SECRET

HARBOR DEFENSES OF NEW YORK
BATTERY MILLS
CASEMATES & POWER ROOM
FT. HANCOCK NEW JERSEY

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Electric Plants)

COAST DEFENSES OF SANDY HOOK
FORT HANCOCK, N.J.
POWER FOR Kingman and Mills.
(Mills Battery)

Form 5.

Corrected to September 28, 1921.

	Serial No.	Type	Size	Mfr.	Date of transfer	Cost	Con- dition	RPM	Belt or Direct Drive	Radiator for Engine No.	Fuel	Switchboard Mate- rial	No. of panels
Boiler No. 1													
No. 2													
No. 3													
Engine No. 1	11207	GM 12	43/54 H.P.	G.E.	Mar. 31, 1921		New	560	Direct		Gasoline		
No. 2	14476	" "	" "	"	" "		"	"	"		"		
No. 3													
Generator No. 1	449007	M.P.C. 6	25 K.W.	G.E.	Mar. 31, 1921	84,700.	New	560	Direct				
No. 2	679208	"	"	"	" "	per set	"	"	"				
No. 3													
Radiator No. 1	10501	F.F. 54		G.E.	Mar. 31, 1921		New			11207			
No. 2	14873	"		"	" "		"			14476			
(Fan No. 3													
Motor-Generator	688557	G.V.C. 112	3 HP	G.E.	Mar. 31, 1921		New	1150					
No. 1													
No. 2	930060	"	"	"	" "		"	"					
No. 3													
Sw. hboard No. 1 Panel	285		82" x 20"	Westing house.	Mar. 31, 1921		New					Marble	1 Gen. Panel.
Storage Battery No. 2 "	286		82" x 20"	"			"					"	1 "
Transformer Dis.			82" x 20"	Walker			"					"	1 Dis. Panel.
No. 1													
No. 2													
No. 3													
Auxiliaries													
No. 1													
No. 2													
No. 3													

DISTRIBUTION OF KW. Lights 9 K.W.
Power 6 K.W. (Motors-Elev.)

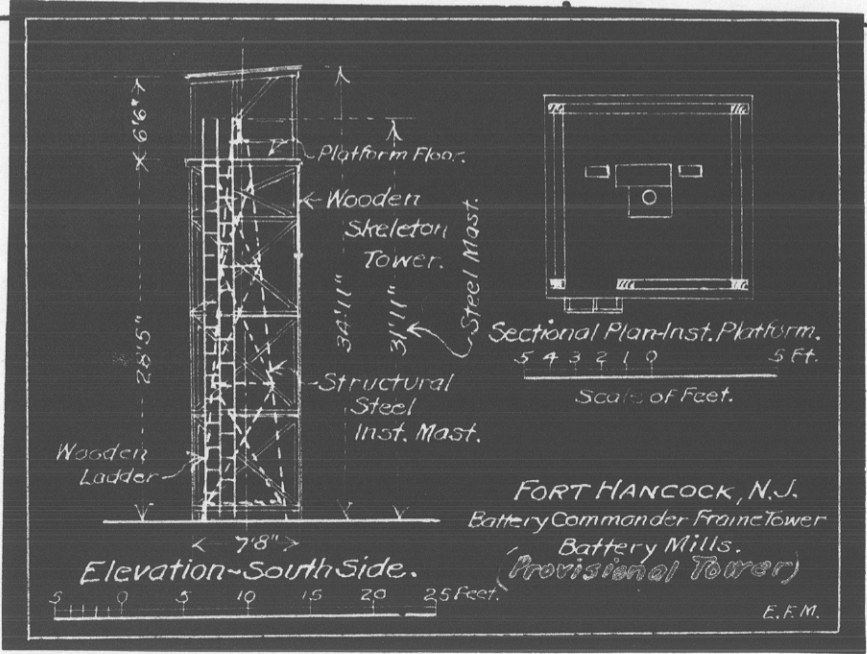
REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS

Harbor Defenses of Sandy Hook
 FORT Hancock
 STRUCTURE Provisional (Frame) B.C. Station at
Battery Mills *Superseded*

Form 2

Corrected to May 18, 1926.

Location	: On top of sand fill over magazines, Battery Mills	: Type of data transmission	: Telephones
Date of transfer	: Feb. 3, 1926.	: Date of transfer	: Feb. 3, 1926.
Cost to date	: \$600. (excl. of steel tripod)	: Cost of data transmission equipment:	-
Type of construction	: Wood sheathing, waterproofed	: For tide stations give description:	
(a) Roof	: frame (steel inst. tripod)	: of tide gage	
(b) Remainder of building	: No concealment (trees in front) of Battery	: For datum points give Forts from which visable	: All Fort Hancock datum points are visable
How concealed	: Not protected	: For dormitories give stations served	-
How protected		: For cable hut give S. C. type	
Height above concealment	: 32' (above magazine cover)		
Height above protection	: 32' " " "		
Conspicuous at 3000 yards from rear:			
Not conspicuous " front:			
Source of electric current	: No light or power current used in station		
Kilowatts required	: -		
Type of lighting fixtures	: -		
How heated	: Not heated		
Connected to water mains	: No		
Connected to sewer	: No		
Type of latrine	: -		
Permanent or temporary installation:	: Semi-temporary		
Present condition	: Fair		
Reference of site	: (37.0) top of sand cover		
# Reference of instrumental axis	: (69.0 ±) top of inst. tripod		
Type of observing instrument	: -		
Type of plotting board	: -		
Type and capacity of crane	: -		
Max. dimensions of reel handled	: -		



#Instrument not in place this date.

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS.
(Gun and Mortar Batteries)

Form 1 Corrected to Dec. 10, 1924.

COAST DEFENSES OF Sandy Hook

FORT Hancock, N. J.

BATTERY Mills

No. of guns 2 Caliber 12" Carriage Barbette Model 1917

Battery commenced	: Mar. 1917.	: Sources of electric current	: 2 - 25 K.W. sets
Battery completed	: Apr. 2, 1921.		
Date of transfer	: Apr. 2, 1921.	: Max. kw. required for lights:	: 7.850 K.W.
Material of construction	: Concrete	: Max. kw. required for motors	: 15.0 K.W.
Portland or Rosendale cement	: Portland		
Cost to date of transfer	: \$297,933.04		
Connected to water supply	: Yes	: Present condition battery	: Excellent
Connected to sewer	: Yes (To septic tank)	: Rooms wet or dry	: Dry - some condensation.
Type of latrine	: Inside sanitary		
	: jet flush syphon	: How ventilated	: Through grating doorways and windows, & motor driven blower connecting to air ducts to magazines. All magazines are separate rooms with air passages between.
Type of data transmission	: Telephones and Speaking tubes		
Trunnion elevation in battery	: Impl #1-14.352 ft.		
	: " #2-14.351 ft.	: Remarks:	: Steam heat installed in Qtrs, Toilets & Plotting Rooms, Sept. 1919.
Datum plane	: M.L.W.		

ARMAMENT

Emplacement:		Guns or Mortars					Carriages				
No.	Cal.	Length	Model	Serial No.	Manufacturer	Mounted	Type	Model	Ser. No.	Manufacturer	Motor
1	12"	35 cal.	1895 MI	69	Ordnance Dept.	Nov. 1919	Barbette	1917	9	Ordnance Dept.	None
2	12"	do.	do.	46	do.	Oct. 1919	do	1917	8	do.	none
3	:	:	:	:	:	:	:	:	:	:	:
4	:	:	:	:	:	:	:	:	:	:	:
5	:	:	:	:	:	:	:	:	:	:	:
6	:	:	:	:	:	:	:	:	:	:	:
7	:	:	:	:	:	:	:	:	:	:	:
8	:	:	:	:	:	:	:	:	:	:	:

HOISTS

Emplacement:		Motor									
Number	Type	Delivery	Ser. No.	Maker	H.P.	Volts	RPM	Type of control	Date of transfer	Remodeled for long points.	
:	:	:	:	:	:	:	:	:	:	:	

Trolley hoists (hand chain hoists) operating on I beam track are installed in powder and shell rooms.

Superseded:
See Form 1,
June 3, 1937

2. Electric sump pumps installed in M.H. Gun #1 & #2
See Report of Operations December, 1936. 2nd C.A.

Over

Major Repair work since July 1, 1923.

F.Y. 1927 - Conc. platforms and retaining walls
work at Batty. Kingman.

\$ 4200 - This incl. similar

1928 - Service Ry. for Mills & Kingman.

\$ 6210

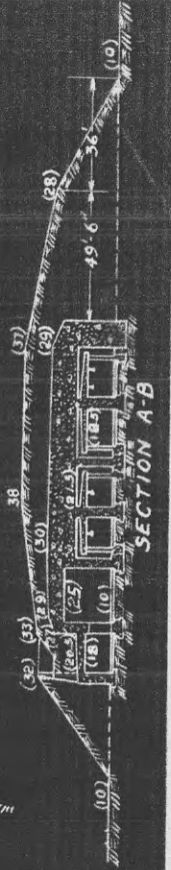
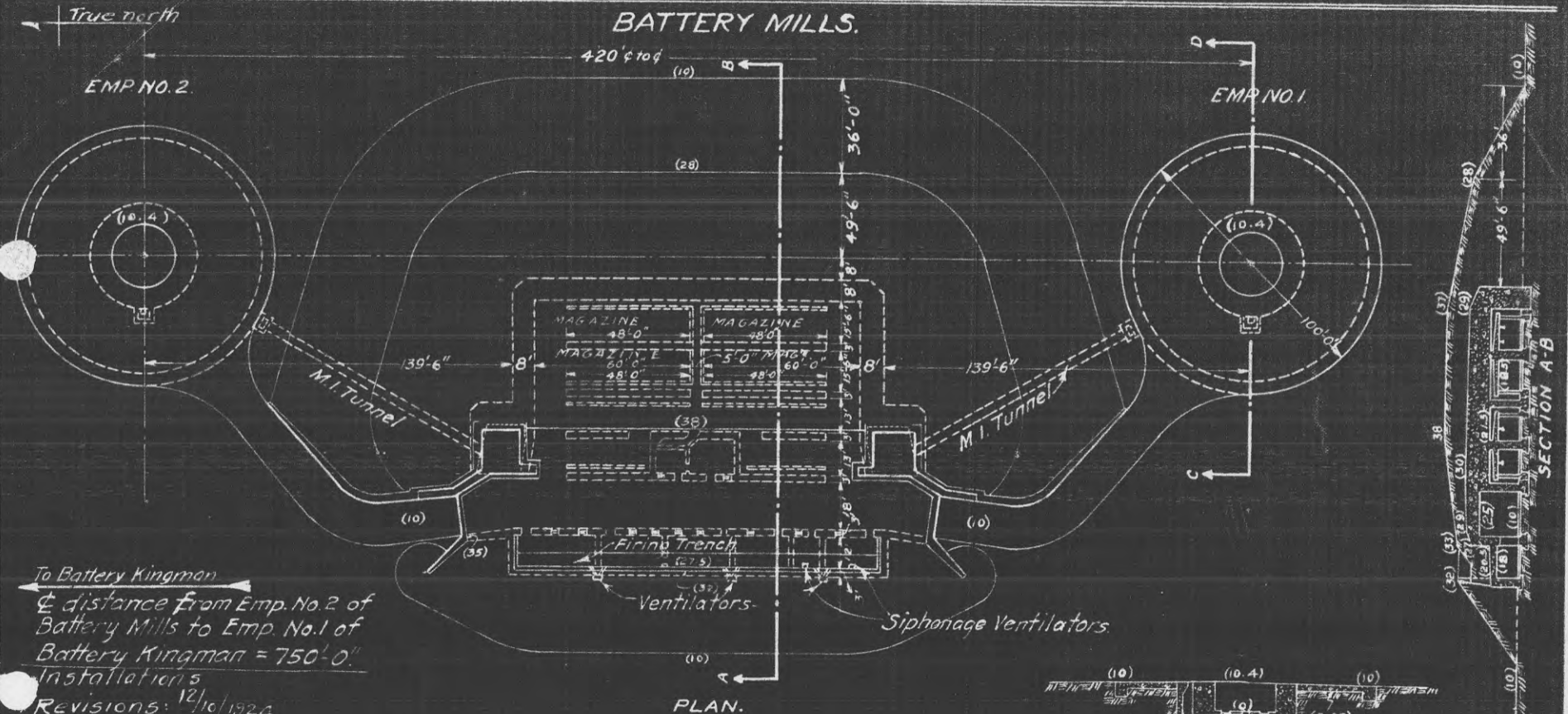
REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS

COAST DEFENSES OF SANDY HOOK.
FORT HANCOCK.

Corrected to Dec. 10, 1924.

BATTERY MILLS
No. of Guns-2. Caliber-12"
Scale: 1"=60'

Carriage-Barbette.

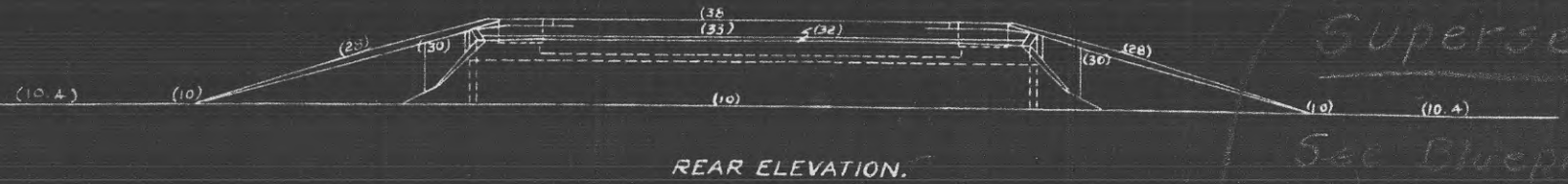


PLAN.

SECTION C-D

To Battery Kingman
distance from Emp. No. 2 of
Battery Mills to Emp. No. 1 of
Battery Kingman = 750'-0"
Installations
Revisions: 12/10/1924

Steam heat installed in Qtrs. Toilets, Plotting
Rooms, Sept. 1915.



REAR ELEVATION.

*Superseded,
See Blueprint,
June-3, 1937*

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS.

(Gun and Mortar Batteries)
 With 660 B (Sandy Hook) 18
 Form 1 Corrected to June 3, 1937.

HARBOR DEFENSES OF Sandy Hook
 FORT Hancock, N. J.
 BATTERY Mills
 No. of guns 2 Caliber 12" Carriage-Barbette Model 1917

Battery commenced	March 1917.	Sources of electric current	2 - 25 K.W. sets, and 3 phase AC
Battery completed	Apr. 2, 1921.	Max.kw. required for lights:	(connected to Jersey Central Power & Light Co. line supplying current to QM)
Date of transfer	Apr. 2, 1921.	Max.kw. required for gun motors. (Note: One 10 h.p. and one 3 h.p. motor for air conditioning equipment on 3 phase AC line not included in above.)	7.850 k.w.
Material of construction	Concrete	Present condition battery	15.0 k.w.
Portland or Rosendale cement	Portland	Rooms wet or dry	Excellent
Cost to date of transfer	\$297,933.04	How ventilated (See also description on reverse side of air conditioning equipment installed.)	Dry - (condensation would exist without air conditioning.)
Connected to water supply	Yes	Remarks:	Through grating doorways and windows, & motor driven blower connecting to air ducts to magazines. All magazines are separate rooms with air passages between.
Connected to sewer - Yes	(To septic tank)		Steam heat installed in quarters, toilets & Plotting Rooms, Sept. 1919.
Type of latrine	Inside sanitary flush Syphon jet (tank)		
Type of data transmission	Telephones and speaking tubes		
Trunnion elevation in battery	Empl #1-14.352 ft. " #2-14.351 ft.		
Datum plane	M.L.W.		

ARMAMENT

Emplacement No.	Guns or Mortars					Carriages					
	Cal.	Length	Model	Serial #	Manufacturer	Mounted	Type	Model	Serial #	Manufacturer	Motor
1	12"	35 cal.	1895 MI	69	Ordnance Dept.	Nov. 1919	Barbette	1917	9	Ordnance Dept.	None
2	12"	do.	do.	46	do.	Oct. 1919	do	1917	8	do.	None
3											
4											
5											
6											
7											
8											

HOISTS

Emplacement No.	Type	Delivery	Motor						Date of transfer	Remodeled for long points.
			Serial #	Maker	H.P.	Volts	RPM	Type of control		

Trolley hoists (hand chain hoists) operating on I beam track are installed in powder and shell rooms.

(over)

Plan of Air Conditioning Equipt,
 see O.C.E. 46-100A-6

Modifications

In January 1937, the installation of dehumidifying and air circulating equipment to eliminate condensation was installed as shown on separate blueprint plan (2) attached, as follows:

Material - Freon gas compressor, cooling coil, heating coil, fan, humidistat, control switches, ducts and grilles -	\$2,113.00
Labor -	1,080.00
	<u>\$3,193.00</u>

(The cost of installing a three-phase AC line to Battery Mills was \$1362, which was not included in above).

The cost of the water supply equipment is as follows:

1 - Pumping unit, (Deming Company's unit #83400, 930 gallons per hour capacity, 1½" discharge, with 1½ h.p. motor) -	\$ 121.00
Check and relief valves and gauge -	9.75
Electric panel board with pressure switch and gauge and magnetic starting switch -	<u>44.25</u>
	\$ 175.00

(Tanks were from surplus stock.)

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS HARBOR DEFENSES OF SANDY HOOK
 FORT HANCOCK.

Corrected to JUNE 3, 1937.

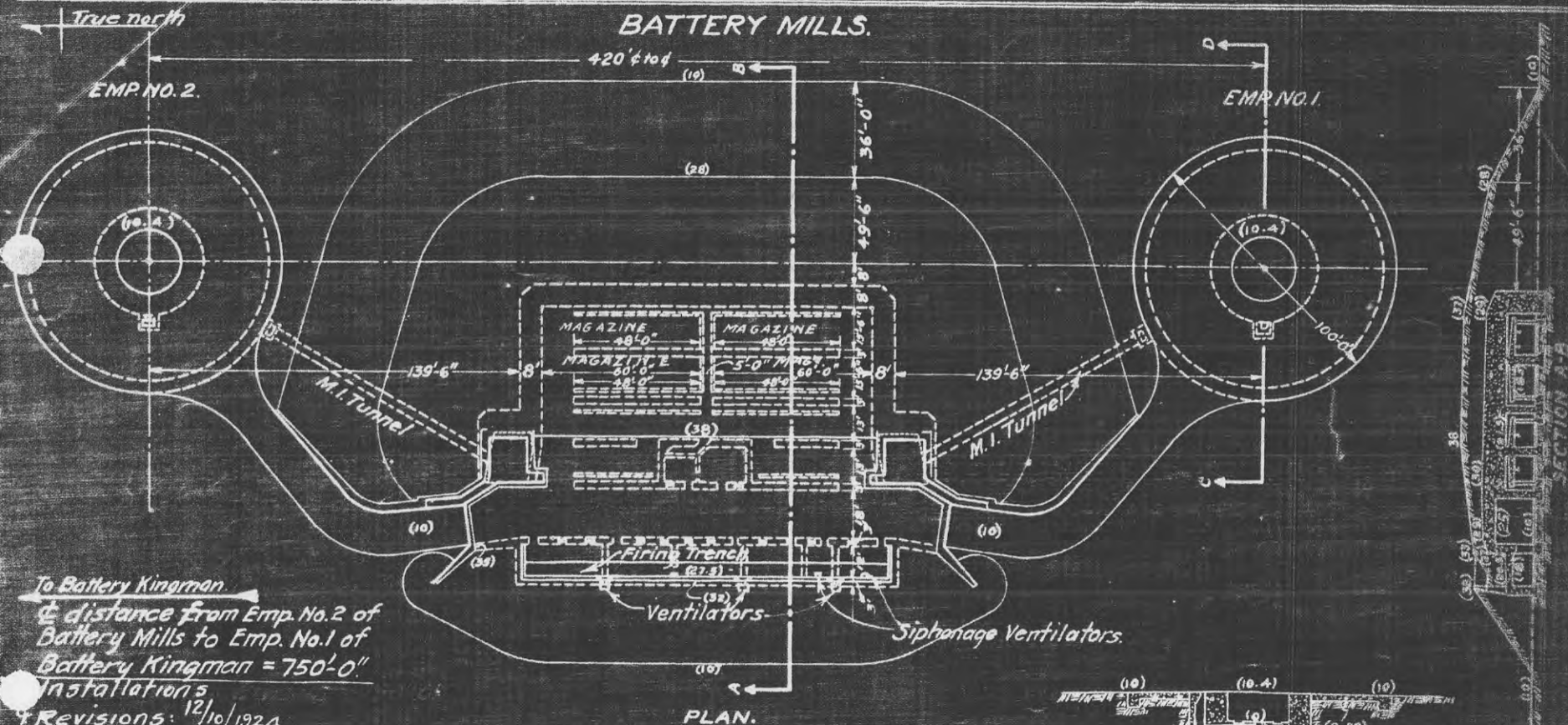
BATTERY MILLS

No. of Guns-2.

Caliber-12"

Carriage-Barbette.

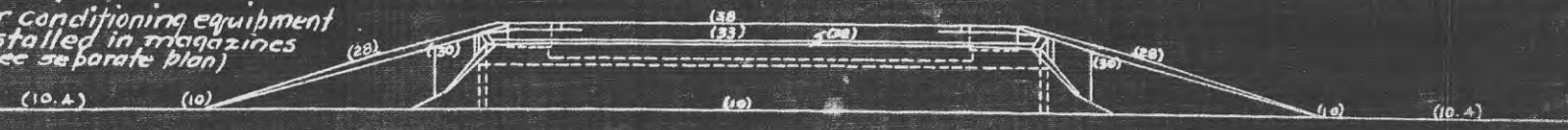
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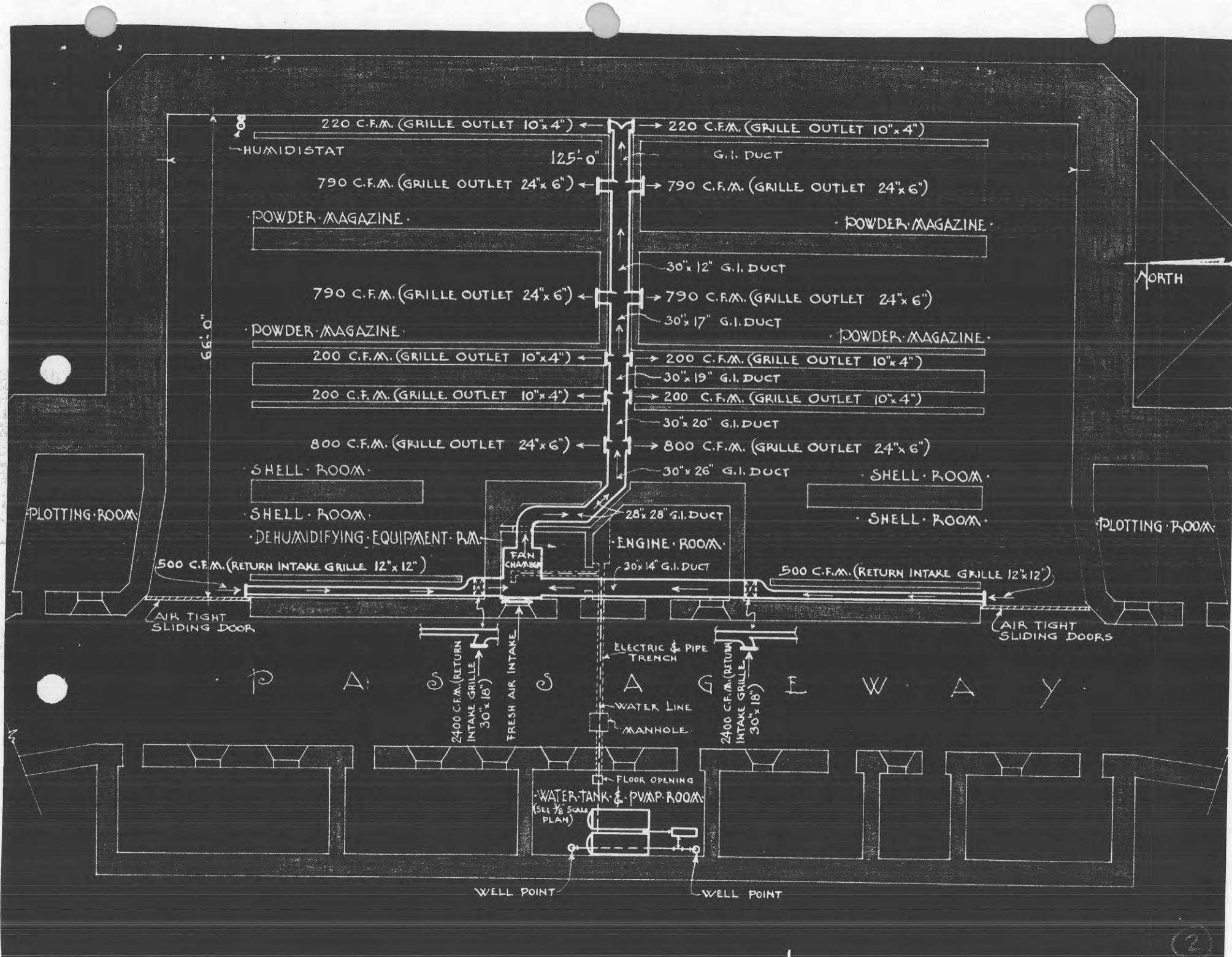


To Battery Kingman
 distance from Emp. No. 2 of
 Battery Mills to Emp. No. 1 of
 Battery Kingman = 750'-0"
 Installation
 Revisions: 12/10/1924

Steam heat installed in Qtrs. Toilets, Plotting
 Room 3, Sept. 1913.

Jan. 1937
 Air conditioning equipment
 installed in magazines
 (See separate plan)





600 4 (14) 14220

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Batteries)

HARBOR DEFENSES OF NEW YORK
FORT HANCOCK, NEW JERSEY
BATTERY MILLS * No. of Guns 2
Caliber 12" Carriage BARBETTE

SPEK-1

Part I Corrected to 28 NOV. 1944

GENERAL:

Battery commenced March 1917
 Battery completed 2 April 1921
 Date of transfer 2 April 1921
 Cost to date of transfer \$297,953.04 Project. 270 funds
 Materials of construction Concrete
 Battery new or modernized Modernized
 (If modernized give detailed statement on reverse side) No. 1 - El. 14.352
 Trunnion elevation in No. 2 - El. 14.351
 Datum plane Mean Low Water

UTILITIES:

WATER SUPPLY

Source of Reservation System
 Alternate source --
 Size of Main 6" Ø Transite

SEWER

Connected to sewer Yes
 Type of Disposal Septic Tank
 Type of Latrine Sanitary Flush Syphon Jet (Tank)

UTILITIES (Cont'd.)

ELECTRIC POWER

Sources of Engine Generators & Commercial
 Procured & installed by (OGE or ORD) Commercial by O.C.E.
 Characteristics: Voltage 450/120/208 Ac or DC Engine Generators by Phase 3 Ord.
 No. of units and capacity 3
 Max. K.W. required for utilities 25 KVA
 Max. K.W. required for non-battle conditions 25 KVA
 Commercial power provided (yes or no) Yes Capacity 50 KVA
 Auxiliary power unit provided (yes or no) No Capacity
 Type of lighting fixtures Std. U.S.E.D. & Comm. Std. CSF
 Dehumidifying Unit..Make and capacity Wastinghouse
 Rooms Wet or Dry Dry 10 H.P.*
 How ventilated Vent shafts (Plott. Rms.) Exhaust (Power Rm.)
 How heated Steam heat installed in quarters, latrines
 DATA TRANSMISSION & plotting rooms - Sept. 1919.
 Type Telephones

REMARKS

See attached sheet for additional construction
 *3 H P Dehumidifying units in main corridors

ARMAMENT

Emplacement No.	Cal.	Length	Model	Guns				Carriages			
				Serial No.	Manufacturer	Mounted	Type	Model	Serial No.	Manufacturer	Motor
1	12"	35 Cal.	1895	69	Ordnance Dept.	Nov. 1919	Bar-bette	1917	9	Ordnance Dept.	None
2			M-1								
3	12"	35 Cal.	1895	46	Ordnance Dept.	Oct. 1919	Bar-bette	1917	8	Ordnance Dept.	None
			M-1								

* Declared Excess in 1944 AGF
 11-202-1106 (6) (11-202-1106) (11-202-1106) (11-202-1106)

2

Nature & Cost of Additional Repairs & Modifications (Battery Mills)

1923

Sump pump installation.....\$ 200.00

1925

Modifications to Plotting Room..... 1,500.00

January 1937

Installation of dehumidifying and air circulating equipment to eliminate condensation.

Material: Freon gas compressor, cooling coil, heating coil, fan, humidistat, control switches, ducts..... 2,113.00
 Labor..... 1,080.00
\$ 3,193.00

1937

Electric power installtion - 3 phase AC line to Batt. Mills.....\$ 681.00

1937

Water supply system-

Equipment: Pumping unit Deming Co. unit #83400, 930 gallons per hr. capacity, 1½" discharge with 1½ H.P. motor..... 121.00
 Check & relief valves and gage..... 9.75
 Electric panel board with pressure switch & gauge and magnetic starting switch..... 44.25
 (Tanks wer fron surplus stock)
\$ 175.00

1942-1943

(a) Casemate & corridors added to original magazine.....475,097.27
 (b) Power Room added to C.T. Magazine.....131,745.63
 (c) Electrical Power Extension..... 1,760.77
 (d) Gasproofing system installed..... 6,582.54
 (e) Alterations to original septic tanks..... 1,510.84
 (f) Additions to original ventilating system..... 2,463.22
 (g) New wood doors (Power Magazine Rooms)..... 590.35
 (h) Blastproofing - Modifications resulting from gunfire tests. 4,068.18
Total.....\$623,818.80

FS-294 2240.97
 626,059.77

1944

Power Room Heating System

This project consists of the installation of oil fired hot water boiler, induced draft fan.

4 unit heaters and necessary piping.

2 new closures to isolate heated areas as follows: Power Room, Water Cooler Room, Muffler Gallery and Corridor.....\$2,240.97

1944 - Additional Dehumidification System.

This project consists of installation of 3 self-contained dehumidifying units with 3 H.P. compressor. Necessary wiring, ductwork, condensate dry wells and closures for corridors.....\$ 10,033.72

FS-996
 FS-143441423

RECEIVED

Mills

Nature & Cost of Additional Repairs & Modifications (Cont'd.)

1944 - This project consists of the removal of existing direct current, gasoline engine driven generators, switchboard, jacket water cooling radiators and related equipment. Restoration of floors and miscellaneous repairs.....\$ 1,380.00

637,473.49

SECRET

Statement of nature and cost of all major repairs or modifications on
the structure since 1925 -

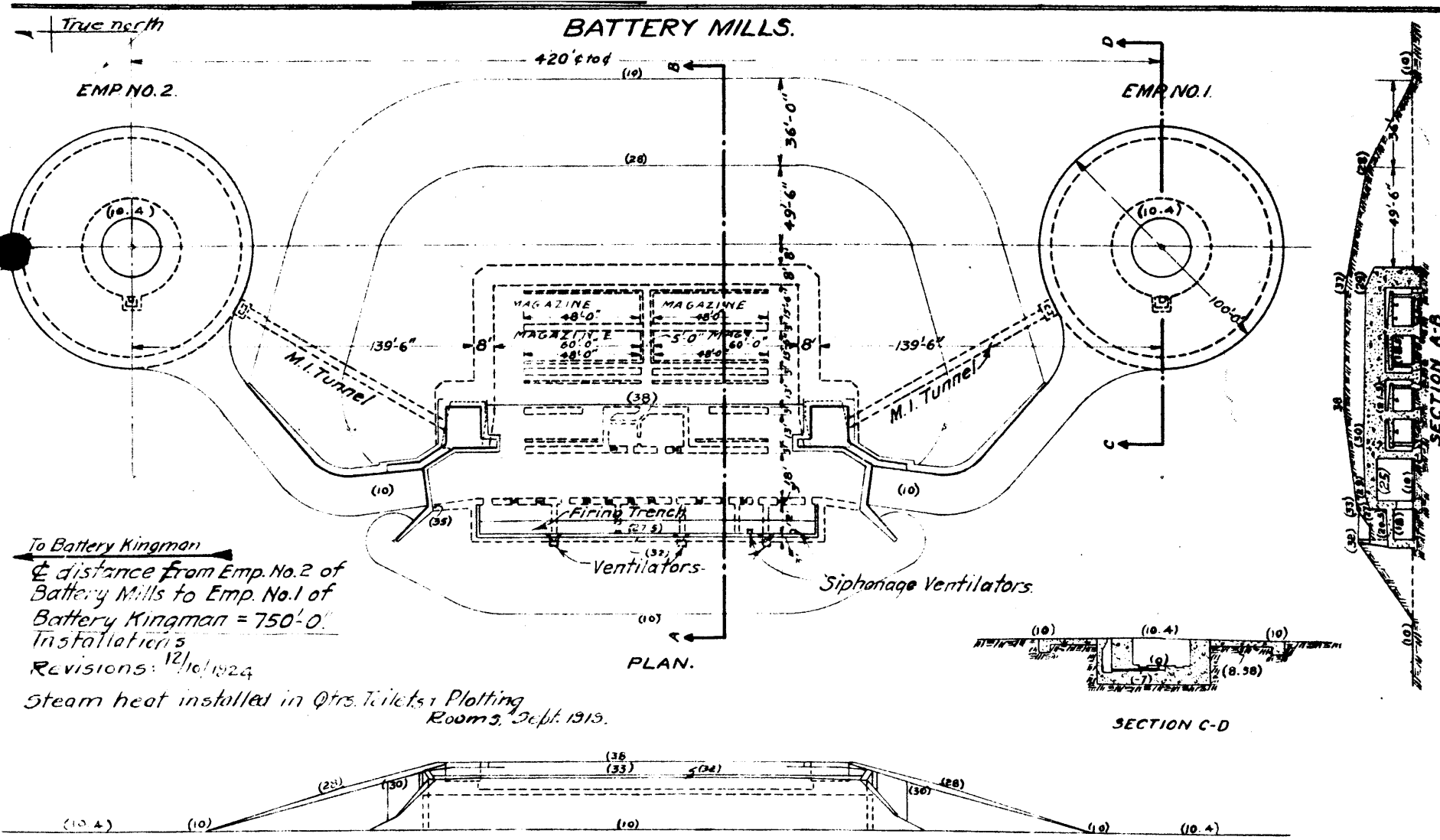
July 1943 -

Spotting, boiler, generator, C.W.S., and latrine rooms added.
Gasproofing and dehumidifying systems installed..... \$41,552.12

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Corrected to Dec. 10, 1924.

Scale: 1" = 60'



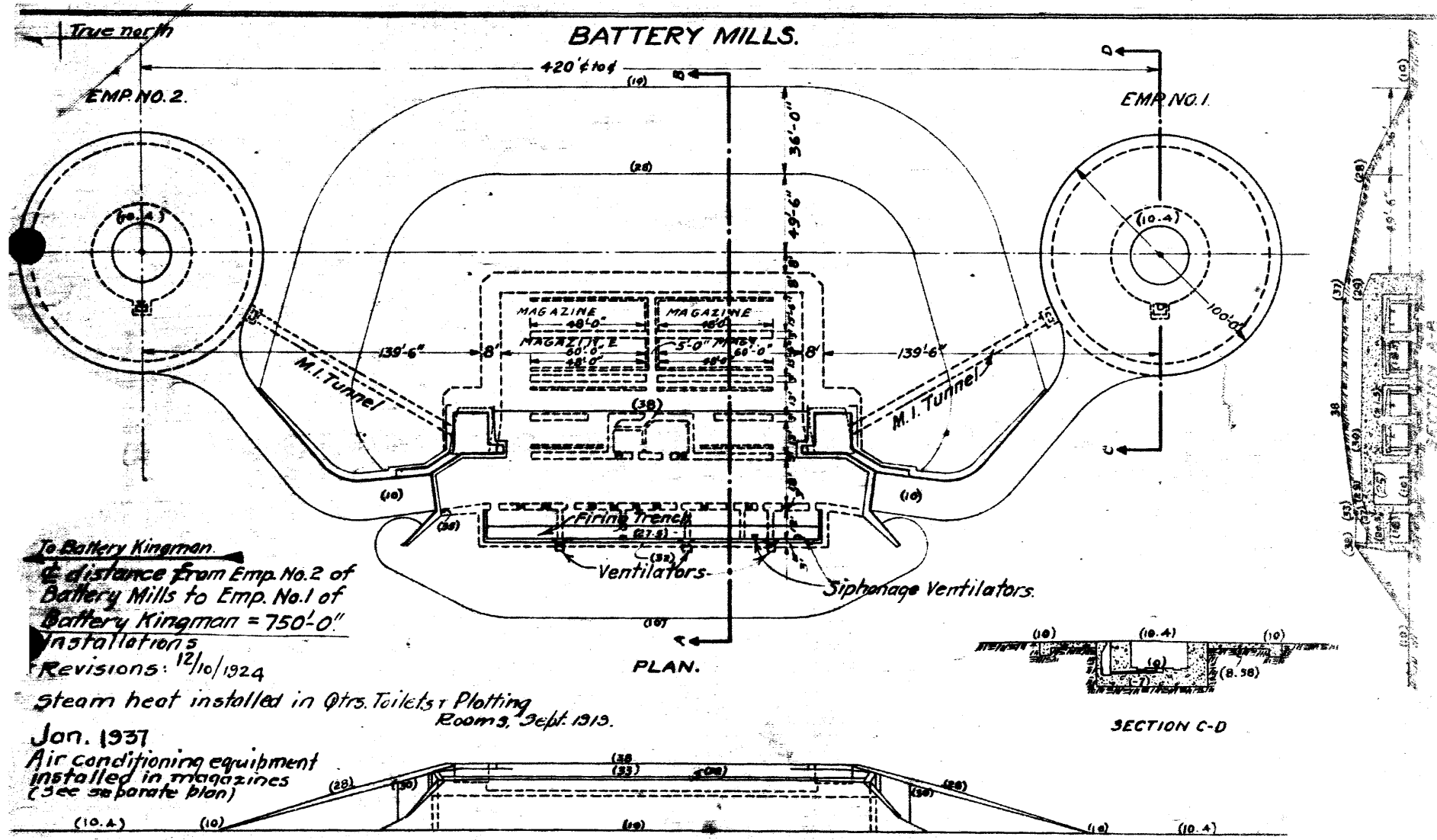
To Battery Kingman
 Distance from Emp. No. 2 of
 Battery Mills to Emp. No. 1 of
 Battery Kingman = 750'-0"
 Installation
 Revisions: 12/10/1924
 Steam heat installed in Qtrs. Toilets, Plotting
 Rooms, Sept. 1919.

REAR ELEVATION.

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS - HARBOR DEFENSES OF SANDY HOOK, FORT HANCOCK.
BATTERY MILLS
 No. of Guns-2. Caliber-12"
 Scale: 1"=60'

Corrected to **JUNE 3, 1937.**

Carriage-Barbette.

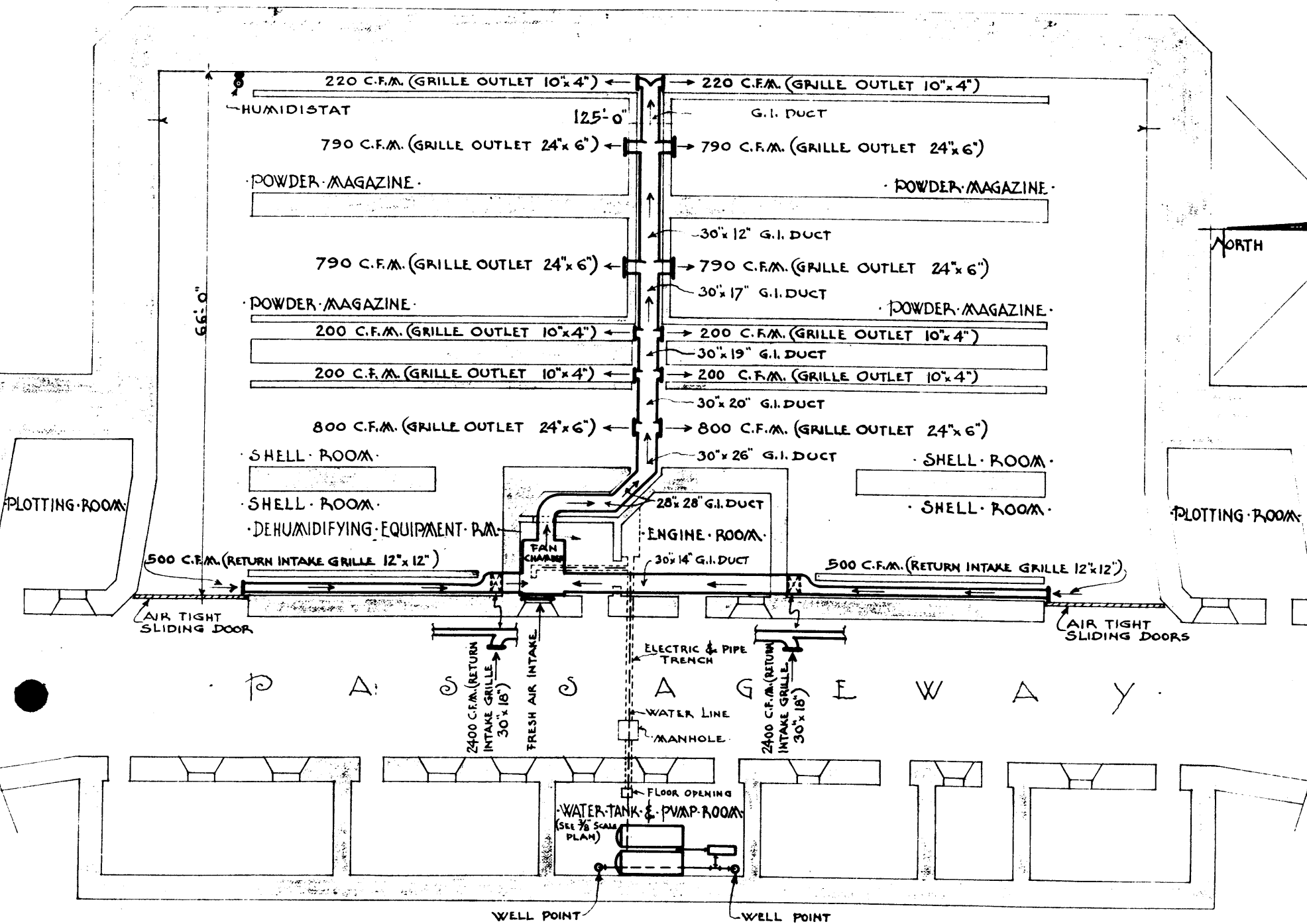


To Battery Kingman
 Distance from Emp. No. 2 of Battery Mills to Emp. No. 1 of Battery Kingman = 750'-0"
 Installation
 Revisions: 12/10/1924

Steam heat installed in Qtrs. Toilets & Plotting Rooms, Sept. 1913.

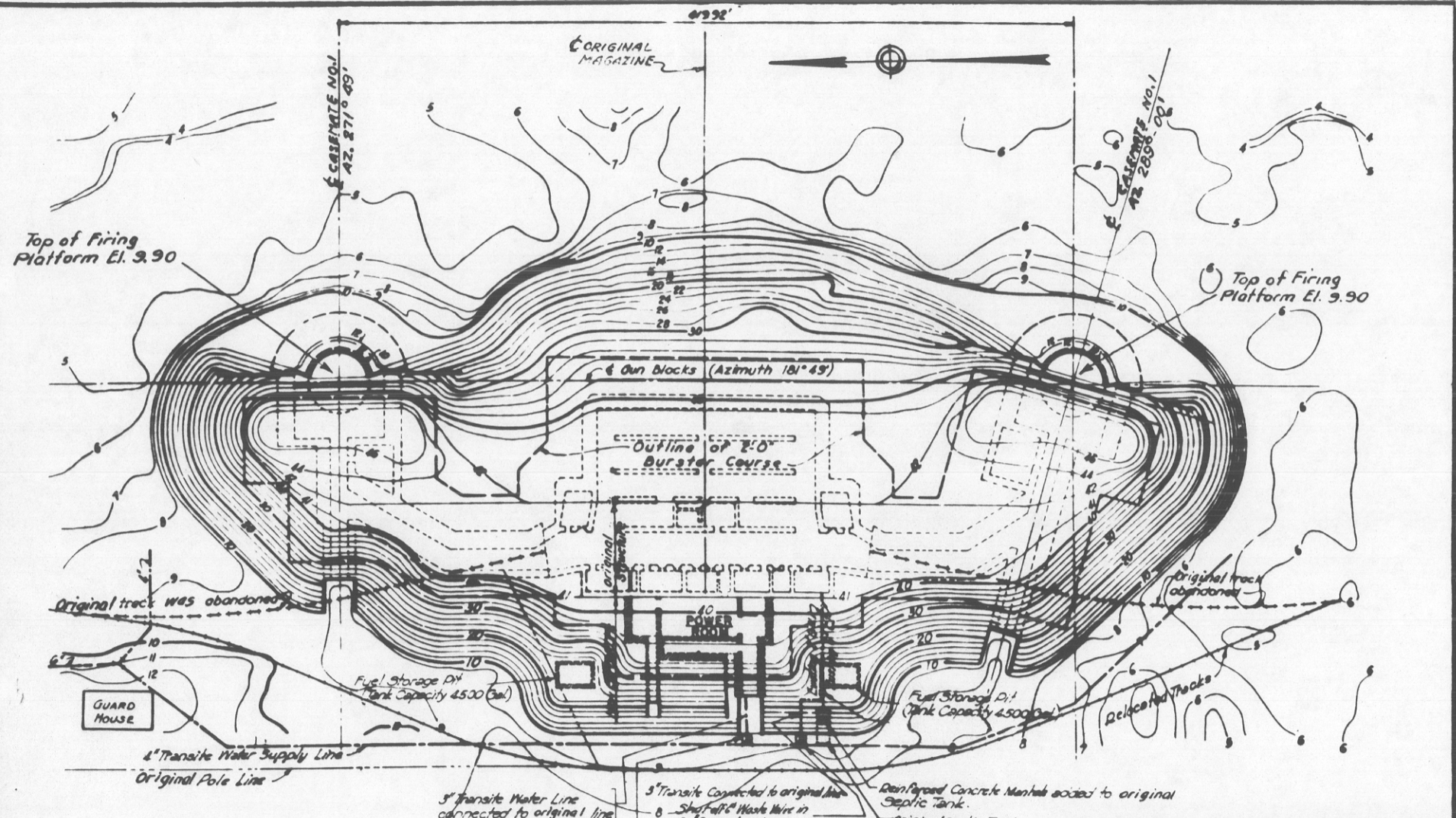
Jan. 1937
 Air conditioning equipment installed in magazines (see separate plan)

(10.4) (10) (28) (30) (32) (34) (36) (38) (40) (42) (44) (46) (48) (50) (52) (54) (56) (58) (60)

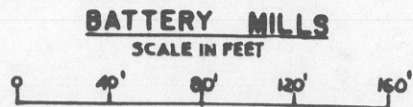


66'-0"

P A S A G E W A Y



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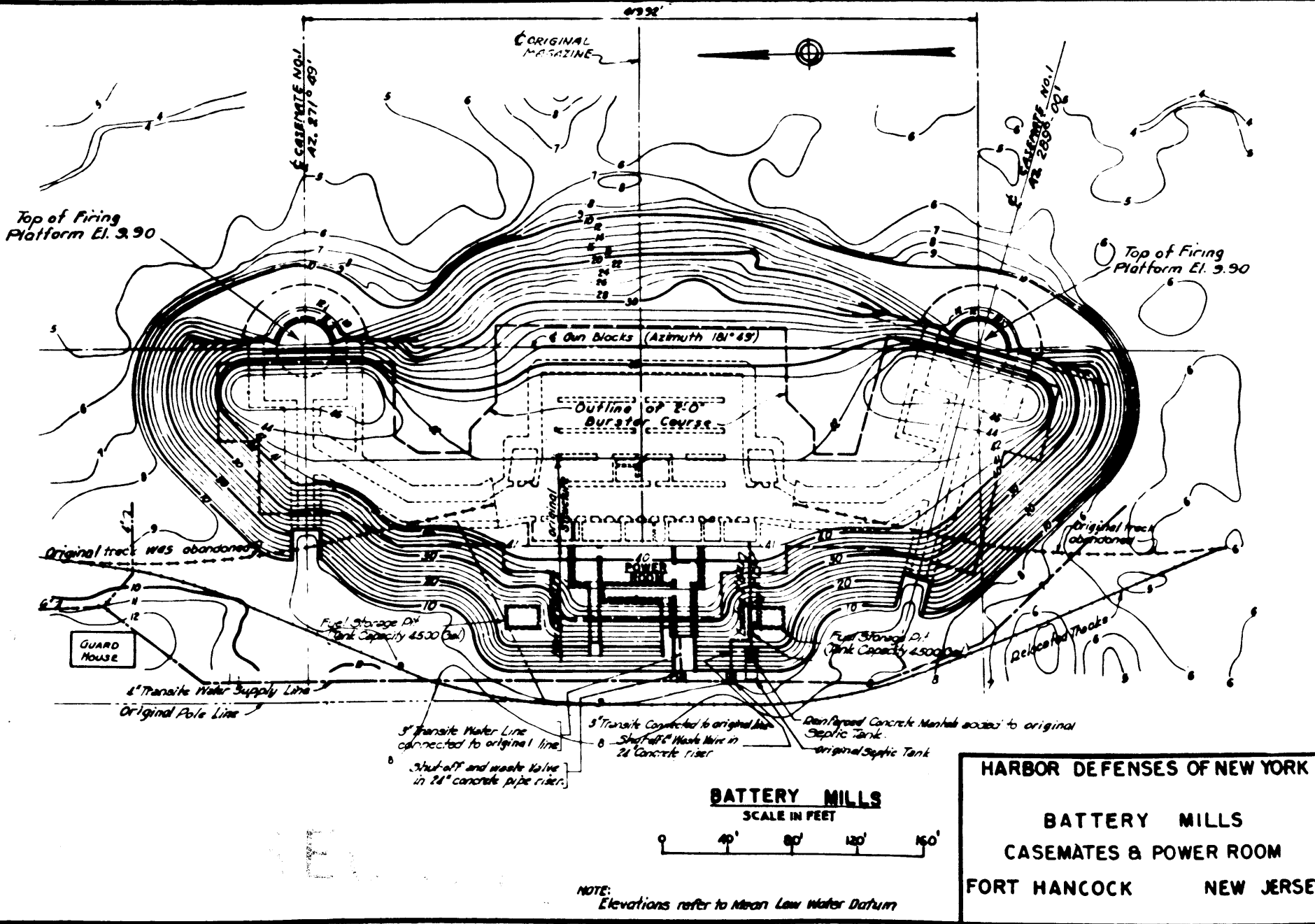


NOTE: Elevations refer to Mean Low Water Datum

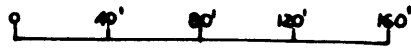
HARBOR DEFENSES OF NEW YORK

BATTERY MILLS
CASEMATES & POWER ROOM

FORT HANCOCK NEW JERSEY



BATTERY MILLS
SCALE IN FEET

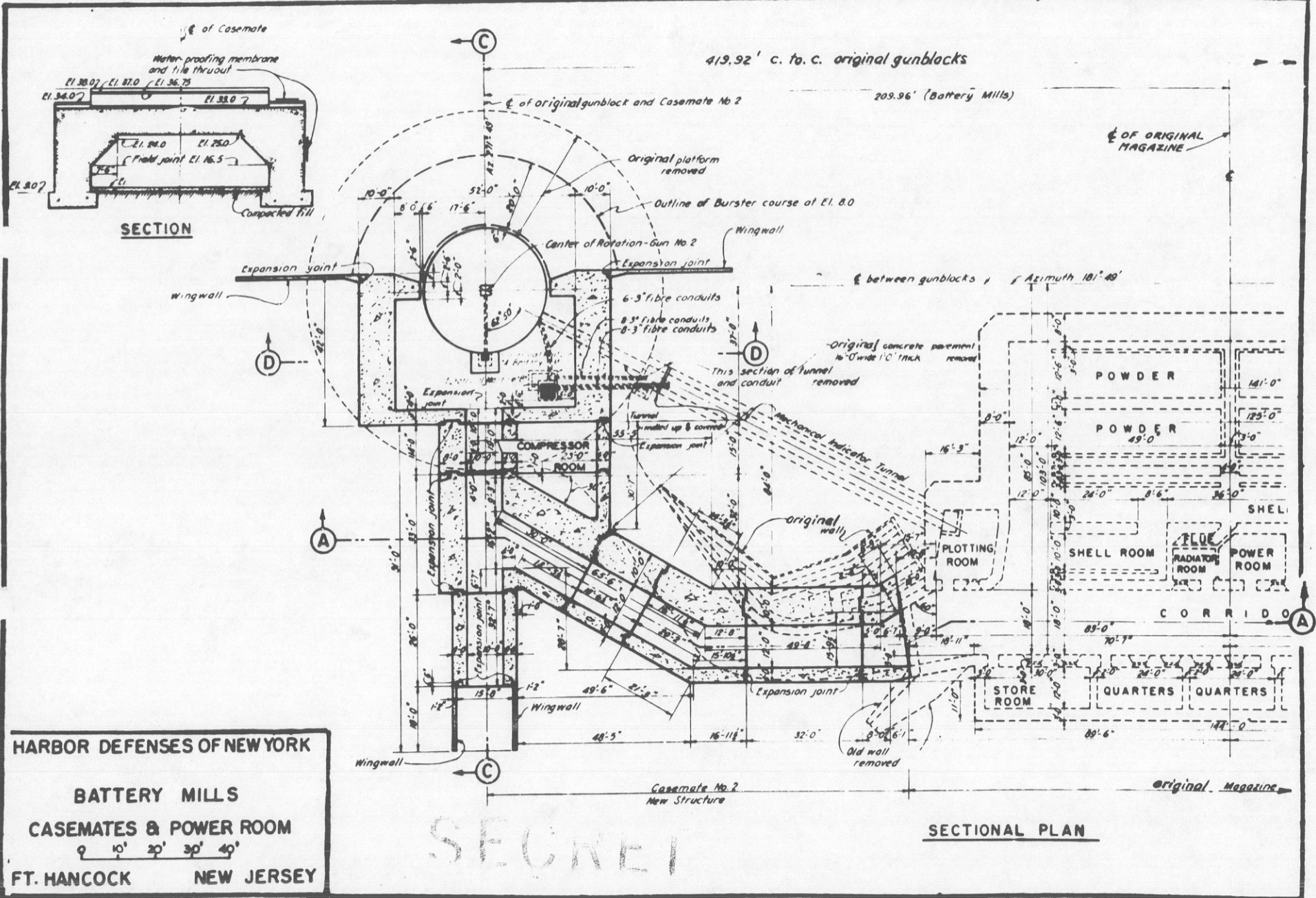


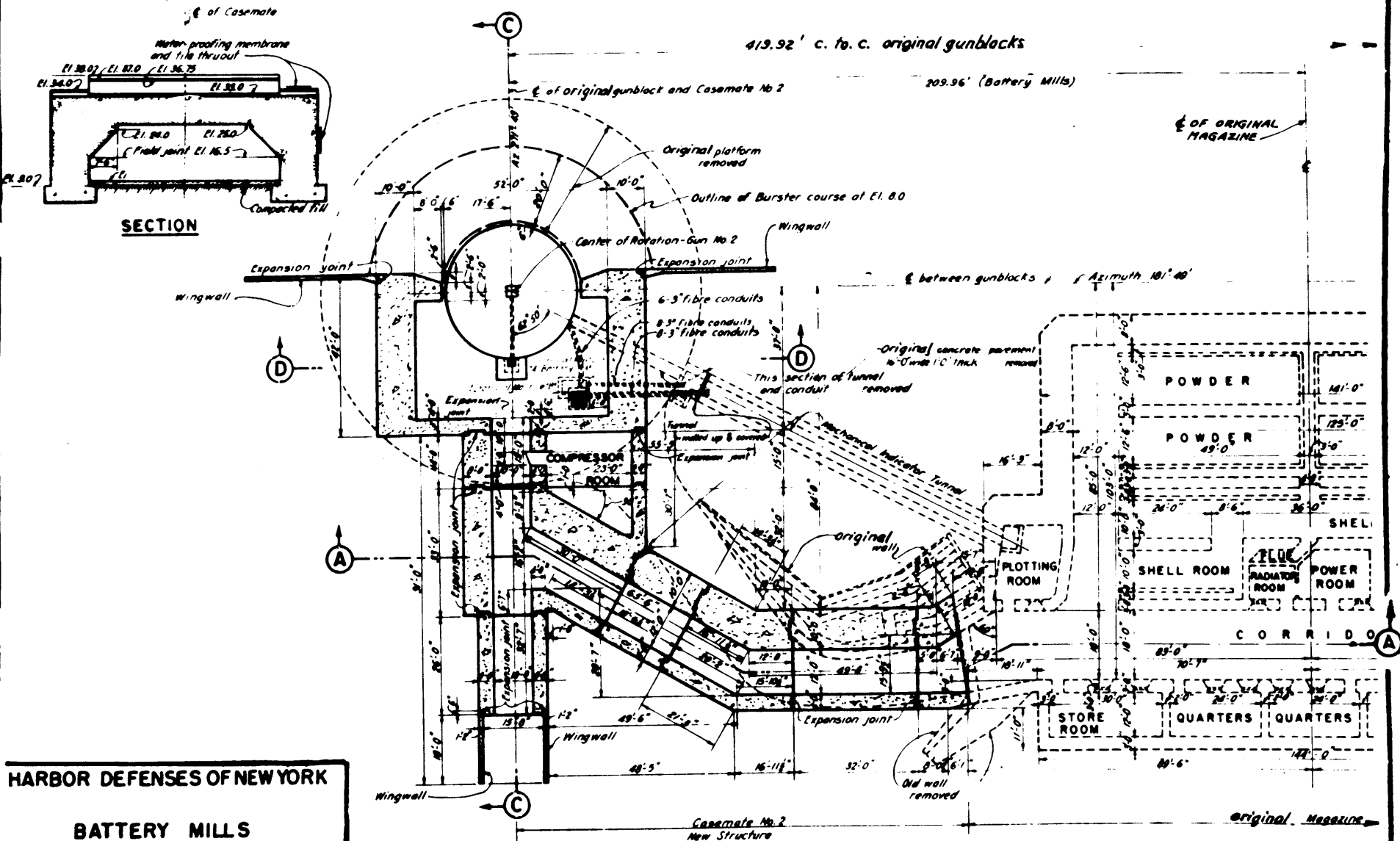
NOTE:
Elevations refer to Mean Low Water Datum

HARBOR DEFENSES OF NEW YORK

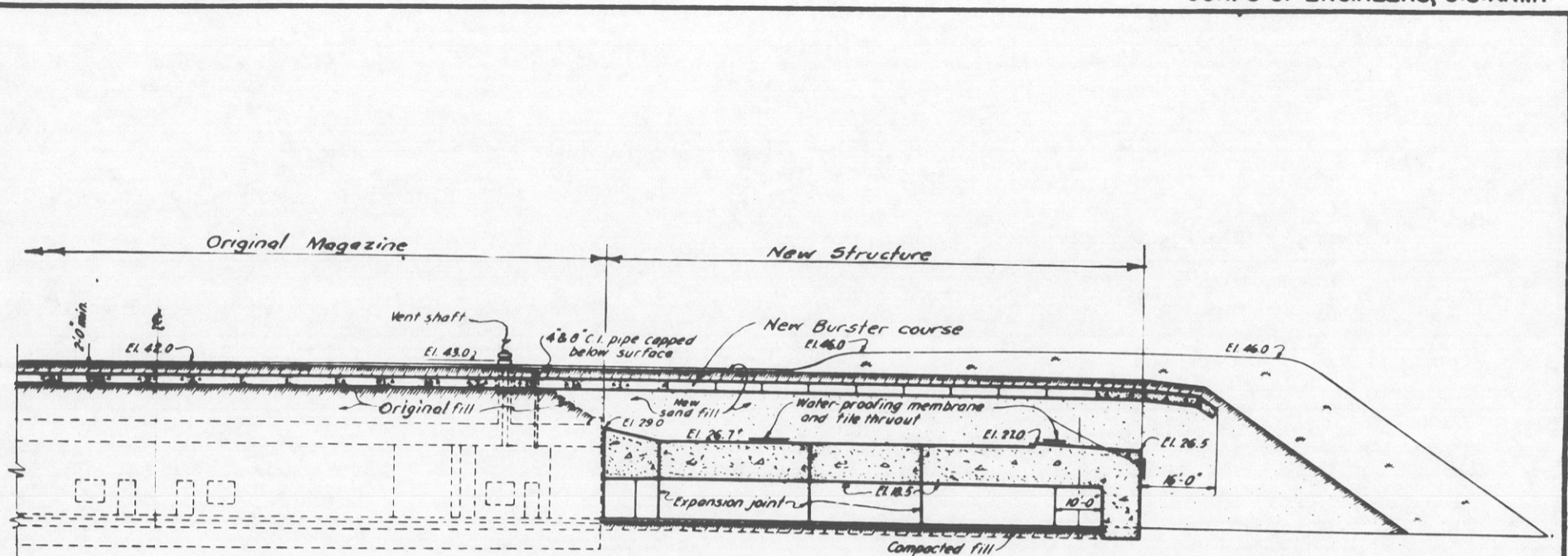
BATTERY MILLS
CASEMATES & POWER ROOM

FORT HANCOCK **NEW JERSEY**





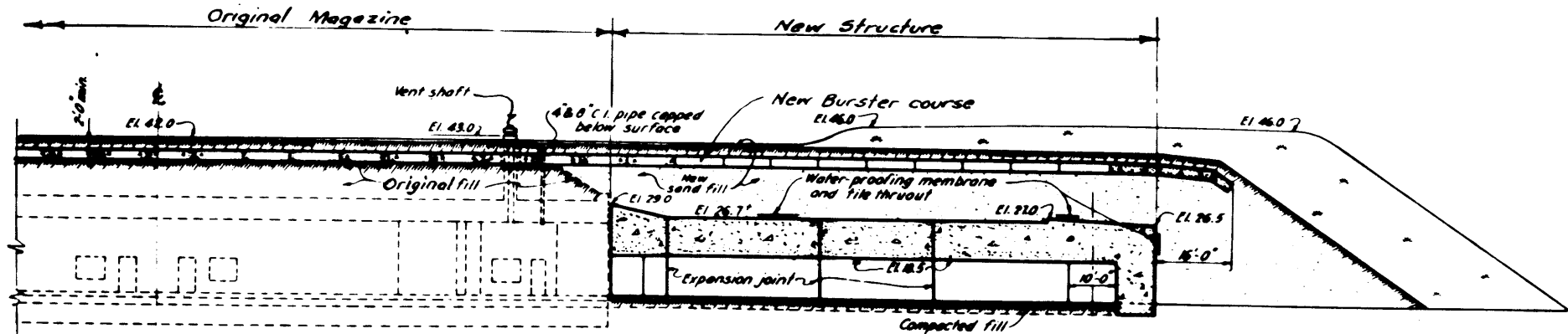
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SECTION A-A ON C OF CORRIDOR

SECRET

HARBOR DEFENSES OF NEW YORK
BATTERY MILLS
CASEMATES & POWER ROOM
0 15' 30'
FT. HANCOCK NEW JERSEY



SECTION A-A ON C OF CORRIDOR

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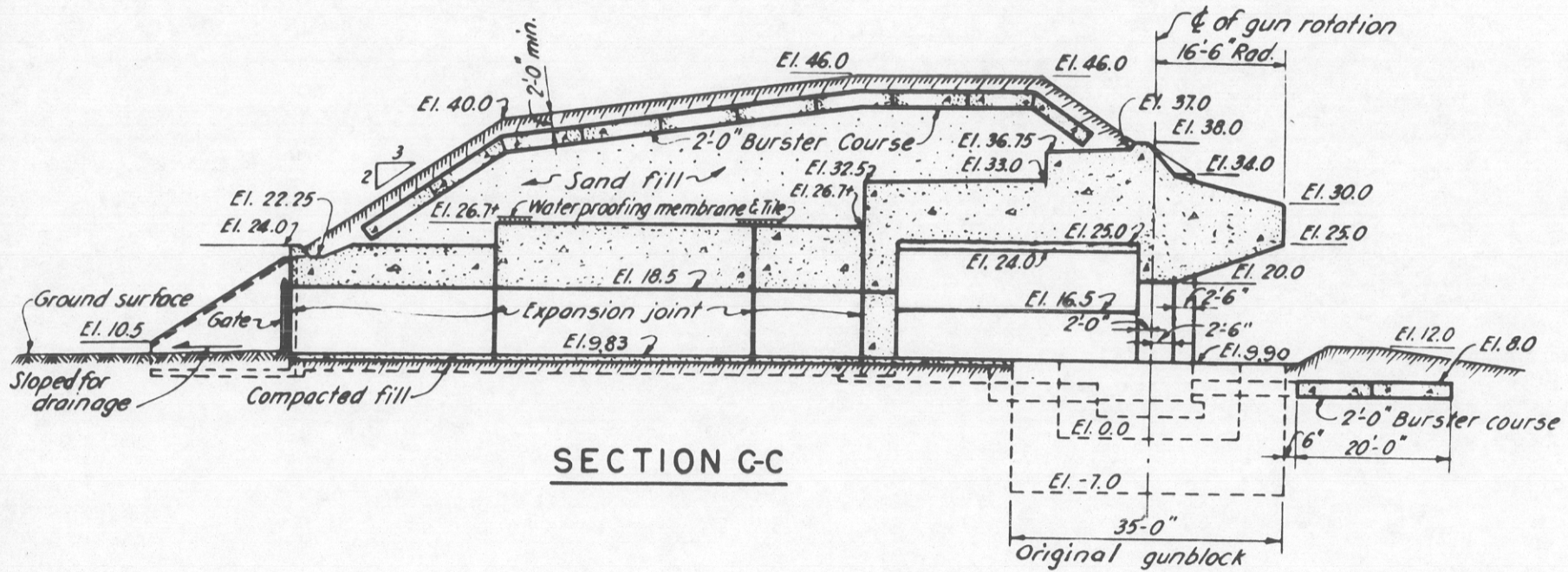
HARBOR DEFENSES OF NEW YORK

BATTERY MILLS

CASEMATES & POWER ROOM

0 15' 30'

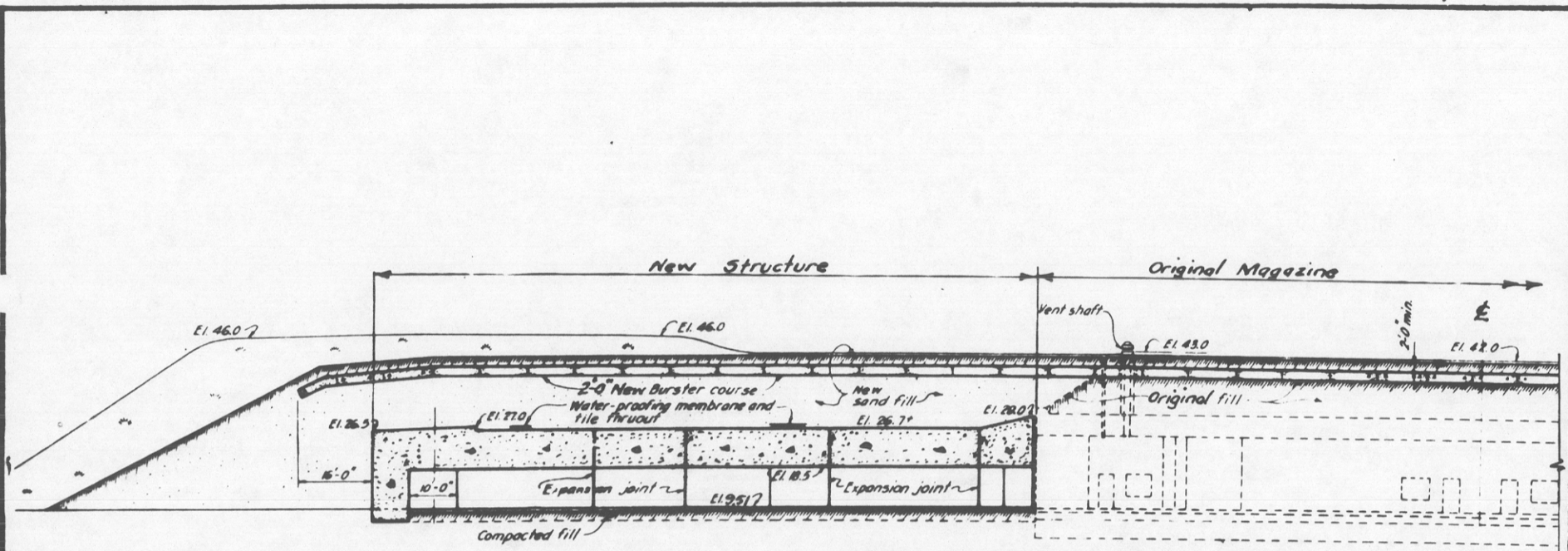
FT. HANCOCK NEW JERSEY



SECTION C-C

HARBOR DEFENSES OF NEW YORK
 BATTERY MILLS
 CASEMATES & POWER ROOM
 20'
 40'
 FT. HANCOCK NEW JERSEY

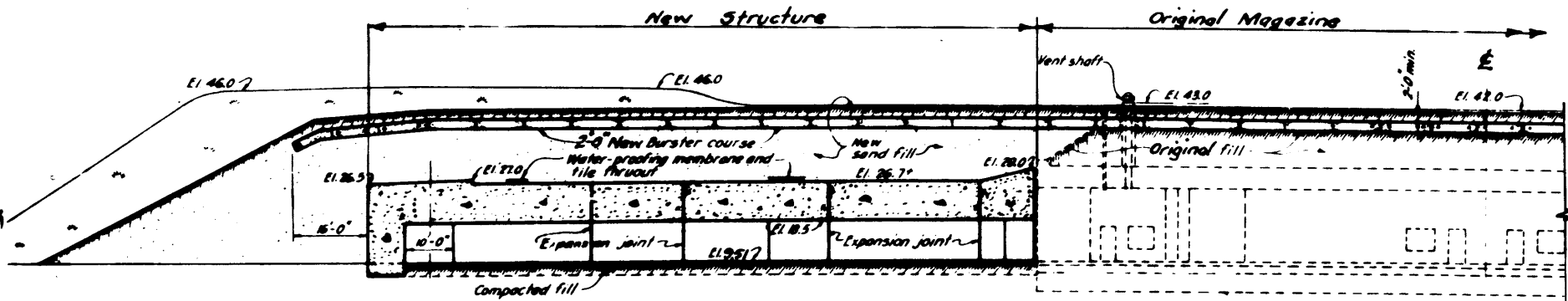
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SECTION A-A ON C OF CORRIDOR

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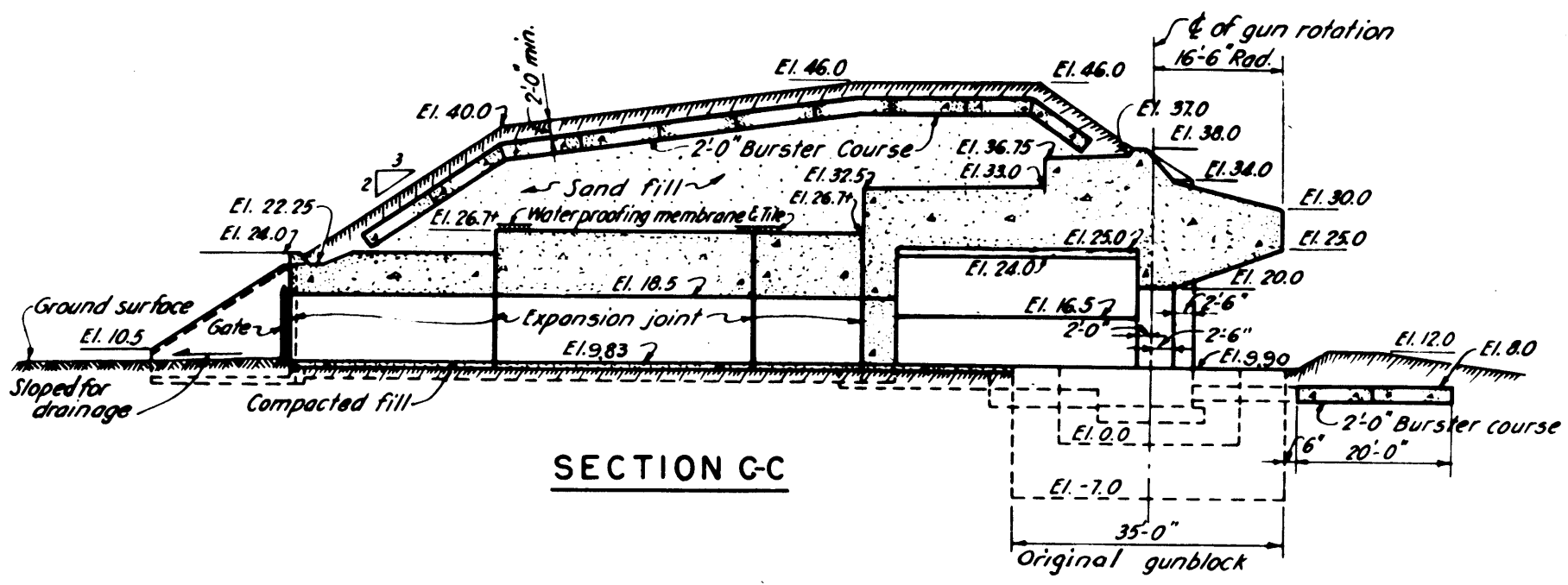
HARBOR DEFENSES OF NEW YORK
BATTERY MILLS
CASEMATES & POWER ROOM
0 15' 30'
FT. HANCOCK NEW JERSEY



SECTION A-A ON C OF CORRIDOR

HARBOR DEFENSES OF NEW YORK
 BATTERY MILLS
 CASEMATES & POWER ROOM
 0' 15' 30'
 FT. HANCOCK NEW JERSEY

SECRET



SECTION G-C

HARBOR DEFENSES OF NEW YORK

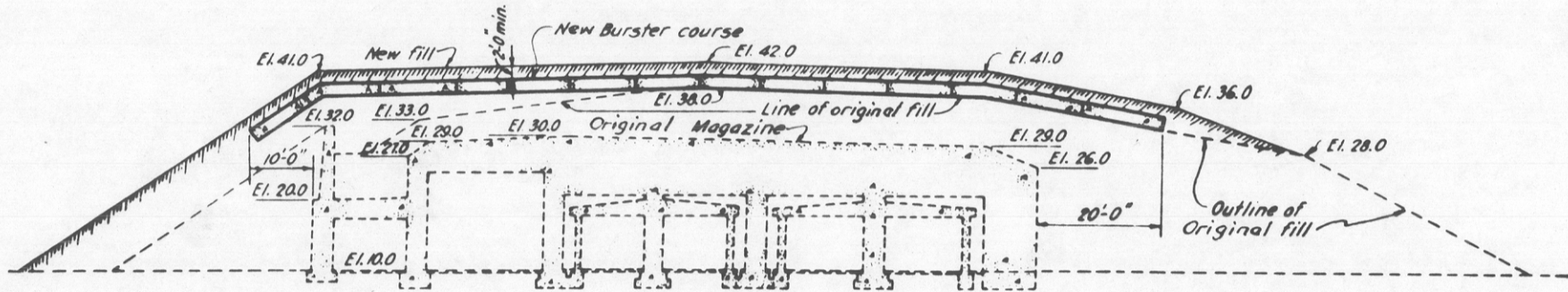
BATTERY MILLS

CASEMATES & POWER ROOM

0 20' 40'

FT. HANCOCK NEW JERSEY

SECRET



SECTION B-B

ORIGINAL MAGAZINE

SECRET

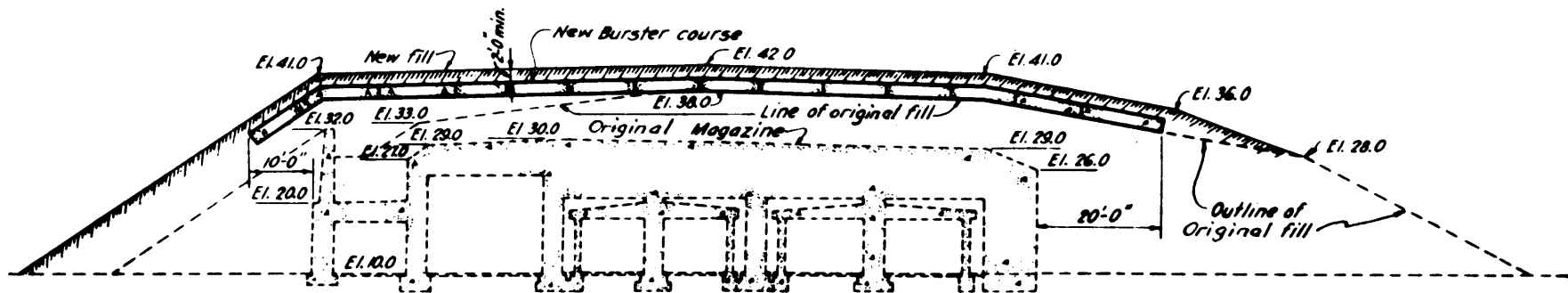
HARBOR DEFENSES OF NEW YORK

BATTERY MILLS

CASEMATES & POWER ROOM

0 20' 40'

FT. HANCOCK NEW JERSEY



SECTION B-B

ORIGINAL MAGAZINE

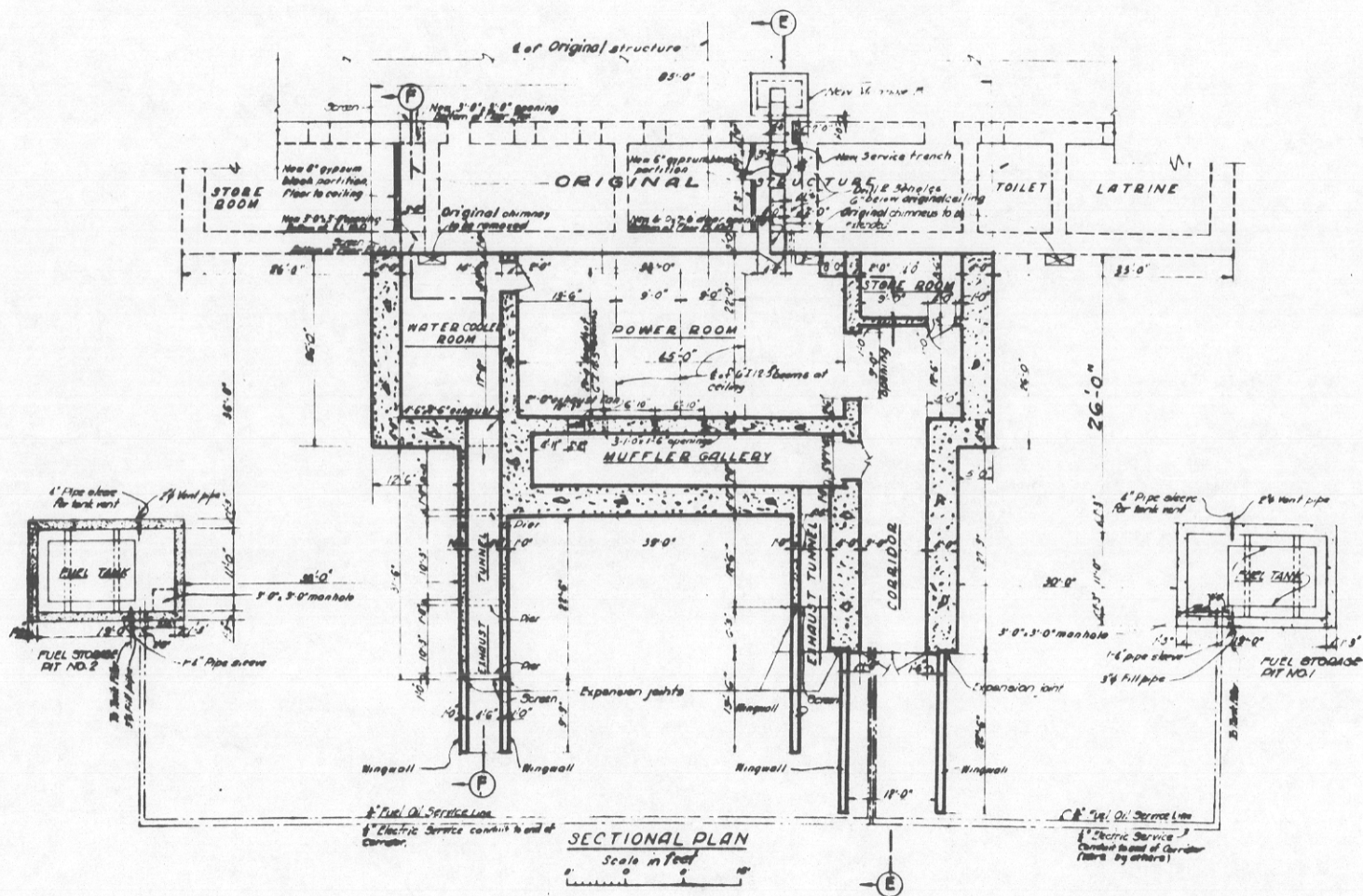
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HARBOR DEFENSES OF NEW YORK

BATTERY MILLS
CASEMATES & POWER ROOM

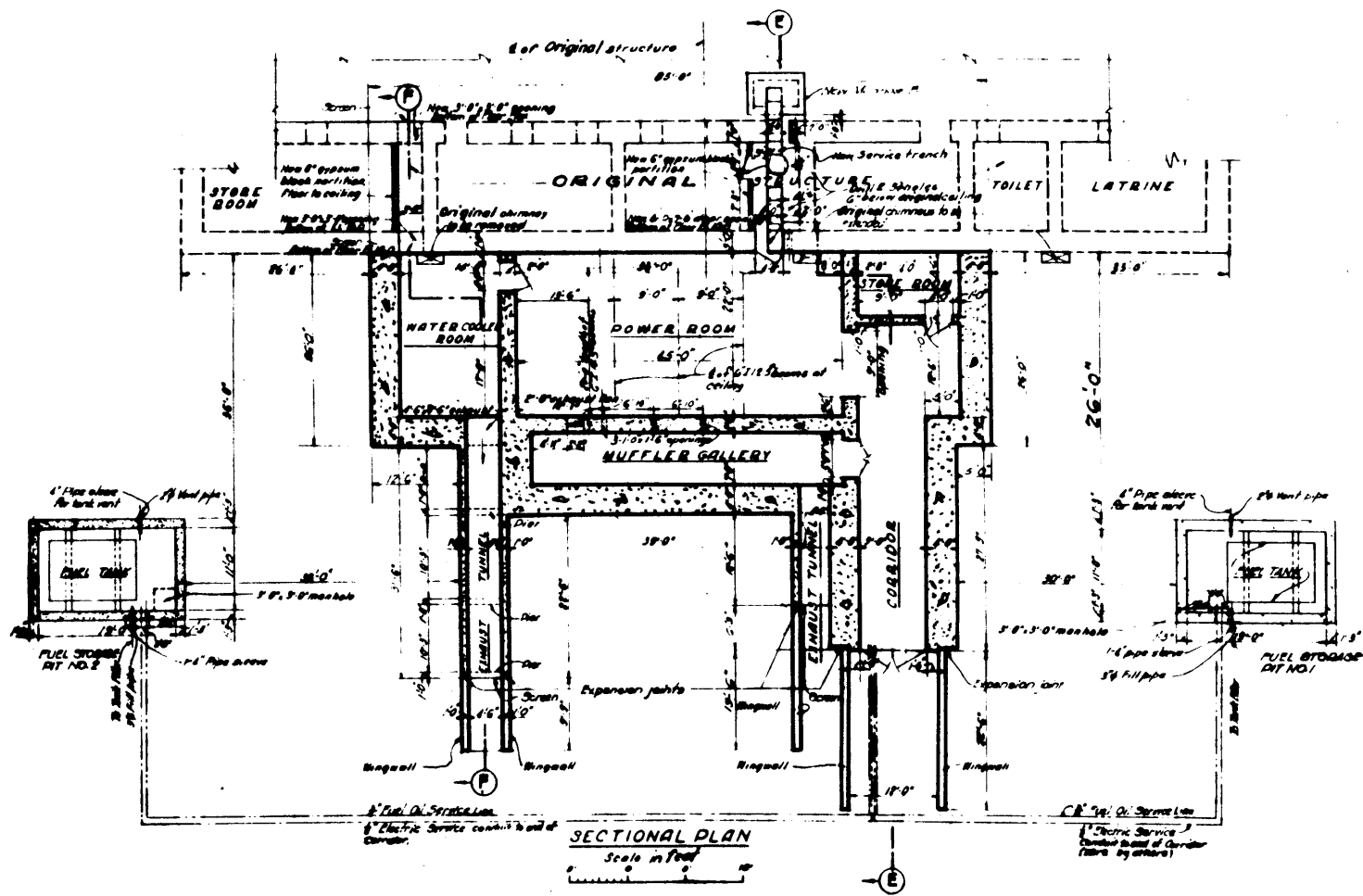


FT. HANCOCK NEW JERSEY



SECRET

HARBOR DEFENSES OF NEW YORK
 BATTERY MILLS
 POWER ROOM
 FT. HANCOCK NEW JERSEY



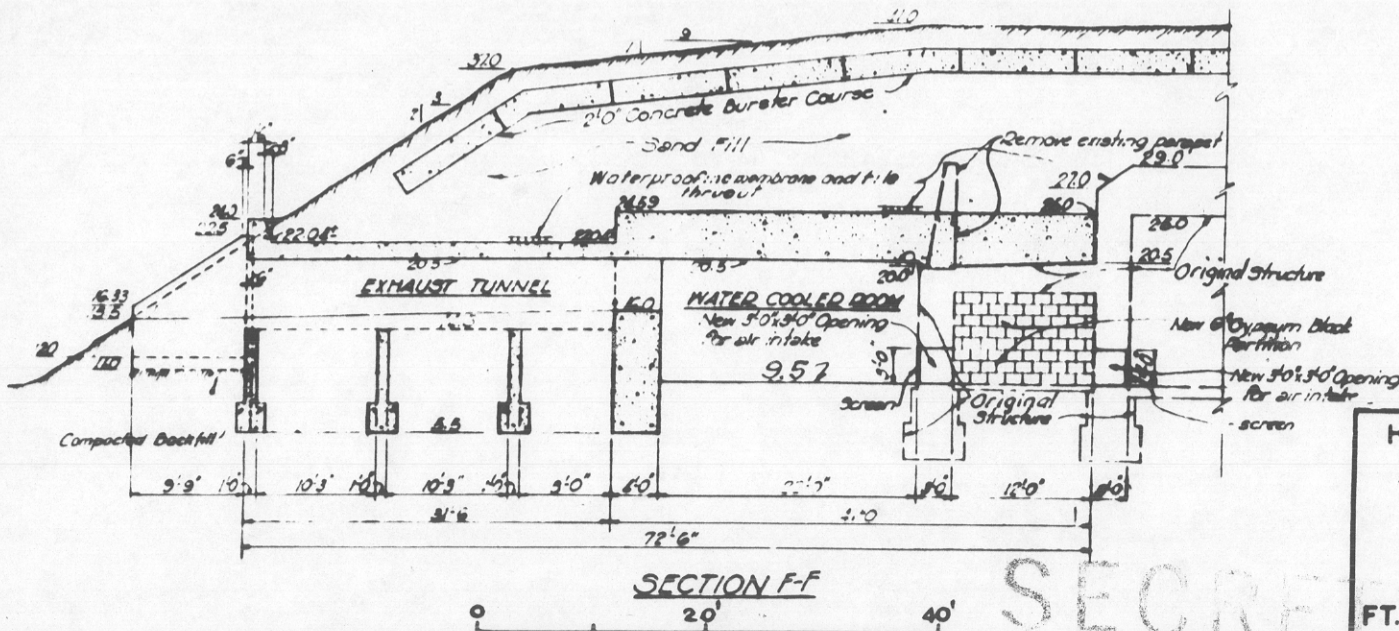
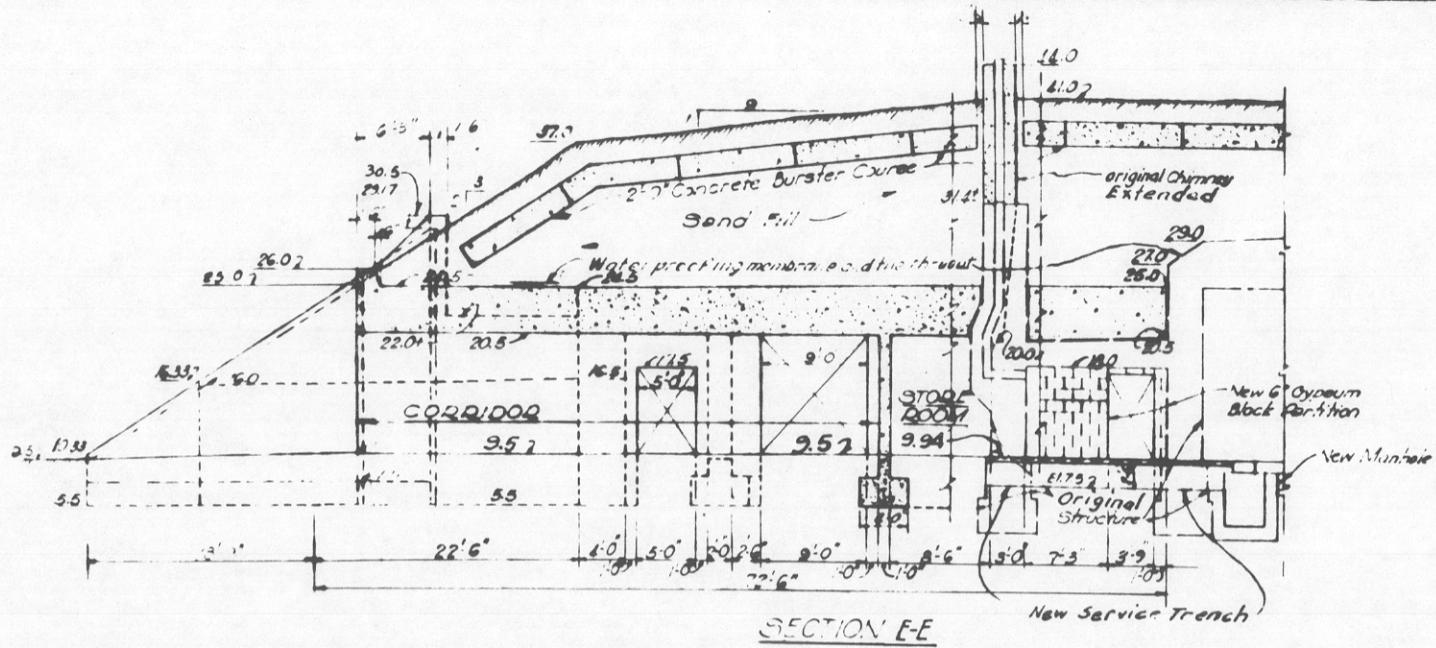
HARBOR DEFENSES OF NEW YORK

BATTERY MILLS

POWER ROOM

FT. HANCOCK NEW JERSEY

SECRET



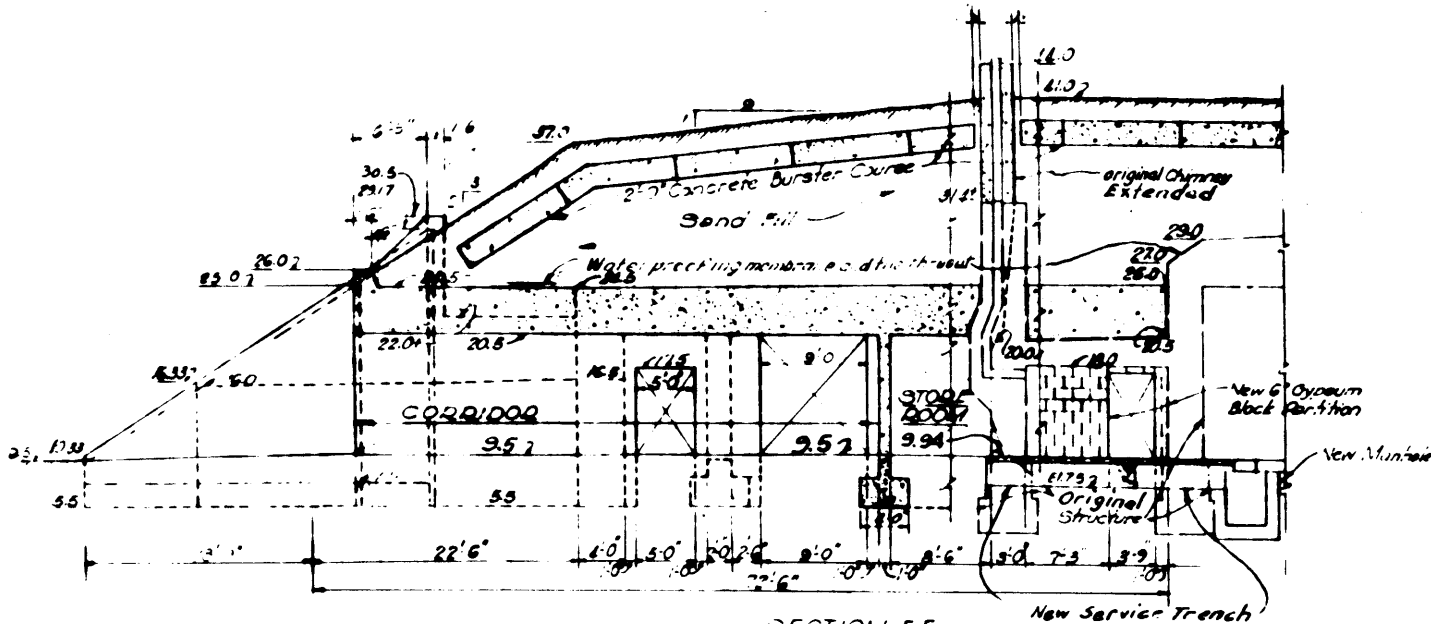
HARBOR DEFENSES OF NEW YORK

BATTERY MILLS
POWER ROOM

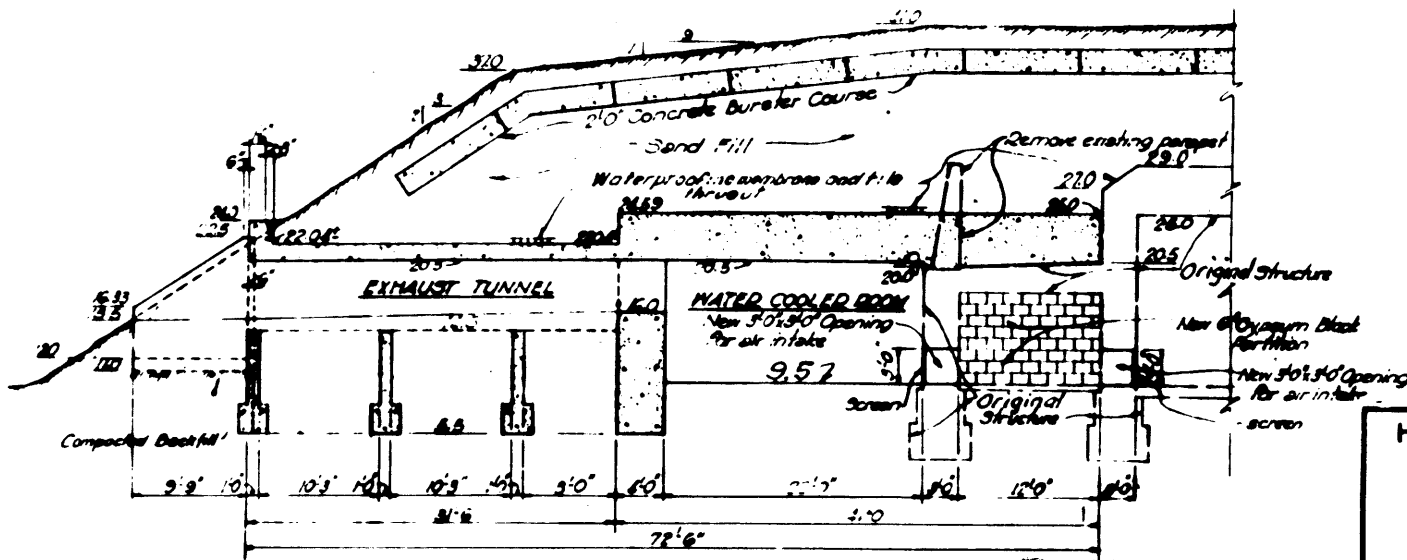
FT. HANCOCK

NEW JERSEY

SECRET



SECTION E-E



SECTION F-F

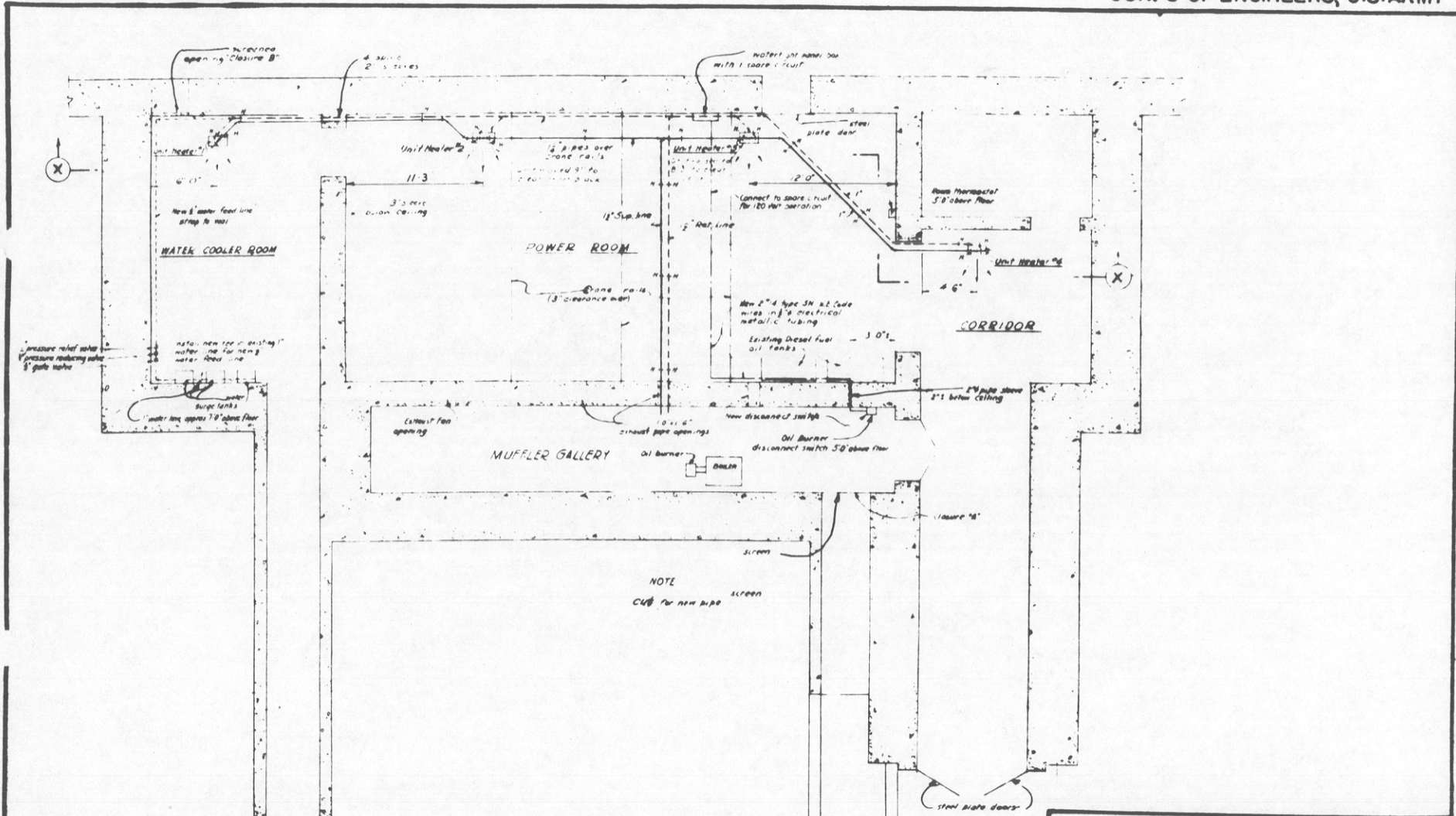
HARBOR DEFENSES OF NEW YORK

BATTERY MILLS
POWER ROOM

FT. HANCOCK

NEW JERSEY

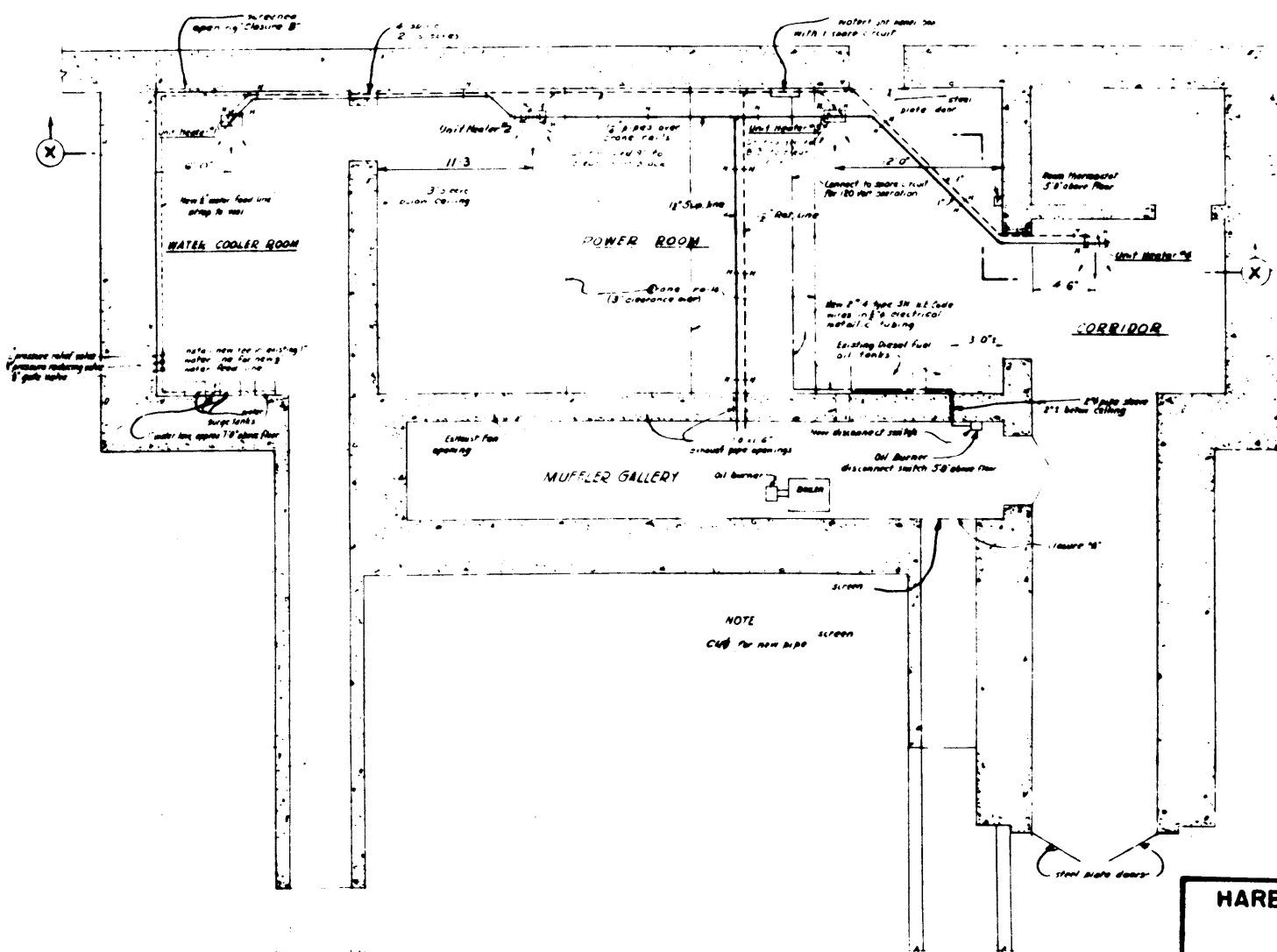
SECRET



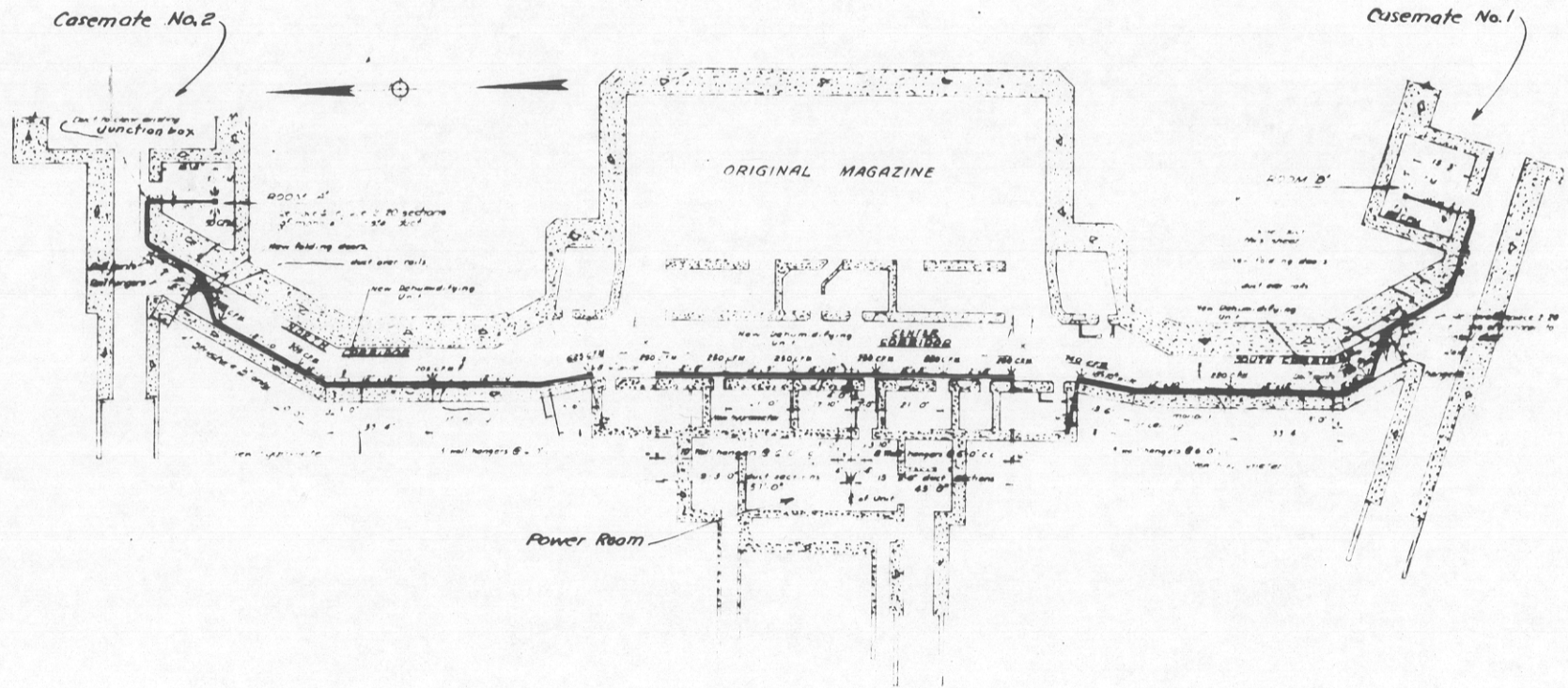
NOTE
 Call for new pipe
 screen

HARBOR DEFENSES OF NEW YORK
 BATTERY MILLS
 POWER ROOM HEATING SYSTEM
 0 6' 12' 18' 24'
 FORT HANCOCK NEW JERSEY

SECRET



HARBOR DEFENSES OF NEW YORK
 BATTERY MILLS
 POWER ROOM HEATING SYSTEM
 0 6' 12' 18' 24'
 FORT HANCOCK NEW JERSEY

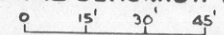


PLAN

HARBOR DEFENSES OF NEW YORK

BATTERY MILLS

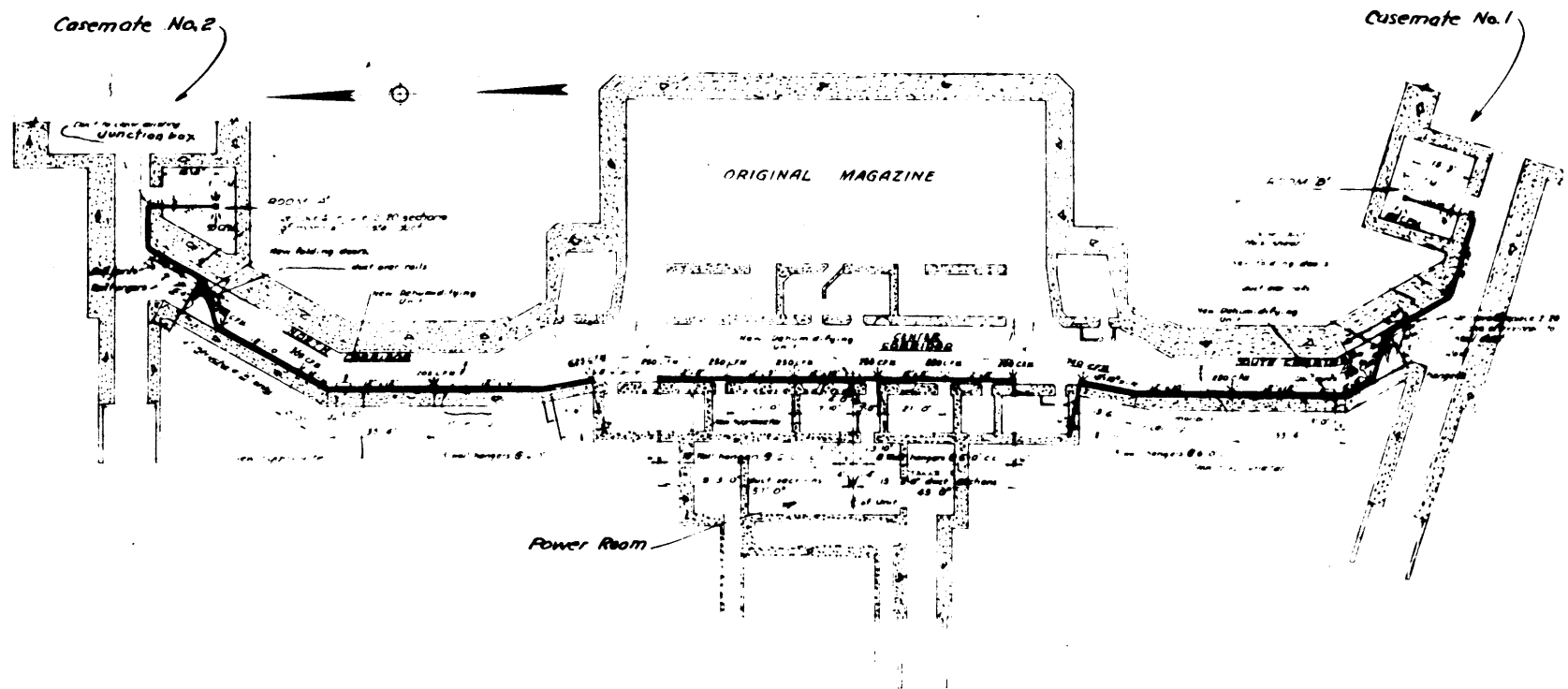
ADDITIONAL DEHUMIDIFYING SYSTEM



FT. HANCOCK

NEW JERSEY

SECRET



PLAN

HARBOR DEFENSES OF NEW YORK
 BATTERY MILLS
 ADDITIONAL DEHUMIDIFYING SYSTEM
 0 15' 30' 45'
 FT. HANCOCK NEW JERSEY

SECRET