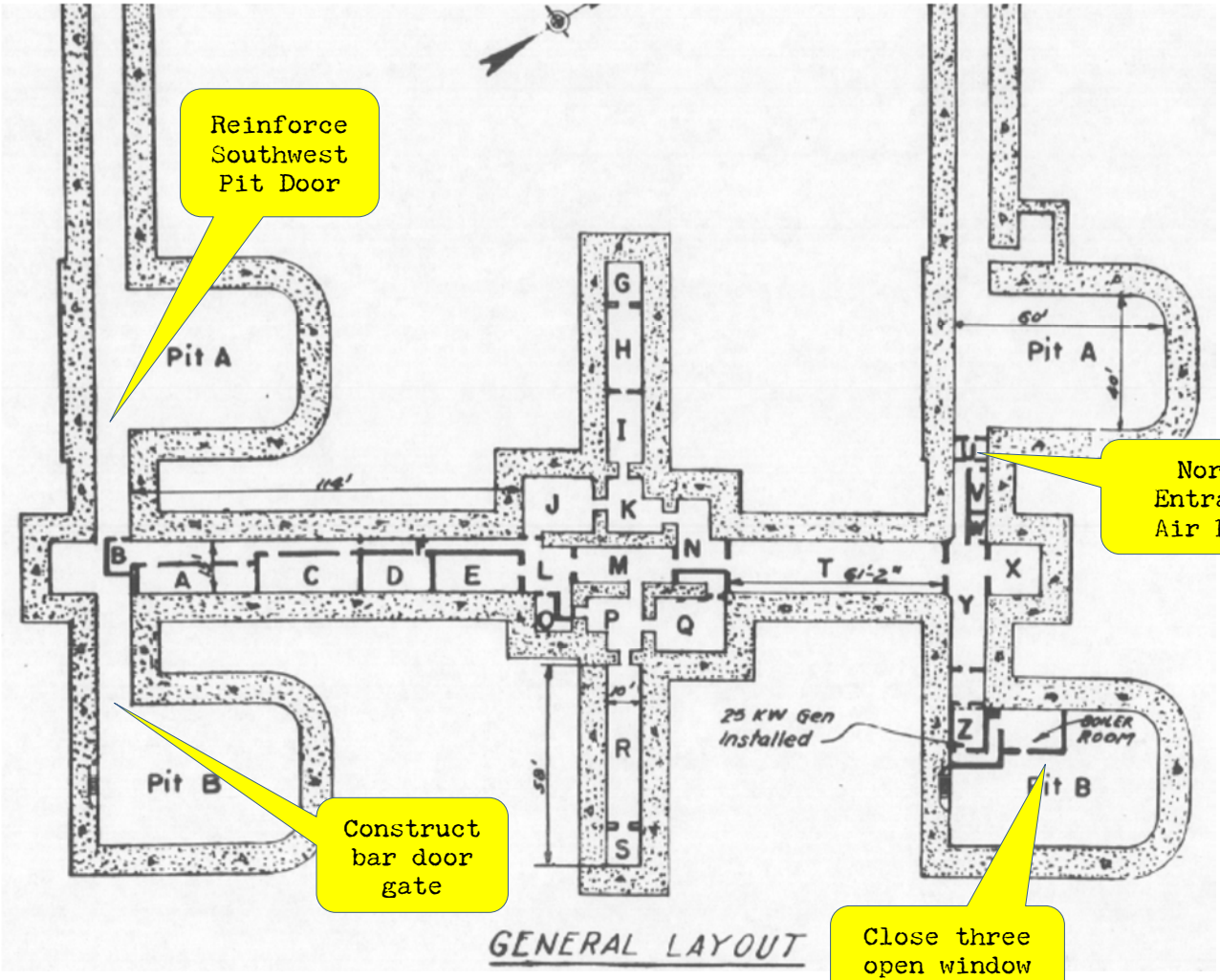
Mortar Battery/Harbor Defense Command Post
Ft. Hancock, New Jersey

Army Ground Forces Association (AGFA), in partnership with Gateway National Recreation Area, is beginning the rehabilitation of the WWII Harbor Defense Command Post (HDCP) that was located within Batteries McCook/Reynolds - the "Mortar Battery".

The project has several phases and will take about five years to complete. The first major phase was to secure the structure from intrusion and to remove the rust, prime and paint several doors within the structure. This portion of the project is approximately 98% complete.

The other portions of the project are to (1) rehabilitate the interior ventilation shafts (NPS task); (2) reintroduce electrical service (NPS task); (3) reinstall a code compliant and period correct electrical system (an AGFA task); (4) reintroduce period telephone and radio communications (AGFA task); and (5) re-install one functional M1A1 Collective Protector (chemical warfare) decontamination air lock station (AGFA task).

Below is an extract from a 1942 drawing showing the major elements of the most recent portion of this project.



The photo below shows two window opens before they were closed. The yellow circle contains the openings. The window opening on the left has been enabling vandals to enter the structure, damage historic fabric and paint the interior with rude graffiti.

The photo below shows the third window on the north side of the boiler room of the HDCP.

The photo below shows member PVT Kleeman using a 1940s electric drill to remove the rust from the exterior metal frame of window #3.

The photo below shows CPL Bujdos installing the window #3 insert and steel bar and frame to close window from intrusion.

The photo below shows PFC McCoy working to install the steel window bar frame into Window #2.

The photo PFC McCoy and CPL Bujdos are finishing the installation of Window #2 closure to prevent intrusion into the structure. This closure allows air circulation to help dry the interior of the structure.

The photo below shows PFC McCoy tightening the bolts on Window #1 closure.

The photo below shows LTC Welch grinding the surface of the bolts flat for tack welding to lock the threaded rods into place. This prevents removal of the window.

The photo below shows the installed window closure for Window #1. All three of these windows are in the North East mortar pit of the structure.

The photo below shows PFC McCoy in the background as public visitors are guided into the structure to see the progress of the work in the North East mortar pit windows. The door to the right behind the group of four visitors is the entrance into the boiler room of the structure.

The photo below shows PVT Kleeman applying primer after having removed the rust on the door. Notice the obnoxious graffiti.

The photo below shows SGT Cusano finishing the priming of the boiler room door. The photo on the right shows the door when fully primed.

The photos below show north west pit chemical air lock door (partially rebuilt by National Park Service). The interior was never primed or paint and the exterior paint was well on the road to failure. The photo on the right is post rust reduction using drills with rotary wire brushes. The main plate of the door is a reproduction by the NPS in the 1990s.

The photos below show the interior of the door with rust removed and primer applied. In the distance of the left picture SGT Cusano is applying primer on a 1890s bar door. He is shielded from heavy rain by the station above him. The photo on the right shows the exterior of the door primed and the start of applying the gloss black enamel paint at the top of the door. The piping on the exterior at the left is for the chemical warfare M1 collective protector (decontamination system).

The photos below show the north west pit door with final paint coat applied.

The photo below shows SGT Cusano painting an 1890s bar door in the north west mortar pit.

The photos below show the interior chemical warfare air lock door near the generator and boiler rooms on the north side of the Battery. Left photo shows CPL Budjos removing rust on the base of the door. This photo is looking into the generator room from the north east-west passage. All movable components were rusted and immovable. The right photo shows CPL Budjos near completion of rust removal.

The photo On the right is CPL Budjos applying red zinc primer. All moveable components of the door are now functional. The right photo shows the completed air lock door with gloss black enamel applied. The concrete pads are for the generators and radiators for the power supply system of the HDCP.

The photo on the left is CPL Bujdos priming the chemical air lock door for the south decontamination chamber. The right shows SGT Cusano painting the door.

The photo below shows TSG Weaver assessing the exterior of the north east pit door in 2022. The door closure is missing. The wheel barrels are being used by an NPS team to remove sand inside the mortar pit.

The photo below from mid-2023 shows the door frame from another angle. Notice the decayed condition of the steel plates and bars. Behind the metal plates are square bars that are rusted through in multiple places. This door is not recoverable. Notice the doors are missing. They have long ago rusted to an usable state.

The doors that fit inside the frame are shown below - rusted and unusable and not restorable.

The photo below shows the steel bar door to the north east mortar pit in approximately 1922. This door is assumed to be similar to the decayed remains in the southern emplacement that AGFA replaced. This door open shows the new exhaust and air feeds installed for the power generation equipment to support the Fire Control Switchboard battery charging equipment installed in 1922. Note the steel bar above the door and the blast door to the right. This is similar to the blast door we reinforced in the south west pit.

The photo below shows CPL Cusano and CPL Bujdos clearing out the sand and debris to begin demolition on the south east pit door frame. This work began in December 2023.

The photo T-5 Antonucci is filling sandbags to hold back the sand mound from reentering the door work area.

Below CPL Cusano continues filing sand bags to hold back the sand mound.

Below T-5 Antonucci continues the demolition of the existing and rotted door frame. The frame and bar material has been retained for NPS archeologists.

The photo below shows CPL Bujdos replacing blades in the angle cutter during demolition and preparation of the existing steel for welding. All portions of the former door frame have been removed.

As demolition and cleanup continued, historic materials were stacked in the lateral between the south east and south west pits. Below CPL Cusano and CPL Bujdos carefully place historic materials in the lateral.

Below CPL Cusano is preparing to move materials as Mr. Mason continues working on the bar door installation.

Below CPL Bujdos looks outside as Mr. Mason prepares the next rod for welding. The door section to the right is a historic door that is being used as a pattern for welding.

Below is the first section of the frame welded into place in March 2024.

Below in March 2024 CPL Bujdos is priming the right-side frame as Mr. Mason continues installation of the left frame. Work fabricating the bar door and frame occurred on weekends and weeknights in February to April 2024.

Below CPL Bujdos is finishing the priming of the right-side frame using a red zinc enamel primer.

Photo below from 14 march shows the two sides of the frame installed and one side primed.

Below Mr Mason is preparing the weld the top bar of the frame to the left and right vertical angle iron bars.

Below the upper frame is being welded into place. The square rods are being welded to an angle iron frame and the tops are welded to the stumps of the original square rods that were installed in the 1890s.

Below CPL Bujdos is finishing the priming of the left-side frame.

In late March 2024 the entire door frame was completed and primed in preparation for installation of the two doors in April 2024.

Below the two doors have been installed and the entire frame (minus the doors) has been primed with red zinc enamel primer.

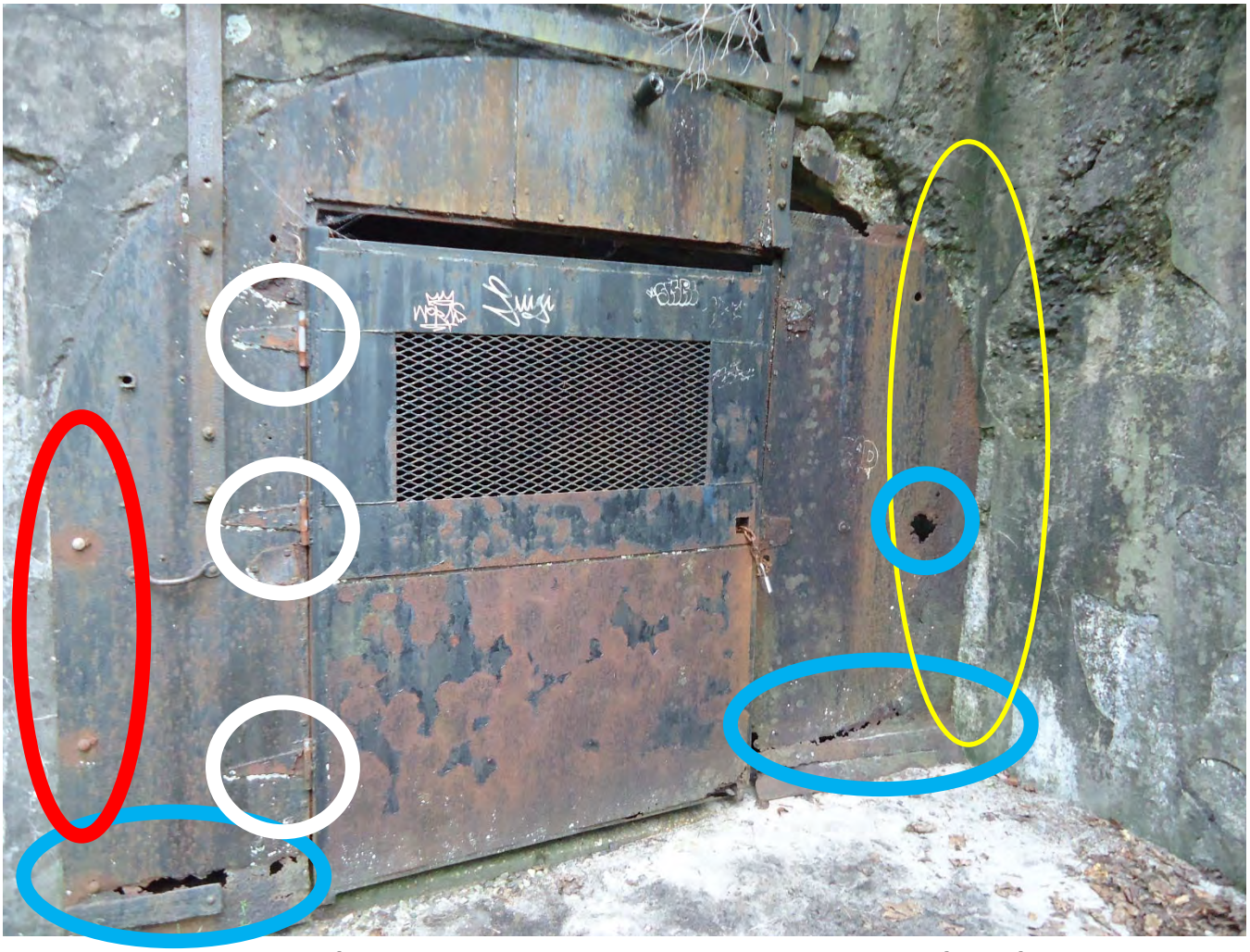
The photo below in April 2024 shows the final locking of the door with LTC Welch and Mr. Mason. This marked the first time in years that the interior access to the fortification has been positively controlled. Mr. Mason was the designer and fabricator of the door assemblies and did all the welding of the structure.

Below SGT Cusano, 1LT Lutkenhouse and 2LT Cusano stand next to the fully assembled and functional bar door.

The photo below in May 2024 shows the door as painted black looking into the fortification. TSG Weaver is opening the doors for the photo.

The photo below shows the door facing to the outside from the inside of the passage.

The next step was to reinforce the southwest pit blast door. Below is the as it existed in August 2023. The area covered by the yellow oval is connected to the wall by one small piece of steel. This area within the yellow oval is the most important to reinforce. The door that exists inside the "blast door" is likely a Park Service creation, post 1975.



The stabilization of this door is intended to strengthen it from forced entry and provide a higher level of confidence that it will not be breached except by use of heavy industrial tools or torch cutting.

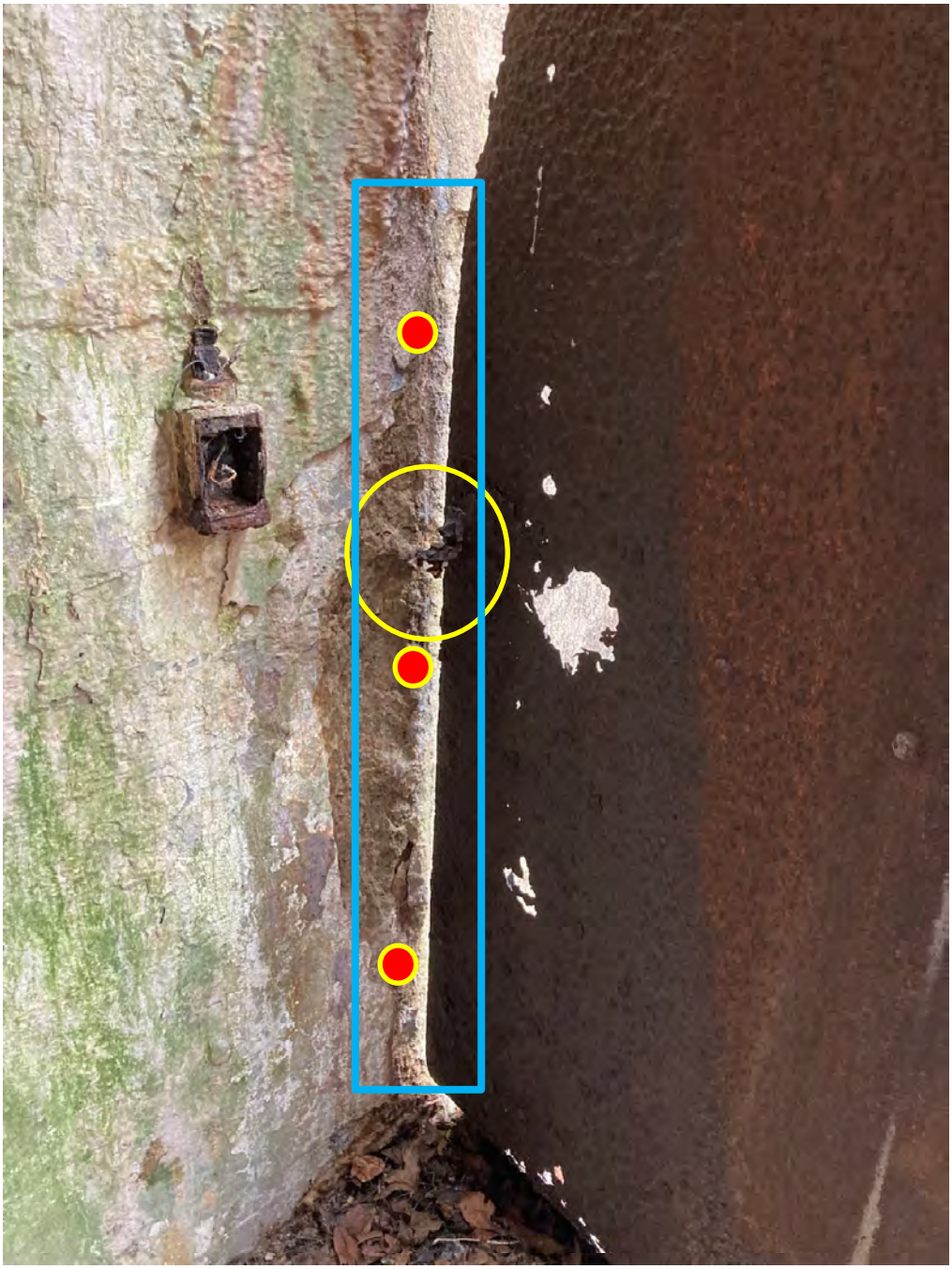
The left side of the door covered by the red oval is well secured on the inside of the tunnel by a three-foot-tall piece of angle iron. The two bolt heads showing in this picture are the method of securing this portion of the door to the angle iron. These are modern galvanized carriage bolts.

The three white circles show the three hinges for the door. The bottom hinge is broken. The broken hinge will be repaired by welding.

The deteriorated areas inside the blue circles will be reinforced with steel plate to enable a firm connection to the proposed angle iron in the interior of the tunnel.

The photo below shows the existing angle iron that secures the north side of the southwest pit door. The iron is secured with three anchors into the concrete wall of the tunnel. Two bolts are visible securing the door frame to the angle iron. The nuts are modern hexagonal nuts. We believe this was installed by the NPS sometime in the 1990s.

The photo below shows the left (south) side of the door and the proposal before the start of work. The small piece of steel inside the yellow circle is all that is securing the left side of the door to the tunnel wall. This vintage connection will be preserved. This portion of the door was easily defeated with heavy hammers.



The door will be reinforced with an angle iron attachment anchored into the concrete wall and a 1/8 thick piece of modern steel that is four feet tall and three feet wide bolted to the existing steel plate..

The photo below shows the steel bar door with the 1/4-inch thick plate on the inside and four bolt heads locking it into place as a test. The rust on the outside has yet to be removed for priming.

The photo below shows the south panel of the southwest pit door with the 1/4-inch thick plate affixed on the inside of the steel door plate and the entire door plate assembly bolted to the angle iron with two bolts. The angle iron is secured to the concrete wall with three 8-inch long anchors.

The photo below shows inside of the door panel with the rust removed and metal primed. The north panel requires rust removal and priming.

The photo below shows the two sides of the door frame and the exterior of the door with the rust removed and primed. The lower portions of the two panels are firmly anchored and do not require additional reinforcement.

The photo below shows inside of the door panel with painting complete on 5 September 2024.

The photo below shows the exterior of the door with painting complete on 5 September 2024.

After the NPS restores the interior ventilation system and returns electric service to the structure, AGFA will begin installation of a historic electric system to support historic lights, receptacles, and a restored chemical decontamination system in the north air lock of the structure.

The general scope of work consists of the following:

A) Installing approximately 55 vintage 1915 Corps of Engineers (COE) Standard ceiling lights. 35 fixtures were sourced outside of Fort Hancock. The remaining 10 are restored Fort Hancock fixtures.

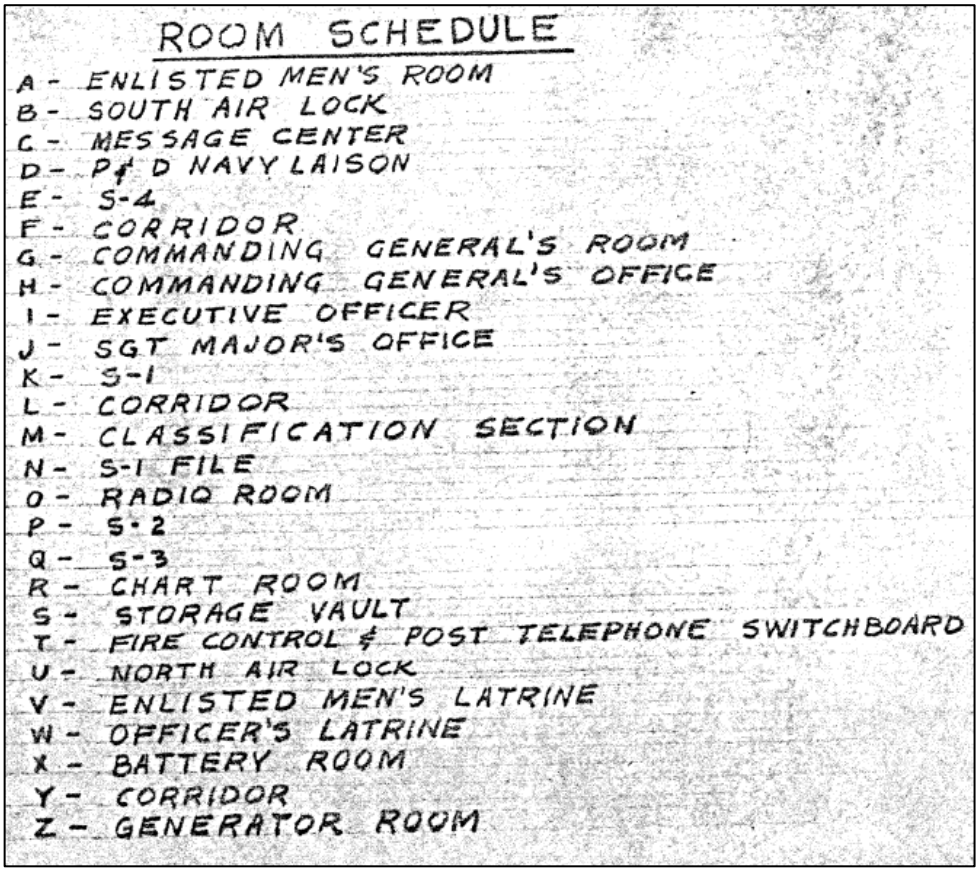
B) Install approximately 470 vintage 1915 COE Standard cable hangers. These cable hangers were sourced from within the ruins band batteries at Fort Hancock. Any shortfalls in cable hangers will be met using WWII like "strap hangers". They will be used with modern lighting in the south corridor and latrines.

C) Install a modern Siemens 100 amp electric panel box

D) Install a modern relay switch box (cable trough) and ten 12v DC switching relays.

E) Install a vintage 1915 COE Standard Panel Box (8 or 10 circuits) - this will be the primary power operation system and will "switch" the 12v DC relay switches from the panel box. This is the same system as installed in Battery Gunnison/New Battery Peck

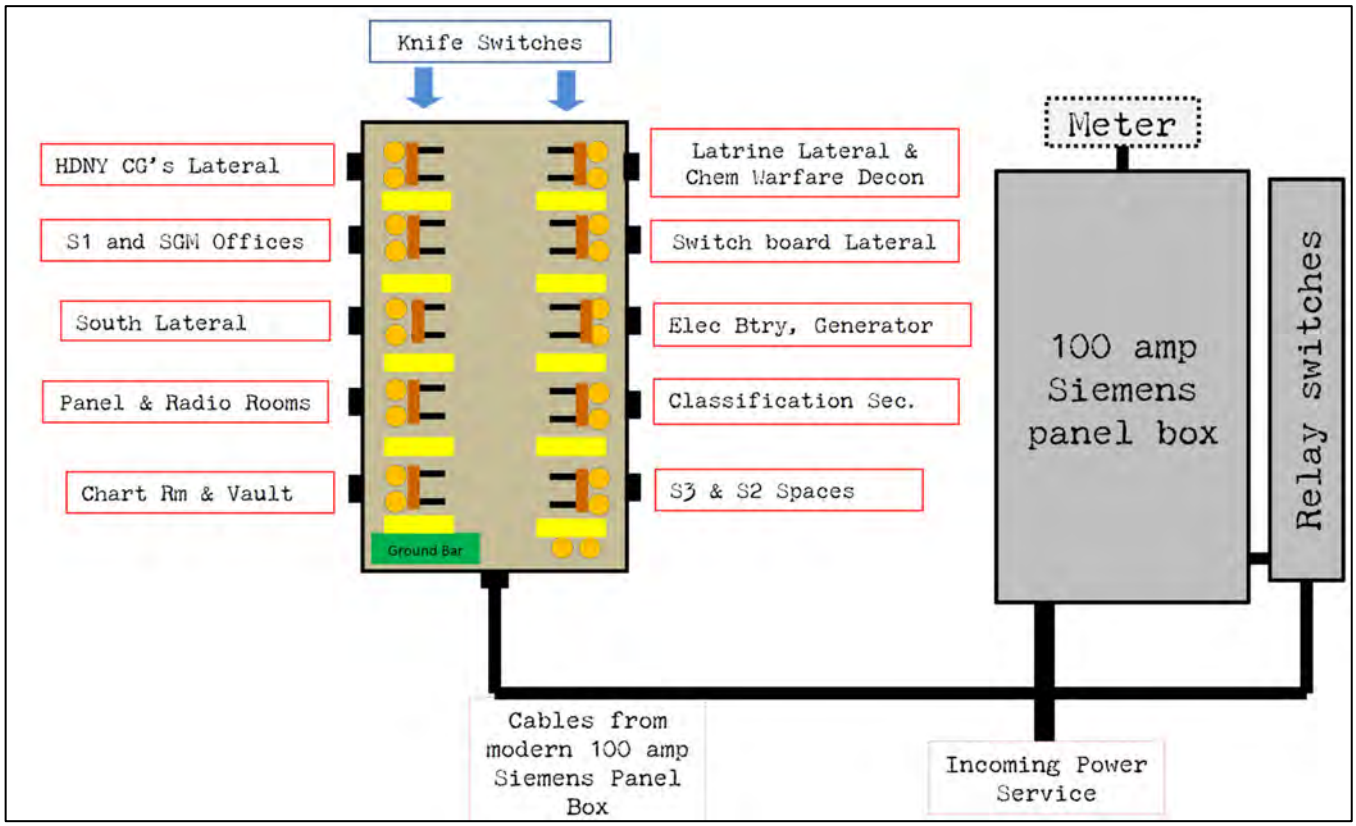
The drawing outlined below is the key to identify the use of the rooms inside the mortar battery as it was used in the role of the Harbor Defense Command Post (HDCP). This room schedule is copied directly from the HDCP site plan drawing from 1943.



ROOM SCHEDULE

A - ENLISTED MEN'S ROOM
B - SOUTH AIR LOCK
C - MESSAGE CENTER
D - P & D NAVY LAISON
E - S-4
F - CORRIDOR
G - COMMANDING GENERAL'S ROOM
H - COMMANDING GENERAL'S OFFICE
I - EXECUTIVE OFFICER
J - SGT MAJOR'S OFFICE
K - S-1
L - CORRIDOR
M - CLASSIFICATION SECTION
N - S-1 FILE
O - RADIO ROOM
P - S-2
Q - S-3
R - CHART ROOM
S - STORAGE VAULT
T - FIRE CONTROL & POST TELEPHONE SWITCHBOARD
U - NORTH AIR LOCK
V - ENLISTED MEN'S LATRINE
W - OFFICER'S LATRINE
X - BATTERY ROOM
Y - CORRIDOR
Z - GENERATOR ROOM

The drawing below shows the potential circuits in a ten-circuit Corps of Engineers 1915 standard electrical panel box. The power will be supplied by a modern Siemens box with relay switches near the 1915 box.



The photo below shows a restored Corps of Engineers standard 1915 ceiling light fixture. These are made of bronze and have significant scrap metal value. This makes them rare and worth restoring to working condition.

The photos below show the restored chemical decontamination blower and motor that has been prepared for installation in the north west chemical decontamination air lock. The motor is a 1,750 rpm motor from the 1920s. It is half the power of the original motor. We are using this motor because a 3,500 rpm vintage motor is not available. Notice the manufacture of the blower system on the left photo.

The photo below shows the restored blower housing for the assembly.

The photo below shows restored switches for the decontamination station destined to be restored in the Harbor Defense Command Post (HDCP) or "mortar battery".

Another item being restored for the Radio Room in the HDCP is the BC-441. This radio is unique in Army service as it was used only in maritime service. All the Mine Planting craft and the Quartermaster Transportation water craft used this radio.

Below is the data plate for the radio. This radio was donated to AGFA by D-Day Ohio, Incorporated.

Another important artifact that is in restoration for the Switchboard Room in the HDCP is shown below. This commercial switchboard is similar to the one operated inside the HDCP for commercial telephone communication. The dial on the right is very important. By using a digital to analog converter, and connecting to a T-1 computer line, this switchboard can be "called" and then connected to other telephones within the HDCP. This board will take about three years to restore.

Below is a closer view of the front of the board.

The photo below is one of the few known photos of the switchboard room from about 1941. The commercial switchboard is much shorter than the Fire Control switchboards to the right. It appears the commercial switchboard is in use on the left with a soldier talking on a handset and the top of the board visible to the far left in front of the soldier.

Below is a photo of the back of the commercial switchboard.

Restoration of the Harbor Defense Command Post is a longterm project that will take at least five years. Earliest anticipated completion is in the 2030-time frame.

ASSESSMENT OF ACTIONS HAVING AN EFFECT ON HISTORIC PROPERTIES

A. DESCRIPTION OF UNDERTAKING

1. Park: Gateway National Recreation Area

2. Project Description:

Project Name: SAHO Secure Mortar Battery
Prepared by: Holly Staggs **Date Prepared:** 09/18/2023 **Telephone:** 718-440-5098
PEPC Project Number: 118856
Locations:
County, State: Monmouth, NJ
Describe project:
The National Park Service (NPS) proposes to authorize the Army Ground Forces (AGFA), a cooperator/partner in a philanthropic agreement with the park, to secure the Mortar Battery in support of improving site security and interpretive experiences of this resource at the Sandy Hook Unit of Gateway National Recreation Area. The Mortar Battery is a contributing structure to the Fort Hancock and Sandy Hook Proving Ground National Historic Landmark District. It currently has three areas of vulnerability that have provided an opportunity for vandalism and graffiti within the fortification. The proposed work would ensure physical control over the interior of the structure.

Work would include: (1) fabricating and installing a steel bar door of vintage appearance in the southwest pit entrance; (2) securing three "window" like openings in the 1943 period additions for electrical and chemical systems located near the southeast pit; and (3) reinforcing the steel door plates for the northern entrance to the structure. All work would be completed in conformance with the Secretary of the Interior Standards for the Treatment of Historic Properties.

It is probable that the gate on the main passage is original to the Mortar Battery. A 1922 photo of the north emplacement entrance shows the exhaust pipes for the battery charging generators that were inside the switchboard room. It is likely that those gates are the same as what was originally installed and simply modified for the exhaust pipes. That location now has two external structures built in 1943/44 timeframe - one is the boiler room and the other is the fan exhaust room. The gate is now gone. The existent parts of the south gate indicate a very similar structure to the north gate photograph. However, not enough of the gate exists to confirm all components. AGFA proposes to weld new plates onto the existing plates as a way to strengthen the frame and secure it to the wall. There would need to be a minimum of three attachment points. If there is not enough steel to weld to for a secure anchorage, AGFA proposes to drill one to two holes and insert steel anchor bolts.

The rendering for the proposed southwest pit entrance gate and the 1922 one shown in the historic image seem to have different proportions. AGFA would attempt to match the door proportions as close as possible to the original image since there are no drawings with those door dimensions. Most of the steel in the concrete appears to be too far rusted to be a firm welding point for anchoring the frames. A total of nine anchors may be required to secure the gate. At least three anchors would be drilled into the concrete on both sides of the wall and three across the top.

All work would be completed by the end of April 2024, without any seasonal work restrictions because there is no evidence of bird nesting or bat roosting within the structure, work does not involve alteration of site vegetation, and noise disturbances would not alter the baseline condition in the project vicinity. Staging would begin at New Battery Peck and would be brought over to the Mortar Battery as needed. Any materials that require disposal would be coordinated with NPS staff. Once this job is completed, an assessment needs to be jointly undertaken with the NPS team regarding all materials currently stored inside Mortar Battery to determine their future disposition.

NPS conducted asbestos remediation actions in 2009/2010 time period, and the proposed work is not anticipated to result in exposure or release of any hazardous materials. None of the Chemical Warfare Collective Protector equipment had hazardous materials in their construction in the 1930-1943 time period. NPS has documentation of this from Fort Richie and Edgewood Arsenal from the Homeland Defense and Security Information Analysis Center in 2018. AGFA can provide these reports as requested.

Area of potential effects (as defined in 36 CFR 800.16[d])
Fort Hancock and the Sandy Hook Proving Ground National Historic Landmark District, specifically the Mortar Battery

3. Has the area of potential effects been surveyed to identify historic properties?

____ **No**

_X_ **Yes**

Source or reference: Cultural Landscape Report for Sandy Hook Coastal Defense Batteries, 2010
Historic Structure Report of Battery Potter, Mortar Battery, & Battery Gunnison at Sandy Hook, 2007
Archeological Overview and Assessment of the Sandy Hook Unit, 2009

4. Potentially Affected Resource(s):

Archeological Resources Present: Yes

Historical Structures/Resources Present: Yes

Property Name: Fort Hancock - Mortar Battery **LCS:**

Cultural Landscapes Present: Yes

Property Name: Sandy Hook Coastal Defense Batteries **LCS:**

Ethnographic Resources Present: No

5. The proposed action will: (check as many as apply)

Yes Destroy, remove, or alter features/elements from a historic structure

Yes Replace historic features/elements in kind

Yes Add non-historic features/elements to a historic structure

No Alter or remove features/elements of a historic setting or environment (inc. terrain)

Yes Add non-historic features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape

No Disturb, destroy, or make archeological resources inaccessible

No Disturb, destroy, or make ethnographic resources inaccessible>

No Potentially affect presently unidentified cultural resources

No Begin or contribute to deterioration of historic features, terrain, setting, landscape elements, or archeological or ethnographic resources

No Involve a real property transaction (exchange, sale, or lease of land or structures)

____ Other (please specify): _____

6. Supporting Study Data:
(Attach if feasible; if action is in a plan, EA or EIS, give name and project or page number.)

B. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

The park 106 coordinator requested review by the park's cultural resource specialist/advisors as indicated by check-off boxes or as follows:

[X] Archeologist
Name: Holly Staggs
Date: 09/18/2023
Comments: This project to secure the Mortar Battery does not entail ground disturbance, and no archeological work is recommended.

Check if project does not involve ground disturbance **[X]**
Assessment of Effect: __No Potential to Cause Effect __No Historic Properties Affected __X__No Adverse Effect __Adverse Effect __X__Streamlined Review
Recommendations for conditions or stipulations:

Doc Method: Streamlined Review (PA)
Streamlined Activity:
1. Preservation Maintenance and Repair of Historic Properties

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[X] Historical Architect
Name: Nadya Nenadich
Date: 09/26/2023
Comments: The project to secure Mortar Battery as proposed will have no adverse effect on the historic resource provided the following stipulations are followed:

Check if project does not involve ground disturbance **[ ]**
Assessment of Effect: __No Potential to Cause Effect __No Historic Properties Affected __X__No Adverse Effect __Adverse Effect __X__Streamlined Review
Recommendations for conditions or stipulations: 1. Limit new penetrations and use existing penetrations when possible. 2. Submit a revised rendering of the proposed southwest pit entrance gate to CR staff for review prior to fabrication.

Doc Method: Streamlined Review (PA)
Streamlined Activity:
1. Preservation Maintenance and Repair of Historic Properties

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[X] Historical Landscape Architect
Name: David Uschold
Date: 09/27/2023
Comments: Work proposed to secure the battery will have no adverse effect on the cultural landscape of Sandy Hook and will help to preserve an important historic structure. The proposal will retain or not effect historic character.

Check if project does not involve ground disturbance **[ ]**
Assessment of Effect: __No Potential to Cause Effect __No Historic Properties Affected __X__No Adverse Effect __Adverse Effect __X__Streamlined Review
Recommendations for conditions or stipulations: Ensure that the new enclosures are constructed with a material color that is consistent with historic conditions or blends with the existing material.

Doc Method: Streamlined Review (PA)
Streamlined Activity:
1. Preservation Maintenance and Repair of Historic Properties

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No Reviews From: Curator, Historian, 106 Advisor, Other Advisor, Anthropologist

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C. PARK SECTION 106 COORDINATOR'S REVIEW AND RECOMMENDATIONS

1. Assessment of Effect:

_____ No Potential to Cause Effects
_____ No Historic Properties Affected
_X_ No Adverse Effect
_____ Adverse Effect

2. Documentation Method:

[ ] A. Standard 36 CFR Part 800 Consultation
Further consultation under 36 CFR Part 800 is needed.

[X] B. Streamlined Review Under the 2008 Servicewide Programmatic Agreement (PA)
The above action meets all conditions for a streamlined review under section III of the 2008 Servicewide PA for Section 106 compliance.

Applicable Streamlined Review Criteria
(Specify 1-16 of the list of streamlined review criteria.)

1. Preservation Maintenance and Repair of Historic Properties.

[ ] C. Undertaking Related to Park Specific or Another Agreement
The proposed undertaking is covered for Section 106 purposes under another document such as a park, region or statewide agreement established in accord with 36 CFR 800.7 or 36 CFR 800.14.

[ ] D. Combined NEPA/NHPA Process
Process and documentation required for the preparation of an EA/FONSI or an EIS/ROD to comply with Section 106 is in accord with 36 CFR 800.8.c.

[ ] E. Memo to Project File

3. Consultation Information

SHPO Required: No
SHPO Sent:
SHPO Received:

THPO Required: No
THPO Sent:
THPO Received:

SHPO/THPO Notes:

Advisory Council Participating: No
Advisory Council Notes:
Additional Consulting Parties: No

4. Stipulations and Conditions: Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to avoid or reduce potential adverse effects.

1. Limit new penetrations and reuse existing penetrations when possible.
2. Submit a revised rendering of the proposed southwest pit entrance gate to Cultural Resource staff for review prior to fabrication.
3. Ensure that the new enclosures are constructed with a material color that is consistent with historic conditions or blends with the existing material.

5. Mitigations/Treatment Measures: Measures to prevent or minimize loss or impairment of historic/prehistoric properties: (Remember that setting, location, and use may be relevant.)

6. Assessment of Effect Notes:

The work as proposed is in keeping with the Secretary of the Interior's Standards for the Treatment of Historic Properties and will help preserve an important character-defining structure in the Cultural Landscape of Fort Hancock.

D. RECOMMENDED BY PARK SECTION 106 COORDINATOR:

Compliance Specialist:
NHPA Specialist
Holly Staggs

HOLLY STAGGS
Digitally signed by HOLLY STAGGS
Date: 2023.09.28 07:58:43 -04'00'

Date: _____

E. SUPERINTENDENT'S APPROVAL

The proposed work conforms to the NPS *Management Policies* and *Cultural Resource Management Guideline*, and I have reviewed and approve the recommendations, stipulations, or conditions noted in Section C of this form.

Signature

Superintendent:

JENNIFER NERSESIAN
Digitally signed by JENNIFER NERSESIAN
Date: 2023.10.03 14:34:47 -04'00'

Date: _____

Jen Nersesian