



FEDERAL AVIATION ADMINISTRATION

EASTERN REGION
AIRPORTS DIVISION

**Short Environmental
Assessment Form
for
AIRPORT DEVELOPMENT
PROJECTS**



Airport Name: Philadelphia International Airport Identifier: PHL

Proposed Project: Sound Insulation of Eligible Areas of Fort Mifflin

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

Jack Kagnawler
Responsible FAA Official

7/20/2015
Date

**Department of Transportation
Federal Aviation Administration
Finding of No Significant Impact**

LOCATION

Philadelphia International Airport (PHL)
Philadelphia, Philadelphia County, PA

PROPOSED FEDERAL ACTION

Allow for approval of Federal funding for under the FAR Part 150 Program to implement an approved action contained in the PHL Noise Compatibility Program (NCP).

PROJECT DESCRIPTION (Refer to Sections 1 and 2 of the Environmental Assessment)

Fort Mifflin is a National Historic Landmark, designated in 1970 by the National Park Service for its military and engineering significance. The Fort is owned by the City of Philadelphia. There are approximately fourteen buildings remaining within the facility's buttressed walls. The Fort is located adjacent to the eastern border of the PHL airport along the Delaware River. Given its location, Ft. Mifflin has been included in noise studies for over a decade. The location of Ft. Mifflin is within the 70 to 75 Day-Night Levels (DNL) contours. In June 2002, the PHL sponsor, the City of Philadelphia, completed a noise compatibility study in accordance with the FAR Part 150 Program. An approved Land Use Measure (for voluntary implementation) of the 2003 NCP was to conduct a feasibility study on sound attenuating all or some of the Ft. Mifflin rooms. This study was completed in 2007 and concluded that sound attenuation to FAA standards could be achieved. In 2012, the PHL NCP was updated. One of the approved 2012 Land Use Measures (for voluntary implementation) was to sound attenuate certain rooms within Ft. Mifflin.

This project consists of sound attenuation for the following locations:

- Restoration Hospital/Mess Hall: The video conference lab on the first floor will be sound attenuated. Work includes the following:
 - Replacement of the exterior and interior doors at each vestibule with new solid core pine doors.
 - Replacement of existing windows with new single-glazed, double hung window units, including new interior glazed storm windows with 7-inch airspace.
 - Installation of dampers in chimneys that are not blocked.
 - Replacement of existing attic hatches with new sound insulating hatches.
 - Removal of existing recessed light fixtures and replacing them with new surface mounted fixtures or sound control housing.
- Soldier's Barracks: The classrooms on first floor main area of the building and small room on the end, will be sound attenuated. Work includes:

- Replacement of all exterior and interior doors with new doors. The existing exterior door will be reused by affixing it to the new door in order to maintain the historic style. Perimeter gaps around the doors will be sealed.
- Replacement of existing windows with new single-glazed, double hung window units, including new interior glazed storm windows with 7-inch airspace.
- Installation of dampers in chimneys that are not blocked.
- Officers' Quarter: The area used as the caretaker's quarter will be sound attenuated. Work will include:
 - Replacement of the exterior and interior doors at each vestibule with new solid core pine doors.
 - Replacement of existing windows with new single-glazed, double hung window units, including new interior glazed storm windows with 7-inch airspace.
 - Installation of dampers in chimneys that are not blocked.
 - Replacement of existing attic hatches with new sound insulating hatches.

In order to minimize impacts to visual elements of building that are important to the historical and architectural character of the Fort, all materials and products used will have architectural elements that match former styles and materials, but with sound reducing qualities.

PURPOSE AND NEED (Refer to Section 3 of the Environmental Assessment)

The purpose of the project is to help mitigate significant noise impacts on historic Ft. Mifflin from aircraft arriving and departing PHL. Mitigation measures are to achieve FAA's noise reduction goals as stated under FAA Order 5100.38D, "Airport Improvement Program Handbook." Required noise reduction goals are:

- An interior noise level of not greater than DNL 45 dB.
- A minimum noise reduction level of 5 dB.

ALTERNATIVES (Refer to Section 5 of the Environmental Assessment)

Two alternatives, to include the No Action alternative, were considered. These alternatives are described below:

Alternative 1: Sound attenuate eligible areas of Ft. Mifflin

Under this alternative, the video conference lab on the first floor of the Restoration Hospital/Mess Hall, the classrooms located on the first floor main area and small room on the end of the Soldiers' Barracks, and the caretaker's residence in the Officer's Quarter will be sound attenuated. This alternative meets the Purpose and Need and is the FAA selected alternative.

No Action Alternative

Under this alternative, eligible areas within Ft. Mifflin would not be sound attenuated. This alternative does not meet the Purpose and Need and is not the FAA selected alternative.

DISCUSSION

The attached Short Environmental Assessment addresses the effect the proposed action would have on the human and natural environment. The following impact categories highlight the analysis provided in the Short Environmental Assessment.

Assessment (Refer to Section 6 of the Environmental Assessment)

The impacts of the proposed federal action on noise, land use compatibility, social, indirect socioeconomic, air quality, water quality, Department of Transportation Section 4(f), historic and archaeological resources, biotic communities, endangered species, wetlands, floodplains, coastal zones, coastal barriers, wild and scenic rivers, prime and unique farmland, energy supply and natural resources, light emissions, solid waste impacts, hazardous materials, environmental justice, and cumulative impacts were evaluated in the Short Environmental Assessment. The results of these environmental studies are summarized below. It is the FAA's finding that the proposed action will not have any significant environmental impacts.

Air Quality

Philadelphia County is in a moderate nonattainment area for ozone and nonattainment PM 2.5 under the National Ambient Air Quality Standards (NAAQS) as established under the Clean Air Act. However, the proposed project an "exempted action," under the General Conformity Rule. Exempted Action #4, Alterations and Additions for Existing Structures as Specifically Required by New or Existing Applicable Environmental Legislation or Environmental Regulations.

Biotic Resources

All work will be conducted within existing buildings; therefore the project will have no impacts on any plants or animal species.

Coastal Resources

Ft. Mifflin is located within the Coastal Zone of the Delaware River Estuary, but since all work will be conducted within existing buildings there will be no impacts.

Compatible Land Use

The project will enhance the land use compatibility. The project will not create a wildlife hazard.

Construction Impacts

Construction activities will have short-term noise impacts in the immediate vicinity. To minimize disturbances, work will be conducted during daylight hours only.

Section 4 (f) Resources

The project does affect a Section 4 (f) resource, (a historic site of national, state, and local significance), but qualifies under the de minimis impact finding. This finding has been coordinated with the PA State Historic Museum Commission.

Threatened and Endangered Species

The project will not impact any federally or state-listed or proposed, threatened or endangered species of flora or fauna, nor will it impact any critical habitat.

Energy Supply, Natural Resources, and Sustainable Design

The project will have minimal consumption of energy and other natural resources. It will not affect local public utility supplies.

Environmental Justice

There are no minority and/or low-income populations in the project area.

Farmlands

The project does not involve acquisition or use of farmlands.

Floodplains

The project is located in the 100-year floodplain, Zone AE, as designated by FEMA, but will not encroach upon, or otherwise impact, the natural, ecological, or scenic resources of the 100-year floodplain.

Hazardous Materials

Given the age of the property there may be lead paint and/or asbestos material present. Contractors will comply with OSHA, PA Department of Environmental Protection, and City of Philadelphia guidelines for the safe handling and disposal any hazardous material encountered.

Historical, Architectural, Archeological or Cultural Properties

The PA State Historic Museum Commission and the City of Philadelphia Historical Commission agree that the project as planned will have No Adverse Effect on Ft. Mifflin. Both agencies, as well as the National Park Service will be provided an opportunity to review final detailed plans for compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

Induced Socioeconomic Impacts

The project will not attract new growth to the airport, impact public service demands or create a shift or growth in population.

Lighting Emissions and Visual Effects

This project will have no effect on lighting

Noise

This project will not cause noise sensitive areas to experience an increase in DNL.

Social Impacts

There will be no impacts to taxes, traffic patterns, congestion or Level of Service or other social impacts.

Solid Waste

The project will not generate additional waste.

Water Quality

Ft Mifflin is in the project review area for the New Jersey Coastal Plain Sole Sources Aquifer, but there will be no impacts to the aquifer as a result of the interior sound attenuation. The project will not affect the water quality.

Wetlands

The project is adjacent to the Delaware River which is identified as an Estuarine and Marine Deepwater Wetland by the U.S. Fish and Wildlife Service. However, since all work will be conducted within existing buildings there will be no impacts.

Wild and Scenic Rivers

There are no Wild and Scenic Rivers located in the vicinity of the project area.

Cumulative Impacts

This project will have no environmental impacts, therefore, the cumulative impacts of this project, and past and known future airport projects, will not result in significant environmental impacts.

PUBLIC INVOLVEMENT (Refer to Section 9 of the Environmental Assessment)

This project was included in the PHL FAR Part 150 Noise Compatibility Program Update. A key element of this program was public involvement. The development of a sound insulation program for Ft. Mifflin was presented at three public meetings/community workshops in 2010 and was included a recommended action in the official public hearing. There were no comments received on this project at any of the public meetings/community workshops, the public hearing, or during the comment period between the Draft and Final Noise Compatibility Program publication and approval.

PERMITS (Refer to Section 7 of the Environmental Assessment)

A building permit form the City of Philadelphia Department of Licenses and Inspection will be required.

MITIGATION MEASURES (Refer to Section 8 of the Environmental Assessment)

It is important that the architectural and historic character of the Fort remain as close to time period as possible. All materials used will be designed to match existing styles and materials, but will have sound reduction qualities. All work will be conducted in compliance with the *Secretary of the Interior's Standard for the Treatment of Historic Properties*. The PA State Historic Museum Commission, the City of Philadelphia Historical Commission, and National Park Service will be provided an opportunity to review final detailed plans to ensure such compliance. Should any lead paint and/or asbestos material be encountered, contractors will comply with OSHA, PA Department of Environmental Protection, and City of Philadelphia guidelines for the safe handling and disposal any hazardous material encountered.

CONCLUSION AND APPROVAL:

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find the proposed Federal action is consistent with existing national environmental

policies and objectives of Section 101 (a) of the National Environmental Policy Act of 1969 (NEPA) and other applicable environmental requirements. I also find the proposed Federal action will not significantly affect the quality of the human environment or include any conditions requiring consultation pursuant to section 102(2)(c) of NEPA. As a result, FAA will not prepare an EIS for this action.

Recommended: 
Susan L. McDonald
Environmental Protection Specialist
Harrisburg ADO 2/23/2015
Date

Approved: 
Lori K. Pagnanelli
Manager, Harrisburg ADO 2/26/2015
Date

Disapproved: _____
Lori K. Pagnanelli
Manager, Harrisburg ADO _____
Date

This form is to be used only for limited types of projects. It is strongly recommended that you contact your local Environmental Protection Specialist (EPS) before completing this form. See instructions page.

APPLICABILITY

This Form can be used if the proposed project meets the following criteria:

- 1) It is not categorically excluded (see paragraphs 303 and 307-312 in FAA Order 1050.1E) or
- 2) It is normally categorically excluded but, in this instance, involves at least one extraordinary circumstance that may significantly impact the human environment (see paragraph 304 and the applicable section in Appendix of 1050.1E) or
- 3) The action is one that normally requires an EA at a minimum (see paragraph 506 in FAA Order 5050.4B) and
- 4) The proposed project must fall under one of the following categories of Federal Airports Program actions:
 - (a) Approval of a project on an Airport Layout Plan (ALP).
 - (b) **Approval of federal funding for airport development.**
 - (c) Requests for conveyance of government land.
 - (d) Approval of release of airport land.
 - (e) Approval of the use of Passenger Facility Charges (PFC).
 - (f) Approval of development or construction on a federally obligated airport.

If you have questions as to whether the use of this form is appropriate for your project, contact your local EPS BEFORE using this form.

Complete the following information:

Project Location

Airport Name: Philadelphia International Airport Identifier: PHL
Airport Address: 8800 Essington Avenue
City: Philadelphia County: Philadelphia State: PA Zip: 19153

Airport Sponsor Information

Point of Contact: Diego Rincón, A.A.E
Address: Philadelphia International Airport Terminal D/E, 3rd Floor
City: Philadelphia State: PA Zip: 19153
Telephone: 215-937-6062 Fax: 215-863-3758
Email: diego.rincon@phl.org

Evaluation Form Preparer Information

Point of Contact: Lynn Keeley
Address: AECOM, 1700 Market Street, Suite 1600
City: Philadelphia State: PA Zip: 19103
Telephone: 215-696-3524 Fax: 215-399-4371
Email: lynn.keeley@aecom.com

1. Introduction/Background:

The City of Philadelphia, Division of Aviation, is seeking federal funding through the FAR Part 150 Program to implement an action contained in the PHL Noise Compatibility Program for which a Record of Approval was issued by the Federal Aviation Administration (FAA) in July 2012. Specifically, the action is to sound insulate eligible rooms within historic Fort Mifflin to meet FAA noise level reduction (NLR) standards while ensuring that the historic fabric of the facility is not compromised. This action was defined as Land Use Measure 4 (LU-4) in the 2012 Noise Compatibility Study (NCP) Update.

Given the location of this historic facility in such close proximity to Philadelphia International Airport, the Fort has been included in airport noise compatibility studies dating back ten years (see Figure 1: Location Map). To address airport related noise effects at the Fort, a Land Use Measure (LU5) was included in the 2002 Part 150 NCP to explore the feasibility of providing sound insulation to three of the Fort's fourteen buildings: 1) the Restoration Hospital/Mess Hall; 2) the Soldiers' Barracks; and 3) the Officers' Quarters. These facilities serve specific purposes and roles at Fort Mifflin, such as a caretaker residence, offices, and educational facilities, and as such are considered sensitive uses that would be eligible under a noise mitigation program. In 2003, Measure LU5 of the 2002 NCP was approved by the FAA. The City of Philadelphia, Division of Aviation subsequently completed a comprehensive feasibility study to identify the potential for effective sound insulation treatments. A 2007 report identified door, window, and mechanical/electrical treatment options for each of the rooms within these buildings. After reviewing this report, the FAA determined in a letter dated September 24, 2008, that not all areas identified for treatment would be eligible for federal funding as they did not meet the federal Part 150 land use compatibility guidelines or requirements for sound insulation (see Attachment A). The FAA identified the following areas as eligible to receive Part 150 funding for sound attenuation: 1) the video conference lab in the Restoration Hospital/Mess Hall; 2) the two classrooms located

in the soldiers' barracks; and 3) the caretaker's residence located in the Officer's Quarters. According to the FAA, these areas serve specific purposes at the Fort and are considered noise sensitive.

This document has been prepared to evaluate the potential environmental impacts related to sound attenuating the eligible rooms at Ft. Mifflin and has been prepared in accordance with FAA Order 5050.4B *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

2. Project Description (List and clearly describe **ALL** components of project proposal including all connected actions). **Attach a map or drawing of the area with the location(s) of the proposed action(s) identified:**

The project will involve sound attenuating the video conference lab in the Restoration Hospital/Mess Hall; two classrooms in the Soldiers' Barracks; and the caretaker's residence in the Officer's Quarters through a combination of architectural improvements (i.e. windows, doors, ceilings and walls) and mechanical/electrical improvements, as required. It should be noted that Part 150 funding for these areas can be applied only after the requirements of all governing codes are satisfied. The City of Philadelphia, Division of Aviation completed a detailed investigation of the existing conditions at each eligible area to determine code compliance and to recommend code compliance measures where codes are not met. A final determination of code compliance has been made by the City of Philadelphia, Department of Licenses and Inspections. The certification from the City is included in Attachment B.

Extensive renovations were completed at the Restoration Hospital/Mess Hall and the Officers' Quarters by the City of Philadelphia in the 1980's. Core building elements such as exterior walls, field stone floors and verandas, and some structural framing appear to be original material; however, many of these buildings' "character-defining" features such as doors and windows have been replaced. With the exception of the doors in the Soldiers' Barracks, all doors and windows at Fort Mifflin appear to be twentieth century products and materials. This is important to note because there would be little "historic fabric" or material that would be altered or replaced by any of the proposed acoustical treatments. Regardless, in developing potential treatment recommendations, a strategy was adopted for treating architectural elements that match former styles and materials (i.e., like-kind replacement, but with products and materials that meet noise reduction goals) and minimize impacts to visible elements of the buildings that are important to their architectural and historic character. This approach will ensure that the proposed treatments will not compromise Fort Mifflin's historic value.

The following are sound insulation recommendations for the video conference lab on the first floor of the Restoration Hospital/Mess Hall:

- Replace the exterior and interior doors at each vestibule with new solid core pine doors. Exterior doors should be 1-3/4" thick and interior doors are to be 1-3/8" thick. There will be an approximately 9" airspace between doors.
- Replace existing windows in the video conference lab with new single glazed double hung window units with new interior glazed storm windows with 7" airspace
- Install dampers in any chimneys that are not already blocked
- Replace existing attic hatches with new sound insulating hatches
- Remove existing recessed light fixtures, patch holes, and install new surface mounted fixtures, or install sound control housings above the existing light fixtures.

Figure 2 includes a photo of the exterior front of the Restoration Hospital and a floor plan highlighting the video conference room. Though subject to change during final design, there is one exterior door, two interior doors and four windows identified for sound insulation treatment.

The following are sound insulation recommendations for the classrooms on the first floor of the Soldiers' Barracks:

- Replace all exterior and interior vestibule doors with new doors. Reuse the existing exterior door (e.g. affixing it to the new exterior door to maintain the style). Gasket or seal perimeter gaps around both exterior and interior doors.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace.
- Install dampers in any chimneys that are not already blocked.

Figure 3 includes a photo of the exterior front of the Soldiers' Barracks and a floor plan highlighting the classrooms. Though subject to change during final design, there are two exterior doors, five interior doors and ten windows identified for sound insulation treatment.

The following are sound insulation recommendations for the caretaker's residence on the second floor of the Officers' Quarters:

- Replace all exterior and interior doors at each vestibule with new solid core pine doors. Exterior doors should be 1-3/4" thick, and interior doors should be 1-3/8" thick.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace.
- Install dampers in any chimneys that are not already blocked.
- Replace existing attic hatches with new sound insulating hatches.

Figure 4 includes a photo of the exterior front of the Officers' Quarters and a floor plan highlighting the caretaker's residence. Though subject to change during final design, there is one exterior door, one interior door and two windows identified for sound insulation treatment.

The Pennsylvania State Historic Preservation Office and the Philadelphia Historical Commission concurred with these recommendations during a site visit to the Fort in August 2008. The agencies were presented with at least three door and window options at each building and felt that those listed above were the least intrusive.

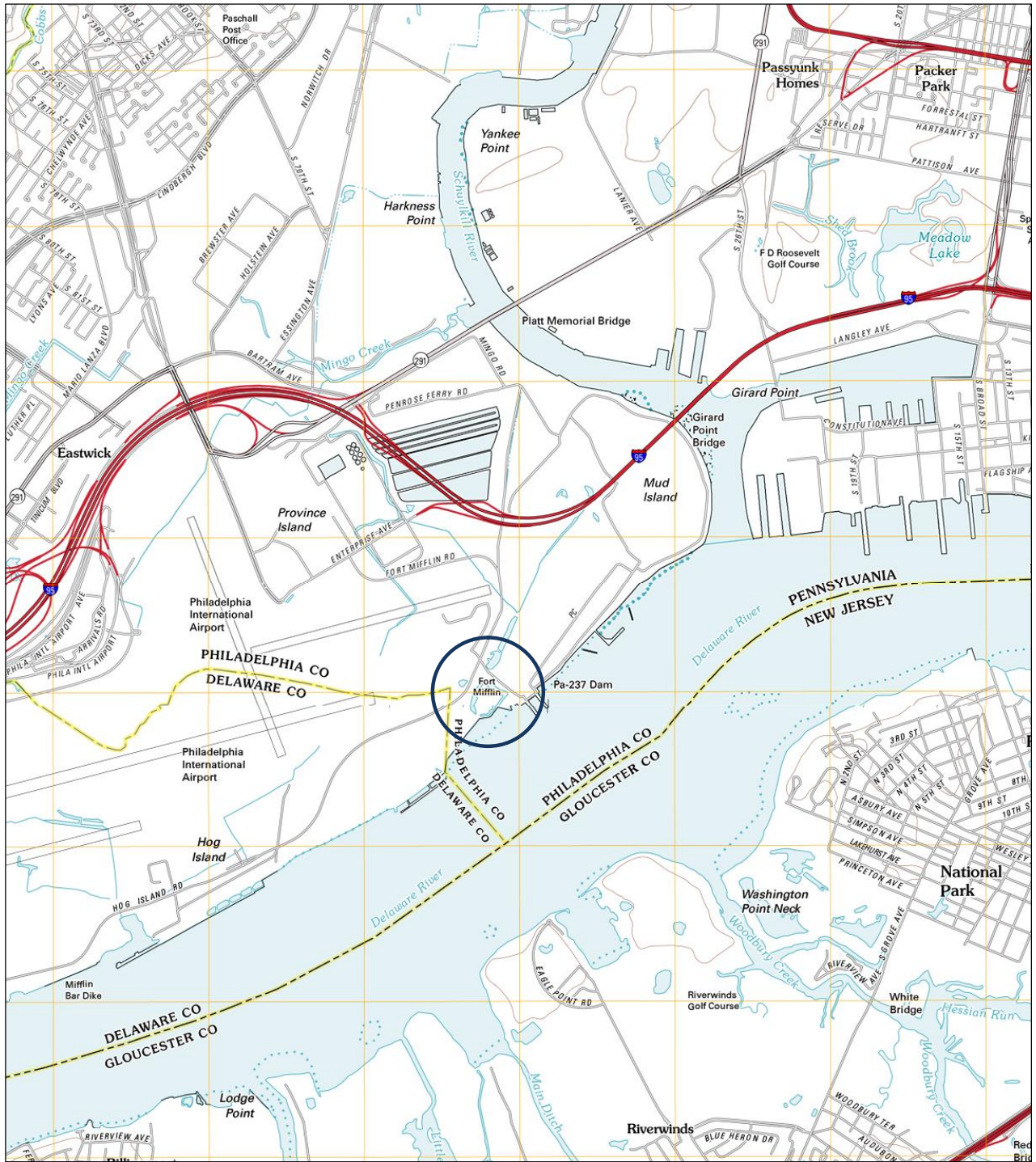


Figure 1: Location Map

Source: U.S. Department of the Interior U. S. Geological Survey
 Woodbury Quadrangle 7.5 minute series 2011
 Philadelphia Quadrangle 7.5 minute series 2011

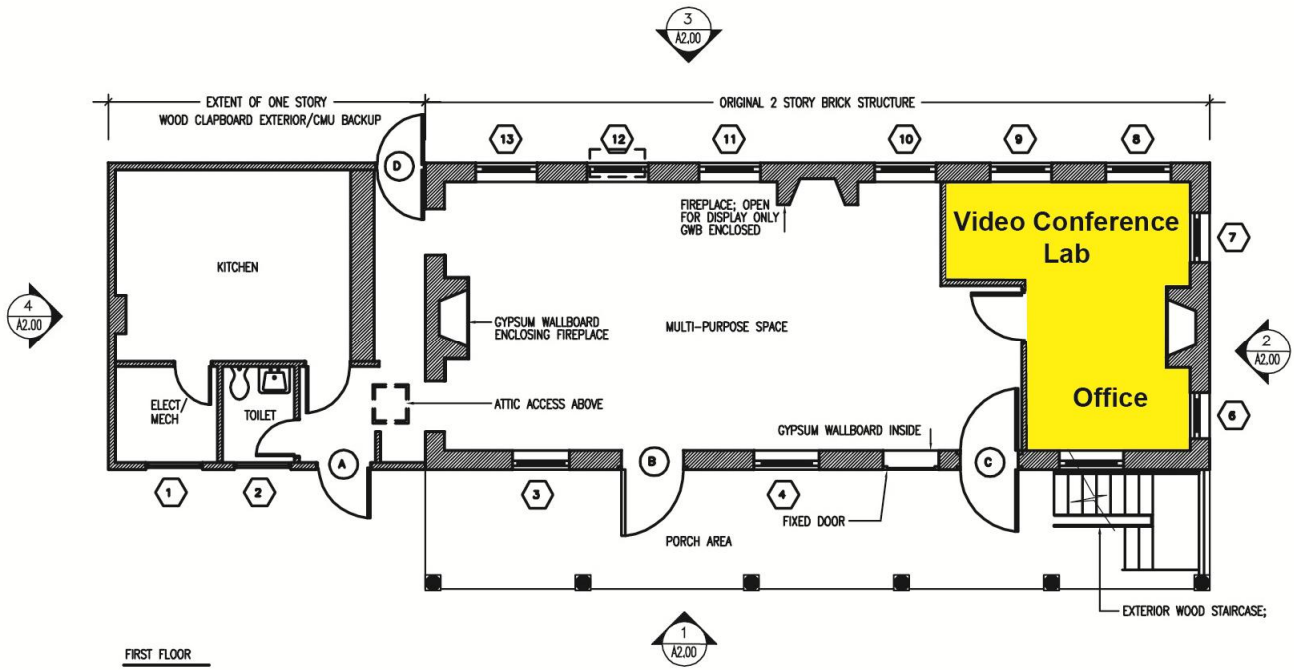


Figure 2:
Restoration Hospital
Exterior Photo and First Floor Plan

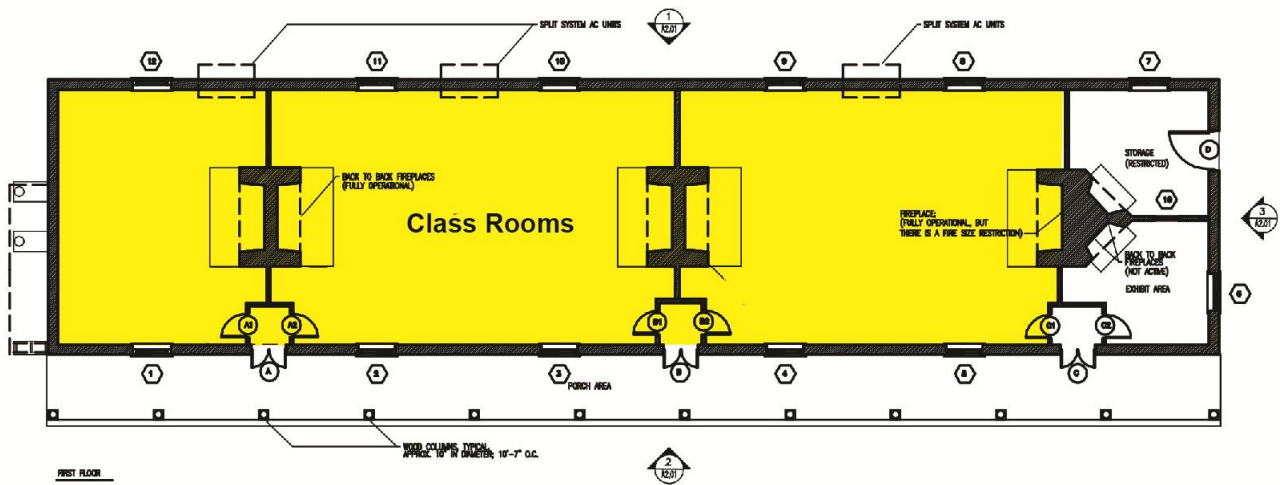


Figure 3:
Soldiers' Barracks
Exterior Photo and First Floor Plan

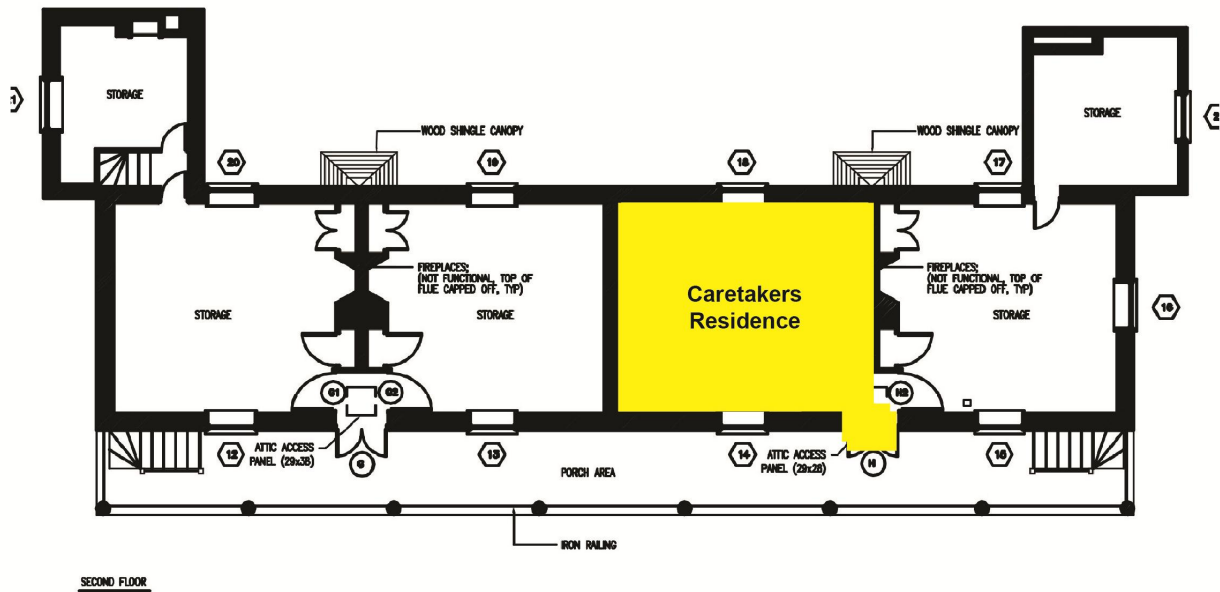


Figure 4:
Officers' Quarters
Exterior Photo and Second Floor Plan

3. Project Purpose and Need:

The purpose of this action is to sound attenuate eligible areas of Ft. Mifflin in order to achieve FAA's noise level reduction (NLR) goals under FAA Order 5100.38C (Airport Improvement Program (AIP) Handbook) of:

- An interior noise level of not greater than DNL 45 dB
- Minimum noise level reduction (NLR) of 5 dB

The project is needed to mitigate the significant noise impacts on historic Fort Mifflin from aircraft over flights approaching and departing Philadelphia International Airport to and from Runway 9L-27R. The Fort is impacted by arrivals to the most frequently used arrival runway in west-flow and departure runway in east-flow. As a result, Fort Mifflin is located within the 70 and 75 DNL dB contours on the Airport's most recently accepted Noise Exposure Maps (June 2010). Also, interior noise measurements conducted in October 2005, indicated that pre-treatment interior noise levels meet or exceed 45 dB DNL in all eligible areas. As such, sound insulation is justified to mitigate the substantial and disruptive noise effects on the noise sensitive uses within the Fort.

The Fort is host to several indoor and outdoor events throughout the year such as living history programs, distance learning programs, overnight scouting events, and paranormal programs. The Fort is also authorized to provide housing year round for an onsite caretaker in order to maintain the facility and provide security for the Fort when it is closed, especially at nighttime.

4. Describe the affected environment (existing conditions) and land use in the vicinity of project:

Fort Mifflin is situated along the banks of the Delaware River at Ft. Mifflin and Hog Island Roads in the City of Philadelphia, Philadelphia County, Pennsylvania. Philadelphia International Airport is adjacent to and directly west of the Fort. Airport property and the US Army Corps of Engineers Confined Dredge Disposal Facility is to the north of the Fort and the National Guard pier and facilities lie to the east of the Fort, also along the shore of the Delaware.

Fort Mifflin is a National Historic Landmark, designated in 1970 by the National Park Service for its military and engineering significance. The Fort is owned by the City of Philadelphia, which took title to the property in 1962, after being deeded the land from the Federal Government. Approximately fourteen buildings remain standing on the Fort, within the facility's buttressed walls.

5. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, and include a description of the “No Action” alternative. If there are no feasible or reasonable alternatives to the proposed project, explain why (attach alternatives drawings as applicable):

Alternatives

Philadelphia International Airport prepared a Fort Mifflin Sound Insulation Feasibility Study (October, 2007) which presented alternative options to the proposed action. This study concluded that there are no feasible or reasonable alternatives to the proposed action that would meet the purpose of the project: to sound attenuate eligible areas of Ft. Mifflin in order to achieve FAA's noise level reduction (NLR) goals under FAA Order 5100.38C (Airport Improvement Program (AIP) Handbook) of:

- An interior noise level of not greater than DNL 45 dB
- Minimum noise level reduction (NLR) of 5 dB

No Action Alternative

The No-Action Alternative would provide no sound insulation to the identified noise sensitive areas within the Fort. No relief would be provided from the excessive noise of air traffic arriving or departing Philadelphia International Airport which interferes with the educational uses of this facility.

6. Environmental Consequences – Special Impact Categories (refer to the Instructions page and corresponding sections in Appendix A of 1050.1E and the Airports Desk Reference for more information and direction. The analysis under each section must comply with the requirements and significance thresholds as described in the Desk Reference).

(A) AIR QUALITY (Please note this analysis must meet requirements for both NEPA review and Clean Air Act (CAA) requirements).

Clean Air Act

(a) Is the proposed project located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act and does it result in direct emissions (including construction emissions)?(If **Yes**, go to (b), **No**, go to the NEPA section below.

Yes. The proposed project is located in an area designated as a moderate nonattainment area for the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone (O3) and a nonattainment area for particulate matter less than or equal to 2.5 micrometers (PM2.5).

(b) Is the proposed project an “exempted action,” under the General Conformity Rule or Presumed to Conform (See FRN, vol.72 no. 145, pg 41565)? (If **Yes**, cite exemption and go to NEPA section below; **No**, go to (c)).

Yes. The proposed project is an exempted action under the General Conformity Rule-40 CFR 93.153(d)(4)-Alterations and Additions of Existing Structures as Specifically Required by New or Existing Applicable Environmental Legislation or Environmental Regulations.

(c) Would the proposed project result in a net total of direct and indirect emissions that exceed the threshold levels of the regulated air pollutants for which the project area is in non-attainment or maintenance? (Attach emissions inventory). (If **Yes**, consult with ADO).

Not applicable. The proposed project is an exempted action under the General Conformity Rule.

NEPA

(a) Is the airport’s activity levels below the FAA thresholds for requiring a NAAQS analysis? (If **Yes**, document activity levels and go to Item 2, **No**, go to (b)).

Not applicable. The project is an exempted action under the General Conformity Rule.

(b) Do pollutant concentrations exceed NAAQS thresholds? (Attach emissions inventory).

Not applicable. The project is an exempted action under the General Conformity Rule.

(c) Is an air quality analysis needed with regard to state indirect source review?

The project is an exempted action under the General Conformity Rule; therefore an air quality analysis is not required.

(B) BIOTIC RESOURCES

Describe the potential of the proposed project to directly or indirectly impact plant communities and/or the displacement of wildlife. (This answer should also reference Section 19, Water Quality, if jurisdictional water bodies are present).

The proposed project entails the replacing doors and windows, and to a lesser extent, mechanical and electrical systems at specific locations in three existing buildings at Fort Mifflin to provide effective sound attenuation. The work involved in removing the existing doors, windows etc., and installing the replacement doors and windows, etc., will not extend beyond the footprint of each building. Therefore, the project will not result in any direct or indirect impacts to plant or animal species in natural communities.

(C) COASTAL RESOURCES

(a) Would the proposed project occur in a coastal zone, or affect the use of a coastal resource, as defined by your state's Coastal Zone Management Plan (CZMP)? Explain.

Yes. Fort Mifflin is located within the Coastal Zone of the Delaware River Estuary, a designated Pennsylvania Coastal Zone; however, the temporary construction impacts resulting from the project would have no effect on coastal resources. As discussed in other applicable sections of this EA, no biotic communities, floodplains, wetlands or other bodies of water, would be affected by the project. Due to the nature of the project (in-kind replacement of doors, windows, and interior features such as HVAC components and attic insulation, etc.) there would be no earth disturbance, no increase in impervious surfaces, and no change in the quality or quantity of storm runoff during or after the project.

(b) If **Yes**, is the project consistent with the State's CZMP? (If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification).

Not applicable.

(c) Is the location of the proposed project within the Coastal Barrier Resources System? (If **Yes**, and the project would receive federal funding, coordinate with the FWS and attach record of consultation).

No. Fort Mifflin is not located within a defined coastal barrier resource system.

(D) COMPATIBLE LAND USE

(a) Would the proposed project result in other (besides noise) impacts that have land use ramifications, such as disruption of communities, relocation of residences or businesses, or impact natural resource areas? Explain.

The proposed project does not involve the relocation of residences or businesses, it does not alter any surface transportation patterns, and it will not disrupt any established communities or impact any natural resource areas. The proposed project, initiated through an FAR Part 150 Noise Compatibility Program, will enhance the compatibility of Fort Mifflin and its operations in relation to noise exposure from PHL's aircraft operations.

(b) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards On and Near Airports"? Explain.

The buildings slated for sound attenuation are located near the Delaware River, but the project would not create a wildlife hazard due to the nature of the sound insulation work.

(E) CONSTRUCTION IMPACTS

Would construction of the proposed project increase ambient noise levels due to equipment operation; degrade local air quality due to dust, equipment exhausts and burning debris; deteriorate water quality when erosion and pollutant runoff occur; and/or disrupt off-site and local traffic patterns? Explain.

During construction, there would be a small workforce on site during regular workday hours for a period of several weeks. Construction activities would include delivery of materials and equipment; replacement of existing doors, windows, and interior features such as HVAC components and attic insulation; and, the removal of construction debris. These activities can be accomplished using on-road vehicles, light-duty equipment, and hand-held tools.

There are no foreseeable adverse impacts in terms of air, noise, or water pollution, or vehicular traffic volumes, as a result of the construction activities. No construction would occur without a building permit from the City of Philadelphia Department of Licenses and Inspection, which requires review and approval from the Philadelphia Historical Commission.

(F) SECTION 4(f) RESOURCES

Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? (If **Yes**, contact FAA, contact appropriate agency and attach record of consultation).

Temporary construction related impacts associated with the replacement of existing doors, windows and interior features such as HVAC and attic insulation at Fort Mifflin are anticipated and would qualify as a temporary use of the Fort as defined in Section 4(f) of the US Department of Transportation Act of 1966. Although construction would be temporary and is not expected to impair the Fort, the Proposed Action must comply with Section 4(f) even if the impact on the protected property is less than significant for NEPA purposes. In cases where there is no physical taking of Section 4(f) property and the project-related impacts are expected to be minor, Section 4(f) is considered to be satisfied if the FAA makes a de minimis impact finding.

Attachment D contains a Technical Memorandum entitled Section 4(f) Impact Analysis and Supporting Documentation for a De Minimis Impact Finding. The memorandum outlines the Section 4(f) regulations applicable to the proposed action and provides the information needed to support a de minimis determination. The complete record of Agency Consultation is contained in Attachment C.

(G) ENDANGERED AND THREATENED SPECIES

(a) Would the proposed project impact any federally or state-listed or proposed, endangered, or threatened species (ESA) of flora and fauna, or impact critical habitat? (Attach record of consultation with federal and state agencies as appropriate).

No. The work related to removing the existing doors, windows etc., and installing the replacement doors and windows, etc., will not extend beyond the footprint of the buildings. There will be no direct or indirect impact to any federal or state listed protected species or their critical habitat.

(b) Would the proposed project affect species protected under the Migratory Bird Act? (If **Yes**, contact FAA).

No. The proposed project would not affect species protected under the Migratory Bird Act.

(H) ENERGY SUPPLIES, NATURAL RESOURCES AND SUSTAINABLE DESIGN

What effect would the proposed project have on energy or other natural resource consumption? (Attach record of consultations with local public utilities or suppliers if appropriate)

No effect. The project will not increase demands on energy, water, or other resource beyond existing usage.

(I) ENVIRONMENTAL JUSTICE

Would the proposed project have a disproportionate impact on minority and/or low-income communities? Consider human health, social, economic, and environmental issues in your evaluation. Explain.

No. The project would not result in a disproportionate impact on minority and/or low income populations. The work area is limited in scope to the three buildings within the Fort.

(J) FARMLANDS

Does the project involve acquisition of farmland, or use of farmland, that would be converted to non-agricultural use and is protected by the Federal Farmland Protection Policy Act (FPPA)? (If **Yes**, attach record of coordination with the Natural Resources Conservation Service (NRCS), including form AD-1006.)

No. This sound insulation project does not entail the acquisition, conversion or use of farmland or farmland soils.

(K) FLOODPLAINS

(a) Would the proposed project be located in, or would it encroach upon, any 100-year floodplains, as designated by the Federal Emergency Management Agency (FEMA)?

Yes, Fort Mifflin is located in the 100-year floodplain, Zone AE, as designated by FEMA.

(b) If Yes, attach the corresponding FEMA Flood Insurance Rate Map (FIRM) and describe the measures to be taken to comply with Executive Order 11988.

The nature of the proposed project (i.e. building modifications) is in compliance with Executive Order 11988 as the action would not encroach upon, or otherwise impact, the natural, ecological or scenic resources of the 100-year floodplain. The applicable FIRM maps are included in Attachment E.

(L) HAZARDOUS MATERIALS

Would the proposed project involve the use of land that may contain hazardous materials or cause potential contamination from hazardous materials? (If **Yes**, attach record of consultation with appropriate agencies). Explain.

No. The proposed project does not entail any earth disturbance. There may, however, be lead paint present in some of the building elements that will be modified for acoustical treatments. Contractors will comply with OSHA guidelines for handling and disposing of encountered lead contaminated materials. It is also presumed that asbestos may be present in window caulking. If encountered, the removal and disposal of such materials will meet Department of Environmental Protection (DEP Southeast Region) and City of Philadelphia Department of Public Health guidelines.

(M) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL OR CULTURAL PROPERTY

(a) Describe any impact the proposed project might have on any properties in or eligible for inclusion in the National Register of Historic Places. (Include a record of your consultation and response with the State or Tribal Historic Preservation Officer (S/THPO)).

The proposed project would have a beneficial impact on Fort Mifflin, a National Historic Landmark, by mitigating the noise associated with aircraft over flights through sound attenuation of identified noise sensitive areas.

Correspondence between the City of Philadelphia (on behalf of the FAA) and the Pennsylvania State Historical and Museum Commission (the SHPO), the City of Philadelphia Historic Society, and the National Park Service is included in Attachment C.

The PA SHPO and the City of Philadelphia Historic Commission agree that the project as planned will have No Adverse Effect on Fort Mifflin. Both agencies, as well as the National Park Service, have requested to review more detailed plans, once they are developed, for compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The City of Philadelphia will continue to coordinate with these agencies through the design phase to ensure that the plans and specifications are provided for agency review and comment.

(b) Describe any impacts to archeological resources as a result of the proposed project. (Include a record of consultation with persons or organizations with relevant expertise, including the S/THPO, if applicable).

The proposed project does not entail any earth disturbance, so there are no impacts to archaeological resources anticipated.

(N) INDUCED SOCIOECONOMIC IMPACTS

Would the proposed project cause induced, or secondary, socioeconomic impacts to surrounding communities, such as change business and economic activity in a community; impact public service demands; induce shifts in population movement and growth, etc.? Explain.

No. The project scope is limited to improvements at specific buildings within the Fort and would not result in any induced or secondary impacts.

(O) LIGHT EMISSIONS AND VISUAL EFFECTS

Would the proposed project have the potential for airport-related lighting impacts on nearby residents? Explain.

No. The proposed project would not incorporate new lighting or changes in lighting as compared to existing conditions.

(P) NOISE

Will the project, when compared to the No Action alternative for the same timeframe, cause noise sensitive areas located at or above DNL 65 dB to experience a noise increase of at least DNL 1.5 dB? (Use AEM as a screening tool and INM as appropriate. See Airports Desk Reference, Chapter 17, for further guidance).

No. The purpose of this project is to achieve FAA's noise level reduction (NLR) goals under FAA Order 5100.38C (Airport Improvement Program (AIP) Handbook) of:

- An interior noise level of not greater than DNL 45 dB
- Minimum noise level reduction (NLR) of 5 dB

(Q) SOCIAL IMPACTS

Would the proposed project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion or decrease in Level of Service?

No. The project will have no effect on the roads in the area or the traffic utilizing those roads. The project will occur within the confines of the Fort.

(R) SOLID WASTE

Would the operation and/or construction of the project generate significant amounts of solid waste? If **Yes**, are local disposal facilities capable of handling the additional volumes of waste resulting from the project? Explain.

No. The solid waste generated from this project will be limited to the materials being replaced and would not be considered a significant amount.

(S) WATER QUALITY

(a) Does the proposed project have the potential to impact water quality, including ground water, surface water bodies, and public water supply system or federal, state or tribal water quality standards? (If **Yes**, contact appropriate agency and include record of consultation).

No. The project will have no effect on ground water, surface waters, or public water supplies.

(b) Is the project to be located over a designated Sole Source Aquifer? (If **Yes**, attach record of consultation with EPA).

Fort Mifflin is in the project review area for the New Jersey Coastal Plain Sole Source Aquifer, but there would be no impacts to the aquifer as a result of this sound insulation project.

(T) WETLANDS

(a) Does the proposed project involve federal or state regulated or non-jurisdictional wetlands? (Contact USFWS or state agency if protected resources are affected) (Wetlands must be delineated using methods in the US Army Corps of Engineers 1987 Wetland Delineation Manual. Delineations must be performed by a person certified in wetlands delineation).

As shown on Figure 5 the National Wetlands Inventory Map, Fort Mifflin is adjacent to the Delaware River which is identified as an Estuarine and Marine Deepwater Wetland by the US Fish and Wildlife Service. The proposed project is limited to buildings within the Fort does not involve, or will not impact, any wetlands or waters. There is no earth disturbance associated with the proposed project.

(b) If yes, does the project qualify for an Army Corps of Engineers General permit? (Document coordination with the Corps).

Not applicable.



U.S. Fish and Wildlife Service National Wetlands Inventory

Fort Mifflin Wetlands

Nov 3, 2014



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Figure 5
National Wetlands Inventory Map

(U) WILD AND SCENIC RIVERS

Would the proposed project affect a river segment that is listed in the Wild and Scenic River System or National Rivers Inventory? (If **Yes**, coordinate with the jurisdictional agency and attach record of consultation).

No. The portion of Delaware River in the vicinity of Fort Mifflin is not a Wild and Scenic River segment as defined by the Wild and Scenic Rivers Act (WSRA) of 1968.

(V) CUMULATIVE IMPACTS

Discuss impacts from past, present, and reasonably foreseeable future projects both on and off the airport. Would the proposed project produce a cumulative effect on any of the environmental impact categories above? Consider projects that are connected and may have common timing and/or location. For purposes of this Form, generally use 3 years for past projects and 5 years for future foreseeable projects.

The nature of the proposed project does not lend itself to adverse impacts on natural, cultural or social resources. As there are no potential significant impacts anticipated from implementation of the proposed project, it is not expected that the sound insulation treatment will result in a significant cumulative impact.

7. PERMITS

List all required permits for the proposed project. Has coordination with the appropriate agency commenced and what is the expected time frame of receiving a permit?

A building permit from the City of Philadelphia Department of Licenses and Inspection is required. A prerequisite to receiving the building permit is obtaining approval from the Philadelphia Historical Commission. The PHC has conditionally approved the project pending review of the final plans and specifications which will be provided as they are developed.

Coordination with the Philadelphia Historical Commission was initiated during the Feasibility Planning phase. Coordination with the Pennsylvania Historical and Museum Commission also commenced during the Feasibility Planning phase. The official initiation of consultation with these agencies is coincident with this Environmental Assessment (see Attachment C).

Should other permits be identified during the design phase, the City and selected contractor will ensure that they are received prior to the start of the project.

8. MITIGATION

Describe those mitigation measures to be taken to avoid creation of significant impacts to a particular resource as a result of the proposed project, and include a discussion of any impacts that cannot be mitigated.

Impacts to visible elements of the buildings that are important to their architectural and historic character will be minimized through:

-
- Conducting all work in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties; and
 - Using like-kind replacement to match existing styles and materials but with products and materials that meet noise reduction goals.

Should any hazardous materials be encountered while replacing windows or doors, contractors will comply with OSHA, the PA Department of Environmental Protection (Southeast Region) and City of Philadelphia Department of Public Health guidelines for handling and disposing of such materials.

9. PUBLIC INVOLVEMENT

Describe the public review process and any comments received.

The proposed project was included in the PHL FAR Part 150 Noise Compatibility Program Update of which a key element is public involvement. Land Use Measure-4: Develop and Implement a Sound Insulation Program at Fort Mifflin, was presented at three Public Meetings/Community Workshops in 2010 and was included as a recommended action at the official Public Hearing. There were no comments received on this project at any of the public meetings, the public hearing, or during the comment period between preparation of the Draft and Final Noise Compatibility Program.

10. LIST OF ATTACHMENTS

- Attachment A: FAA Correspondence to City of Philadelphia, 2008
- Attachment B: City of Philadelphia Department of Licenses and Inspections Certification Letter
- Attachment C: Agency Consultation
- Attachment D: Section 4(f) Impact Analysis and Supporting Documentation for a De Minimis Impact Finding
- Attachment E: Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) Panels 189 and 230 of 230

Project Title: Sound Insulation of Eligible Areas of Fort Mifflin

Identifier: PHL

11. PREPARER CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct.


Signature

January 30, 2015
Date

Lynn A. Keeley
Name

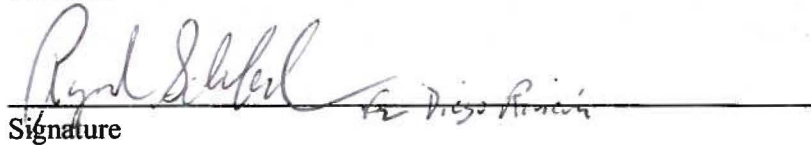
Senior Environmental Planner
Title

AECOM Technical Services, Inc.
Affiliation

215-696-3524
Phone #

12. AIRPORT SPONSOR CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.


Signature

2/6/2015
Date

Diego Rincón, A.A.E
Name

Deputy Director Aviation Capital Development
Title

City of Philadelphia, Division of Aviation
Affiliation

215-937-6062
Phone #

Attachment A

FAA Correspondence, 2008



**U. S. Department
Of Transportation**

**Federal Aviation
Administration**

Harrisburg Airports District Office
3905 Hartzdale Drive, Suite 508
Camp Hill, PA 17011
717-730-2839
717-730-2838 (fax)

September 24, 2008

Calvin M. Davenger, Jr., P.E.
Deputy Director of Aviation
Planning and Environmental Stewardship
Philadelphia International Airport

RE: PHL Ft. Mifflin Feasibility Study

Dear Mr. Davenger;

Thank you for the responses to our comments on the Ft. Mifflin Feasibility Study. After careful consideration of your responses it appears we are still in disagreement regarding the areas of Ft. Mifflin that would be eligible for federal funding under the Part 150 Program. The feasibility study recommends that areas used for sleeping quarters, the exhibit areas, the multi-purpose space, offices and corridors (necessary to achieve adequate noise reduction in the office areas) be eligible for sound attenuation under the Part 150 program. While the FAA agrees that some areas, such as the designated classrooms, are eligible for federal funding under the Part 150 program, many of the areas recommended for sound attenuation do not meet the land use compatibility guidelines or requirements for sound attenuation.

Table 1, *Land Use Compatibility with Yearly Day-Night Average Sound*, of the Part 150 Guidance provides a general guidance for land capability for various land uses. It is important to recognize that this table is a guide and is not inclusive of all types of land uses or facilities. Obviously Ft. Mifflin is a unique land use that does not clearly fit into any of the major categories. For this reason, additional reference sources, to include Advisory Circular 150/5020-1 and the Federal Interagency Committee on Urban Noise, (FICUN), *Guidelines for Considering Noise in land Use Planning and Control* were researched. These references are valid in the administration of the Part 150 program and help to provide a better understanding of land compatibility uses. There was also considerable consultation with experts from our Headquarters Office.

After careful consideration, the areas FAA has determined eligible for Part 150 sound attenuation are: the video conference lab located in the Hospital/Mess Hall; the two classrooms in the Soldiers Barracks; and caretakers quarters located in the Officers' Quarters. These areas correlate to the figures and descriptions found in the, *Philadelphia International Airport Fort Mifflin Sound Insulation Feasibility Study*, Final Report, October 2007. In the event that classrooms, video conference lab, or the residential area are relocated, additional sound attenuation will not be approved.

The following presents FAA's rationale for determination of eligibility for federal funding under the Part 150 program.

Hospital/Mess Hall

In accordance with Table 1, *Land Use Compatibility with Yearly Day-Night Average Sound*, of the Part 150 Guidance, office spaces are compatible within the 65 to 70 DNL ranges, therefore, FAA finds that office spaces and corridors in the Hospital/Mess Hall are not eligible for sound attenuation under the Part 150 program.

According to the Feasibility Study, the multi-purpose room is used for meals and as a meeting area. Since Table 1, *Land Use Compatibility with Yearly Day-Night Average Sound*, of the Part 150 Guidance does not specifically address meal or meeting areas, the Land Use Compatibility Guidelines of the FICUN report was used. It is felt this use is most closely aligned with "Public Assembly" category of the FICUN guidelines. As such, this room would not be eligible for sound attenuation under the Part 150 program. The video conference lab on the first floor would be eligible.

Soldiers' Barracks

The main area of the building and the medium sized end room are used as classrooms. These areas would be eligible for sound attenuation under the Part 150 program. The two smaller rooms at the opposite end of the building are listed as sleeping quarters. Rooms used for sleeping quarters for groups such as the Scouts, were not be considered residential or transient lodging. These sleeping quarters were considered to be more comparable to camps. As such, they would be compatible to DNL levels of 70-75 and not require sound attenuation under the Part 150 program.

Officers' Quarters

The caretakers quarters would be considered a residential area and therefore eligible for sound attenuation. As stated above, the sleeping quarters would not be eligible. The exhibit areas shown on the first floor and the Interpretive Guides room were also deemed compatible within the 65-70 DNL range. In making this determination, FAA considered the difference between a classroom and an exhibit hall. The exhibit rooms were considered most comparable to "Nature exhibits" category found on Table 1, *Land Use Compatibility with Yearly Day-Night Average Sound*, of the Part 150 Guidance.

Please be advised that when assessing a structure for potential sound attenuation, FAA must take into account the overall condition of the structure. Prior to investing federal funds there must be assurance that the structure is in compliance with all appropriate building codes and that necessary sound reductions can be achieved. The general condition of the Ft. Mifflin buildings is noted as "fair to good", therefore, there is concern that in the absence of upgrades or repairs, sound leakage from areas such as corridors or adjacent rooms may prevent achievement of the required sound reductions. Federal funding may not be used to bring a structure up to code, make structural modifications, or any other repairs or upgrades to prevent sound leakage from areas not eligible for sound attenuation. If this type of work is needed, it must be completed prior to investing federal funding.

Should you have any further questions regarding these determinations, please contact Sue McDonald at (717) 730-2841.

Sincerely,

A handwritten signature in black ink that reads "Lori Pagnanelli". The signature is written in a cursive, flowing style.

Lori Pagnanelli
Manager

Attachment B

City of Philadelphia License & Inspections Certification



CITY OF PHILADELPHIA
DEPARTMENT OF
LICENSES AND
INSPECTIONS

Operations Division, West District

1401 JFK Blvd., 11th Floor
Philadelphia, PA 19102
Office: 215-686-2593
Email : OperationsWest@phila.gov

Notice of Compliance

CITY OF PHILA
ROOM 1030 1401 JOHN F KENNEDY BLV
PHILADELPHIA PA 191071610

Case No: 407051

Date Notice Printed: 10/06/14

Subject Premises: 4800 FORT MIFFLIN RD

This letter is to inform you that all violations for Case# **407051** on **4800 FORT MIFFLIN RD** are now in compliance and the case is officially closed.

If you have questions concerning this notice, please contact 215-686-2593.

Attachment C
Agency Consultation



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

4 June 2014

Raymond A. Schienfeld
Acting Planning Manager
Philadelphia International Airport

Re: ER 2006-2706-101-E
FTA: Sound Insulation of Eligible Areas of Fort Mifflin
Philadelphia, Philadelphia County

Dear Mr. Schienfeld:

Thank you for submitting information concerning the above referenced project. The Bureau for Historic Preservation (the State Historic Preservation Office) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation.

Thank your for the additional information. We are in agreement that the project as planned will have a **No Adverse Effect** on Fort Mifflin (Key No. 001371), a National Historic Landmark. This finding is **conditional** on review of more detailed plans and their compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. In addition, we would like to continue to be informed of coordination of the project designs with the National Park Service and the Philadelphia Historical Commission.

If you need further information concerning this review, please contact Barbara Frederick at (717) 772-0921.

Sincerely,

A handwritten signature in black ink, appearing to read "D. McLearn".

Douglas C. McLearn, Chief
Division of Archaeology and Protection

DCM/bcf

cc: NPS, Regional Support Office
Philadelphia Historical Commission



PROJECT REVIEW FORM

Request to Initiate SHPO Consultation on State and Federal Undertakings

SHPO USE ONLY
DATE RECEIVED:
ER NUMBER:

REV: 5/2012

SECTION A: GENERAL PROJECT INFORMATION

Is this a new submittal?	YES	NO	OR	This is additional information for ER Number:
Project Name				County
Project Address				
City/State/ Zip				Municipality

SECTION B: PRIMARY CONTACT INFORMATION

Name	Phone
Company	Fax
Street/P.O. Box	Email
City/State/Zip	

SECTION C: PROJECT DESCRIPTION

This project is located on: (check all that apply)	Federal property	State property	Municipal property	Private property
List all Federal and State agencies and programs (funding, permits, licenses) involved in this project	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)	

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply):	Construction	Demolition	Rehabilitation	Disposition
Total acres of project area:	Total acres of earth disturbance:			
Are there any buildings or structures within the project area?	Yes	No	Approximate age:	
This project involves properties listed in or eligible for listing in the National Register of Historic Places, or designated as historic by a local government	Yes	No	Unsure	Name of historic property or historic districts

Please print and mail completed form and all attachments to: PHMC State Historic Preservation Office 400 North St. Commonwealth Keystone Building, 2nd Floor Harrisburg, PA 17120-0093	Attachments – Please include the following information with this form <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td>Map – 7.5' USGS quad showing project boundary and Area of Potential Effect</td> </tr> <tr> <td></td> <td>Description/Scope – Describe the project, including any ground disturbance and previous land use</td> </tr> <tr> <td></td> <td>Site Plans/Drawings – Indicate the location and age, if known, of all buildings in the project area</td> </tr> <tr> <td></td> <td>Photographs – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan</td> </tr> </table>		Map – 7.5' USGS quad showing project boundary and Area of Potential Effect		Description/Scope – Describe the project, including any ground disturbance and previous land use		Site Plans/Drawings – Indicate the location and age, if known, of all buildings in the project area		Photographs – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan
	Map – 7.5' USGS quad showing project boundary and Area of Potential Effect								
	Description/Scope – Describe the project, including any ground disturbance and previous land use								
	Site Plans/Drawings – Indicate the location and age, if known, of all buildings in the project area								
	Photographs – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan								

SHPO DETERMINATION (SHPO USE ONLY)	SHPO REVIEWER:
<input type="checkbox"/> There are NO HISTORIC PROPERTIES in the Area of Potential Effect <input type="checkbox"/> The project will have NO EFFECT on historic properties <input type="checkbox"/> The project will have NO ADVERSE EFFECTS on historic properties:	<input type="checkbox"/> The project will have NO ADVERSE EFFECTS WITH CONDITIONS (see attached) <input type="checkbox"/> SHPO REQUESTS ADDITIONAL INFORMATION (see attached)

Pennsylvania Historical and Museum Commission
Request to Initiate SHPO Coordination on State and Federal Undertakings

Fort Mifflin Sound Insulation Project
Attachments

February 13, 2014

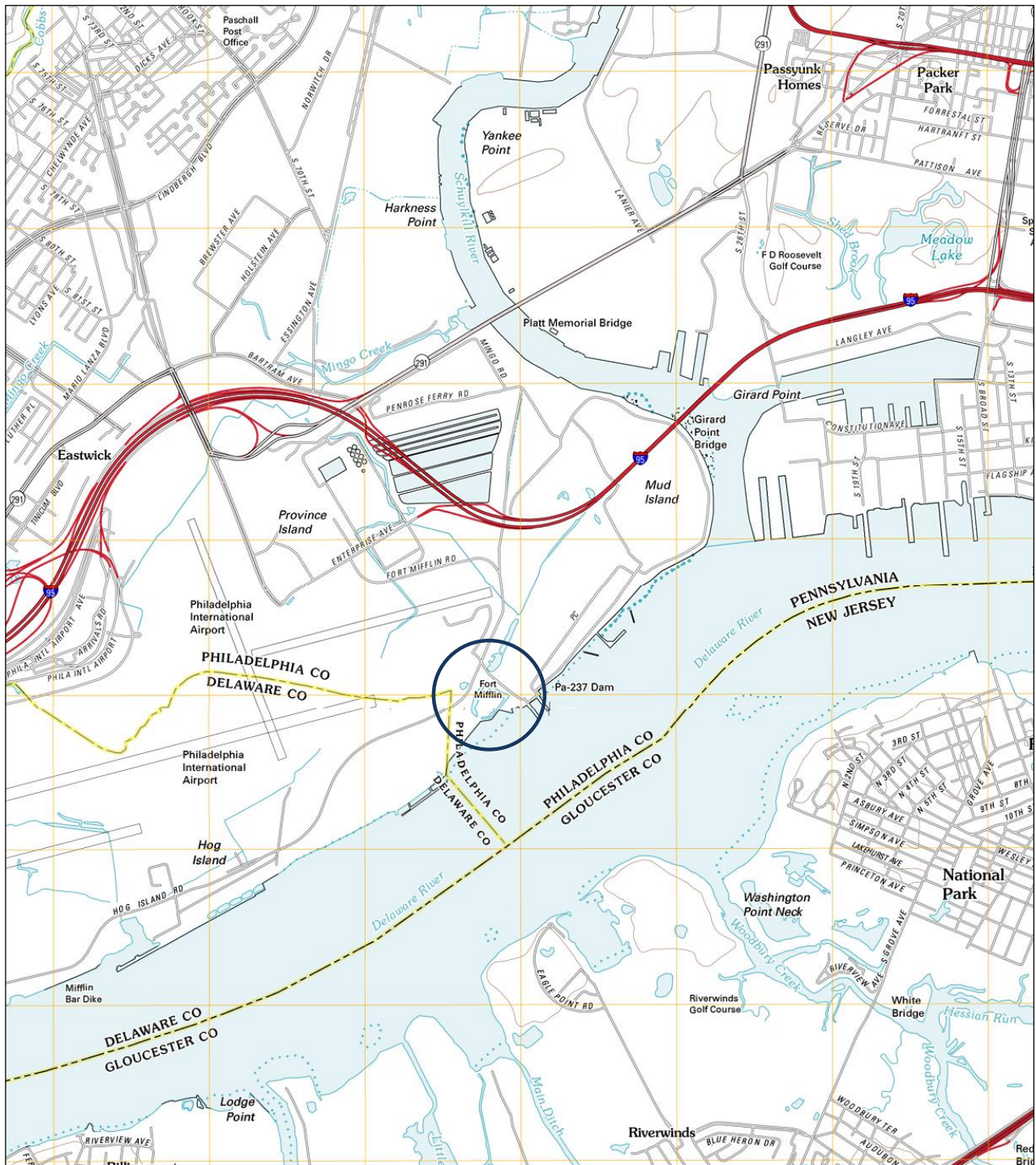


Figure 1: Location Map

Source: U.S. Department of the Interior U. S. Geological Survey
Philadelphia Quadrangle 7.5 minute series 2011
Woodbury Quadrangle 7.5 minute series 2011

PROJECT DESCRIPTION / SCOPE

Introduction

The City of Philadelphia, Division of Aviation, is seeking federal funding through the FAR Part 150 Program to implement an action contained in the PHL Noise Compatibility Program for which a Record of Approval was issued by the Federal Aviation Administration (FAA) in July 2012. Specifically, the action is to sound insulate eligible rooms within historic Fort Mifflin to meet FAA noise level reduction (NLR) standards while ensuring the historic fabric of the facility is not compromised. Fort Mifflin, located at Fort Mifflin and Hog Island Roads in the City of Philadelphia, is listed on the National Register of Historic Places and is a designated National Historic Landmark.

Background

The City of Philadelphia, Division of Aviation, recently completed an update to an approved Federal Aviation Regulation (FAR) Part 150 Airport Noise Compatibility Planning Study. Part 150 is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. It establishes procedures and criteria for making projects eligible for funding through the Airport Improvement Program (AIP).

Given the location of historic Fort Mifflin in such close proximity to Philadelphia International Airport, the Fort has been included in airport noise compatibility studies dating back ten years (see Figure 1: Location Map). To address airport related noise effects at the Fort, a recommendation was included in the airport's initial Noise Compatibility Study in 2002 to explore the feasibility of providing sound insulation to three of the Fort's fourteen buildings: 1) the Restoration Hospital/Mess Hall; 2) the Soldiers' Barracks; and 3) the Officers' Quarters (See Figure 2: Site Map). These facilities serve specific purposes and roles at Fort Mifflin, such as a caretaker residence, offices, and educational facilities, and as such are considered sensitive uses that would be eligible under a noise mitigation program. In 2003, the recommendation was approved by the FAA.

The City of Philadelphia, Division of Aviation subsequently completed a comprehensive feasibility study to identify the potential for effective sound insulation treatments. A field visit was conducted in August 2006 with representatives from the Pennsylvania Historical and Museum Commission, Philadelphia Historical Commission, Federal Aviation Administration (FAA) and City of Philadelphia Division of Aviation representatives to experience the areas of the Fort that are impacted by airport related noise and to discuss appropriate methods to reduce the interior noise levels. Comments and suggestions received at this meeting were incorporated into a 2007 Feasibility Report which identified and recommended door, window, and mechanical/electrical treatment options for each of the rooms within these buildings. After reviewing the 2007 report, the FAA determined that not all areas initially identified for treatment would be eligible for federal funding as they did not meet the federal Part 150 land use compatibility guidelines or requirements for sound insulation. The FAA identified the following areas as eligible to receive Part 150 funding for sound attenuation: 1) the video conference lab in the Restoration Hospital/Mess Hall; 2) the two classrooms located in the soldiers' barracks; and 3) the caretaker's residence located in the Officer's Quarters. According to the FAA, these areas serve specific purposes at the Fort and are considered noise sensitive (see Figures 3, 4 and 5).

Project Purpose and Need

Fort Mifflin is host to several indoor and outdoor events throughout the year such as living history programs, distance learning programs, overnight scouting events, and paranormal programs. The Fort is also authorized to provide housing year round for an onsite caretaker in order to maintain the facility and provide security for the Fort when it is closed, especially at nighttime. Sound attenuation is needed to mitigate the significant noise impacts on the Fort from aircraft over flights approaching and departing Philadelphia International Airport to and from Runway 9L-27R, one of the airports primary runways. As a result, Fort Mifflin is located within the 70 and 75 DNL dB¹ noise contours on the Airport's most recently accepted Noise Exposure Maps (see Figure 6). Noise contours are a series of line superimposed on a map of an airport's environs. These lines represent various DNL levels (typically 65, 70, and 75 dBA). It is the areas within the 65, 70, and 75 DNL noise contours that the FAA considers to be the most impacted by aircraft generated noise.

Interior noise measurements conducted in October 2005, indicated that pre-treatment interior noise levels meet or exceed 45 dB DNL in all eligible areas. As such, sound insulation is justified to mitigate the substantial and disruptive noise effects on the noise sensitive uses within the Fort.

The purpose of this project is to sound attenuate eligible areas of Ft. Mifflin in order to achieve FAA's noise level reduction (NLR) goals under FAA Order 5100.38C (Airport Improvement Program (AIP) Handbook) of:

- An interior noise level of not greater than DNL 45 dB
- Minimum noise level reduction (NLR) of 5 dB

Project Description

The project will involve sound attenuating the video conference lab in the Restoration Hospital/Mess Hall; two classrooms in the Soldiers' Barracks; and the caretaker's residence in the Officer's Quarters through a combination of architectural improvements (i.e. windows, doors, ceilings and walls) and mechanical/electrical improvements, as required. Extensive renovations to Fort Mifflin were undertaken by the City of Philadelphia in the 1980's at the Restoration Hospital/Mess Hall and the Officers' Quarters. Core building elements such as exterior walls, field stone floors and verandas, and some structural framing appear to be original material; however, many of these buildings' "character-defining" features such as doors and windows have been replaced over the years. With the exception of the doors in the Soldiers' Barracks, all doors and windows at Fort Mifflin appear to be twentieth century products and materials. This is important to note because there would be little "historic fabric" or material that would be altered or replaced by any of the proposed acoustical treatments. Regardless, in developing potential treatment recommendations, a strategy was adopted for treating architectural elements that match former styles and materials (i.e., like-kind replacement, but with products and materials that meet noise reduction goals) and minimize impacts to visible elements of the buildings that are important to their architectural and historic

¹ Day-Night Average Sound Level (DNL or Ldn): The Day- Night Average Sound Level is a measure of the average noise environment over a 24-hour day. It is the 24-hour, energy averaged, A-weighted sound level with a 10 dB penalty applied to noise between 10:00 p.m. and 7:00 a.m.

Decibel (dB): The term used to describe sound levels.

character. This approach will ensure that the proposed treatments will not compromise Fort Mifflin's historic value.

The recommended sound attenuation measures proposed to decrease the interior DNL to FAA standards in each eligible area are explained in more detail, below. All work will be conducted in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. With the exception of the doors at the Soldiers' Barracks, there are no other original doors or windows identified for sound attenuation.

Recommendations:

Video conference lab on the first floor of the Restoration Hospital/Mess Hall

- Replace the exterior and interior doors at each vestibule with new solid core pine doors. Exterior doors should be 1-3/4" thick and interior doors are to be 1-3/8" thick. There will be an approximately 9" airspace between doors.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace
- Install dampers in any chimneys that are not already blocked
- Replace existing attic hatches with new sound insulating hatches
- Remove existing recessed light fixtures, patch holes, and install new surface mounted fixtures, or install sound control housings above the existing light fixtures.

Though subject to change during final design, there is one exterior door, two interior doors and four windows identified for sound insulation treatment.

Classrooms on the first floor of the Soldiers' Barracks:

- Replace all exterior and interior vestibule doors with new doors. Reuse the existing exterior door (e.g. affixing it to the new exterior door to maintain the style). Gasket or seal perimeter gaps around both exterior and interior doors.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace.
- Install dampers in any chimneys that are not already blocked.

Though subject to change during final design, there are two exterior doors, five interior doors and ten windows identified for sound insulation treatment.

Caretaker's residence on the second floor of the Officers' Quarters:

- Replace all exterior and interior doors at each vestibule with new solid core pine doors. Exterior doors should be 1-3/4" thick, and interior doors should be 1-3/8" thick.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace.
- Install dampers in any chimneys that are not already blocked.
- Replace existing attic hatches with new sound insulating hatches.

Though subject to change during final design, there is one exterior door, one interior door and two windows identified for sound insulation treatment.

Assessment of Adverse Effects

Pursuant to 36 CFR § 800.5(a), the Criteria of Adverse Effect has been applied to Fort Mifflin. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Application of the Criteria of Adverse Effects	
Criteria of Adverse Effect	Evaluation
i. Physical destruction of or damage to all or part of the property;	The replacement of door, window and mechanical elements identified for sound attenuation will be conducted in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.
ii. Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision for handicapped access that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;	The project would not involve alteration of the property that is inconsistent with the Secretary's Standards.
iii. Removal of the property from its historic location;	The project would not remove the Fort from its historic location.
iv. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;	The project would not change the character of the property's use as a historic site, or national historic landmark.
v. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;	The project would not introduce visual, atmospheric, or audible elements that would diminish the integrity of the property's significant historic features. The project is intended to decrease interior noise levels.
vi. Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and	The project would not result in the neglect of the Fort.
vii. Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.	The project would not result in the transfer, lease, or sale of Fort Mifflin
Finding:	No Adverse Effect

Conclusion

Implementing sound attenuation measures at Fort Mifflin does not constitute an adverse effect since it would not diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association, and since all work will be completed in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. As noted earlier, the proposed undertaking is designed to have a beneficial effect on the Fort and the activities conducted therein by reducing the current noise levels to acceptable standards as defined by the FAA.



Figure 2: Site Map

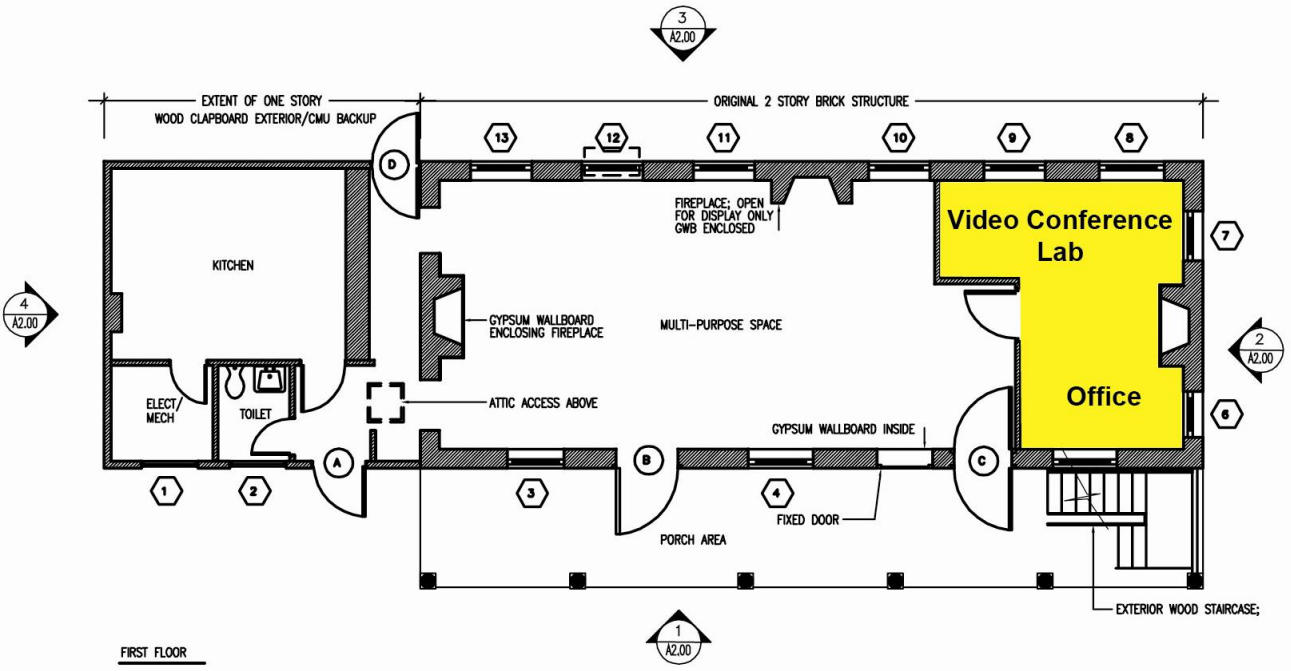


Figure 3: Restoration Hospital/Mess Hall

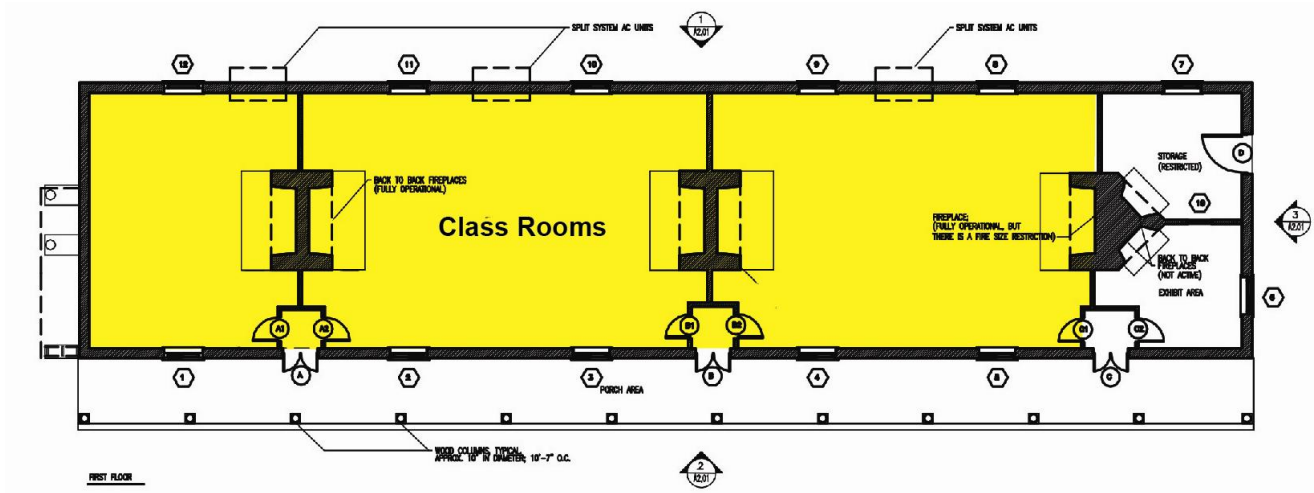


Figure 4: Soldiers' Barracks

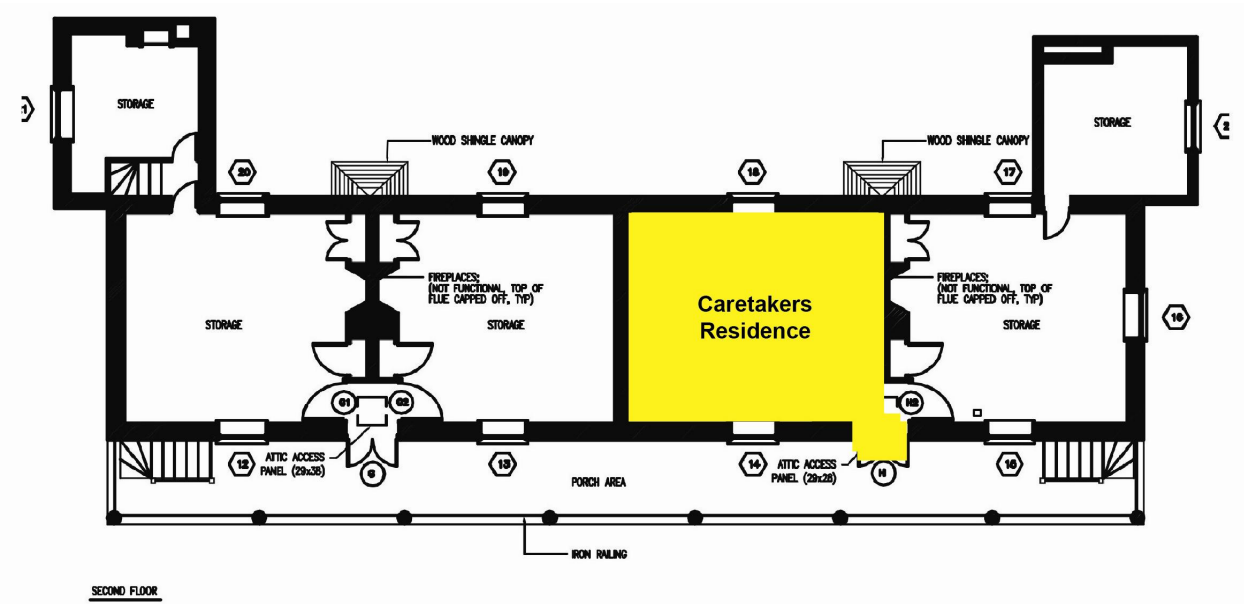


Figure 5: Officers Quarters

Created On: 12-23-09 Revised On: 03-24-10

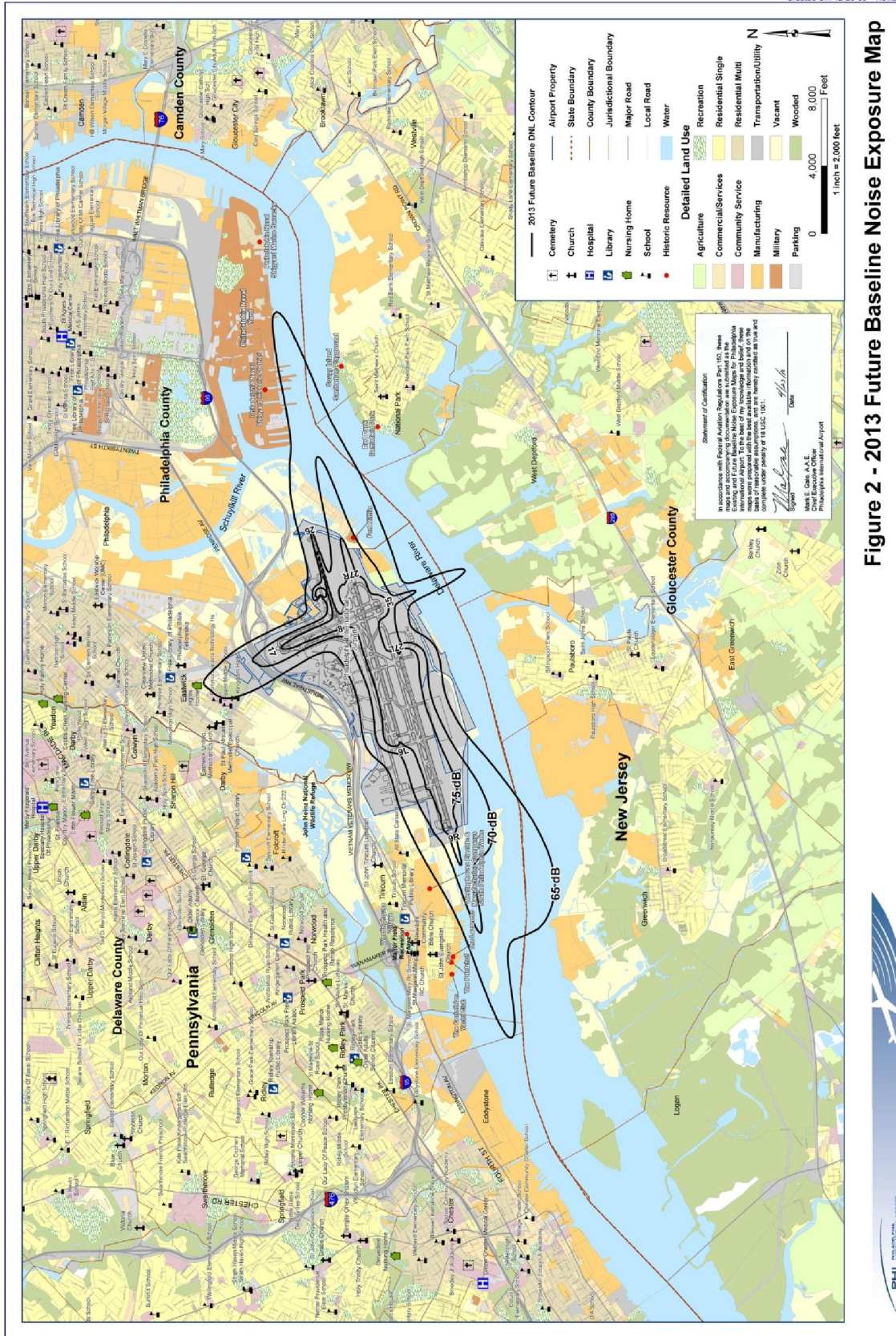


Figure 2 - 2013 Future Baseline Noise Exposure Map

DMJM AVIATION | AECOM
 Prepared by Wyle

PHL
Noise Compatibility Program Update

Coordinate System: NAD 1983 StatePlane Pennsylvania South Foot

Figure 6: Approved PHL Noise Exposure Map



CITY OF PHILADELPHIA

PHILADELPHIA HISTORICAL
COMMISSION

Room 576, City Hall
Philadelphia, Pennsylvania 19107
Tel: 215.686.7660
Fax: 215.686.7674

Sam Sherman, Jr.
Chair

Jonathan E. Farnham, Ph.D.
Executive Director

30 January 2015

Mr. Raymond Scheinfeld
City of Philadelphia, Division of Aviation
Philadelphia International Airport
Terminal D, Level 3
Philadelphia, PA 19153

Re: Fort Mifflin Sound Insulation EA

Dear Mr. Scheinfeld,

The purpose of this letter is to provide comments on the proposed project to sound insulate specific rooms within historic Fort Mifflin. Fort Mifflin, located at Fort Mifflin and Hog Island Roads in the City of Philadelphia, is listed on the Philadelphia Register and the National Register of Historic Places and is a designated National Historic Landmark.

The Philadelphia Historical Commission (PHC) conditionally approves of the proposed action to obtain federal funding to implement sound insulation measures designed to reduce interior noise levels at the Fort. Based on the information presented in the Environmental Assessment, the PHC agrees that the proposed action would have no adverse effects on the historic or architectural integrity of the existing structures; however, the Philadelphia Historical Commission will make its final decision when conducting a design review of the final architectural drawings as part of the approval process for a building permit from the City of Philadelphia Department of Licenses and Inspections. Historical Commission decisions are guided by the Secretary of the Interior's Standards for the Treatment of Historic Properties.

PHC requests that FAA continue coordination with the City of Philadelphia throughout the design process and up through building permit approval.

Sincerely,

A handwritten signature in black ink, appearing to read "Randal Baron".

Mr. Randal Baron
Preservation Planner III
Philadelphia Historical Commission
City Hall, Room 576
Philadelphia, PA 19107

>>> "Casper, Amanda" <amanda_casper@nps.gov> 3/13/2014 4:44 PM >>>

Hello Ray,

I looked over the 2007 Feasibility Study. There are several discrepancies between the study and the EA and we need further information. The EA does not provide enough information on the final plan for the project, such as more detailed and specific plans for insulation of each building, and the feasibility study only presents options, not the final decisions for the project. We need full plans and a full scope of the entire project in order to assess the potential impact on the site.

Thank you,

Amanda

--

Amanda Casper
Historian, Preservation Assistance
National Park Service, Northeast Regional Office
200 Chestnut Street, 3rd Floor
Philadelphia, PA 19106
(215) 597-1655

Keeley, Lynn

From: Raymond Scheinfeld <Raymond.Scheinfeld@phl.org>
Sent: Tuesday, February 25, 2014 11:11 AM
To: nps_nhl_nereview@nps.gov
Cc: Keeley, Lynn; Diego Rincon; Mike McCartney
Subject: Fort Mifflin Sound Attenuation Project NPS Review
Attachments: DOI NPS E_MAIL_attachment 022414.pdf

Email to: nps_nhl_nereview@nps.gov

Sub: Fort Mifflin Sound Attenuation Project

This e-mail is being sent to solicit comments on a proposed project to sound insulate specific rooms within historic Fort Mifflin. Fort Mifflin, located at Fort Mifflin and Hog Island Roads in the City of Philadelphia, is listed on the National Register of Historic Places and is a designated National Historic Landmark.

The City of Philadelphia Division of Aviation is currently working with the Federal Aviation Administration (FAA) to obtain federal funding to implement recommended sound attenuation measures designed to improve the interior noise levels at the Fort. As part of FAA's funding and environmental approval requirements, we are consulting with your office, the Pennsylvania State Historic Preservation Office (SHPO), and the City of Philadelphia Historical Society to solicit comments on the proposed project.

Project specific information is contained in the Attachment:

If you have any questions or need any additional information, please contact me directly at 215-906-7604, or Lynn Keeley of AECOM at 215-696-3524.

Sincerely,

Raymond Scheinfeld
Acting Planning Manager

Fort Mifflin Sound Attenuation Project - Attachment

Background

The City of Philadelphia, Division of Aviation, recently completed an update to an approved Federal Aviation Regulation (FAR) Part 150 Airport Noise Compatibility Planning Study. Part 150 is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. It establishes procedures and criteria for making projects eligible for funding through the Airport Improvement Program (AIP).

Given the location of historic Fort Mifflin in such close proximity to Philadelphia International Airport, the Fort has been included in airport noise compatibility studies dating back ten years (see Figure 1: Location Map). To address airport related noise effects at the Fort, a recommendation was included in the airport's initial Noise Compatibility Study in 2002 to explore the feasibility of providing sound insulation to three of the Fort's fourteen buildings: 1) the Restoration Hospital/Mess Hall; 2) the Soldiers' Barracks; and 3) the Officers' Quarters (See Figure 2: Site Map). These facilities serve specific purposes and roles at Fort Mifflin, such as a caretaker residence, offices, and educational facilities, and as such are considered sensitive uses that would be eligible under a noise mitigation program. In 2003, the recommendation was approved by the FAA.

The City of Philadelphia, Division of Aviation subsequently completed a comprehensive feasibility study to identify the potential for effective sound insulation treatments. A 2007 Feasibility Report was prepared to identify and recommend door, window, and mechanical/electrical treatment options for each of the rooms within the three buildings. After reviewing the 2007 report, the FAA determined that not all areas initially identified for treatment would be eligible for federal funding as they did not meet the federal Part 150 land use compatibility guidelines or requirements for sound insulation. The FAA identified the following areas as eligible to receive Part 150 funding for sound attenuation: 1) the video conference lab in the Restoration Hospital/Mess Hall; 2) the two classrooms located in the soldiers' barracks; and 3) the caretaker's residence located in the Officer's Quarters. According to the FAA, these areas serve specific purposes at the Fort and are considered noise sensitive (see Figures 3, 4 and 5).

Project Purpose and Need

Fort Mifflin is host to several indoor and outdoor events throughout the year such as living history programs, distance learning programs, overnight scouting events, and paranormal programs. The Fort is also authorized to provide housing year round for an onsite caretaker in order to maintain the facility and provide security for the Fort when it is closed, especially at nighttime. Sound attenuation is needed to mitigate the significant noise impacts on the Fort from aircraft over flights approaching and departing Philadelphia International Airport to and from Runway 9L-27R, one of the airports primary runways. As a result, Fort Mifflin is located within the 70 and 75 DNL dB¹ noise contours on the Airport's most recently accepted Noise Exposure Maps (see Figure 6). Noise contours are a series of line superimposed on a map of an airport's environs. These lines represent various DNL levels (typically

¹ Day-Night Average Sound Level (DNL or Ldn): The Day- Night Average Sound Level is a measure of the average noise environment over a 24-hour day. It is the 24-hour, energy averaged, A-weighted sound level with a 10 dB penalty applied to noise between 10:00 p.m. and 7:00 a.m.

65, 70, and 75 dBA). It is the areas within the 65, 70, and 75 DNL noise contours that the FAA considers to be the most impacted by aircraft generated noise.

Interior noise measurements conducted in October 2005, indicated that pre-treatment interior noise levels meet or exceed 45 dB DNL in all eligible areas. As such, sound insulation is justified to mitigate the substantial and disruptive noise effects on the noise sensitive uses within the Fort.

The purpose of this project is to sound attenuate eligible areas of Ft. Mifflin in order to achieve FAA's noise level reduction (NLR) goals under FAA Order 5100.38C (Airport Improvement Program (AIP) Handbook) of:

- An interior noise level of not greater than DNL 45 dB
- Minimum noise level reduction (NLR) of 5 dB

Project Description

The project will involve sound attenuating the video conference lab in the Restoration Hospital/Mess Hall; two classrooms in the Soldiers' Barracks; and the caretaker's residence in the Officer's Quarters through a combination of architectural improvements (i.e. windows, doors, ceilings and walls) and mechanical/electrical improvements, as required. Extensive renovations to Fort Mifflin were undertaken by the City of Philadelphia in the 1980's to the Restoration Hospital/Mess Hall and the Officers' Quarters. Core building elements such as exterior walls, field stone floors and verandas, and some structural framing appear to be original material; however, many of these buildings' "character-defining" features such as doors and windows have been replaced over the years. With the exception of the doors in the Soldiers' Barracks, all doors and windows at Fort Mifflin appear to be twentieth century products and materials. This is important to note because there would be little "historic fabric" or material that would be altered or replaced by any of the proposed acoustical treatments. Regardless, in developing potential treatment recommendations, a strategy was adopted for treating architectural elements that match former styles and materials (i.e., like-kind replacement, but with products and materials that meet noise reduction goals) and minimize impacts to visible elements of the buildings that are important to their architectural and historic character. This approach will ensure that the proposed treatments will not compromise Fort Mifflin's historic value.

Part 150 funding can be applied only after the requirements of all governing codes are satisfied. The City of Philadelphia, Division of Aviation completed a detailed investigation of the existing conditions at each eligible area to determine code compliance and to recommend code compliance measures where codes are not met. Final determination of code compliance will be made by the City of Philadelphia, Department of Licenses and Inspections. The work would be completed prior to implementation of the sound insulation program.

The recommended sound attenuation measures proposed to decrease the interior DNL to FAA standards in each eligible area are explained in more detail, below. It should be noted that these recommendations may be modified during the final design phase but that any and all work will be completed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Recommendations:

Video conference lab on the first floor of the Restoration Hospital/Mess Hall

- Replace the exterior and interior doors at each vestibule with new solid core pine doors. Exterior doors should be 1-3/4" thick and interior doors are to be 1-3/8" thick. There will be an approximately 9" airspace between doors.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace
- Install dampers in any chimneys that are not already blocked
- Replace existing attic hatches with new sound insulating hatches
- Remove existing recessed light fixtures, patch holes, and install new surface mounted fixtures, or install sound control housings above the existing light fixtures.

Though subject to change during final design, there is one exterior door, two interior doors and four windows identified for sound insulation treatment.

Classrooms on the first floor of the Soldiers' Barracks:

- Replace all exterior and interior vestibule doors with new doors. Reuse the existing exterior door (e.g. affixing it to the new exterior door to maintain the style). Gasket or seal perimeter gaps around both exterior and interior doors.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace.
- Install dampers in any chimneys that are not already blocked.

Though subject to change during final design, there are two exterior doors, five interior doors and ten windows identified for sound insulation treatment.

Caretaker's residence on the second floor of the Officers' Quarters:

- Replace all exterior and interior doors at each vestibule with new solid core pine doors. Exterior doors should be 1-3/4" thick, and interior doors should be 1-3/8" thick.
- Replace existing windows with new single glazed double hung window units with new interior glazed storm windows with 7" airspace.
- Install dampers in any chimneys that are not already blocked.
- Replace existing attic hatches with new sound insulating hatches.

Though subject to change during final design, there is one exterior door, one interior door and two windows identified for sound insulation treatment.

Conclusion

In closing, we note that since the proposed project was included in the PHL FAR Part 150 Noise Compatibility Program Update, it was presented to the public as part of the study's public involvement process. The project, identified as Land Use Measure-4: Develop and Implement a Sound Insulation Program at Fort Mifflin, was presented at three Public Meetings/Community Workshops and at the official Public Hearing in 2010. There were no comments received on this measure at any of the public meetings, the public hearing, or during the 30-day comment period between preparation of the Draft and Final Noise Compatibility Program study report.

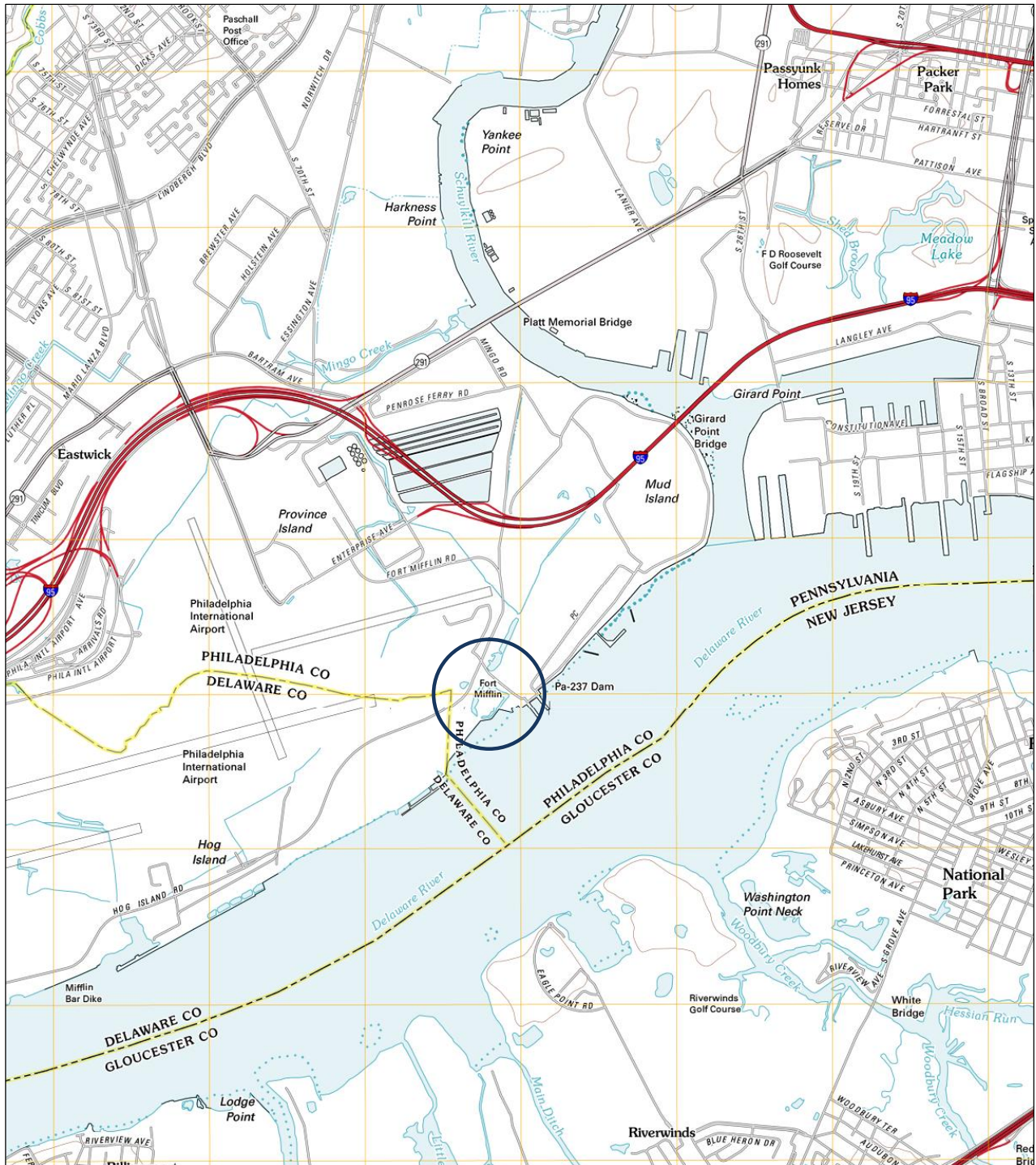


Figure 1: Location Map

Source: U.S. Department of the Interior U. S. Geological Survey
Philadelphia Quadrangle 7.5 minute series 2011
Woodbury Quadrangle 7.5 minute series 2011



Figure 2: Site Map

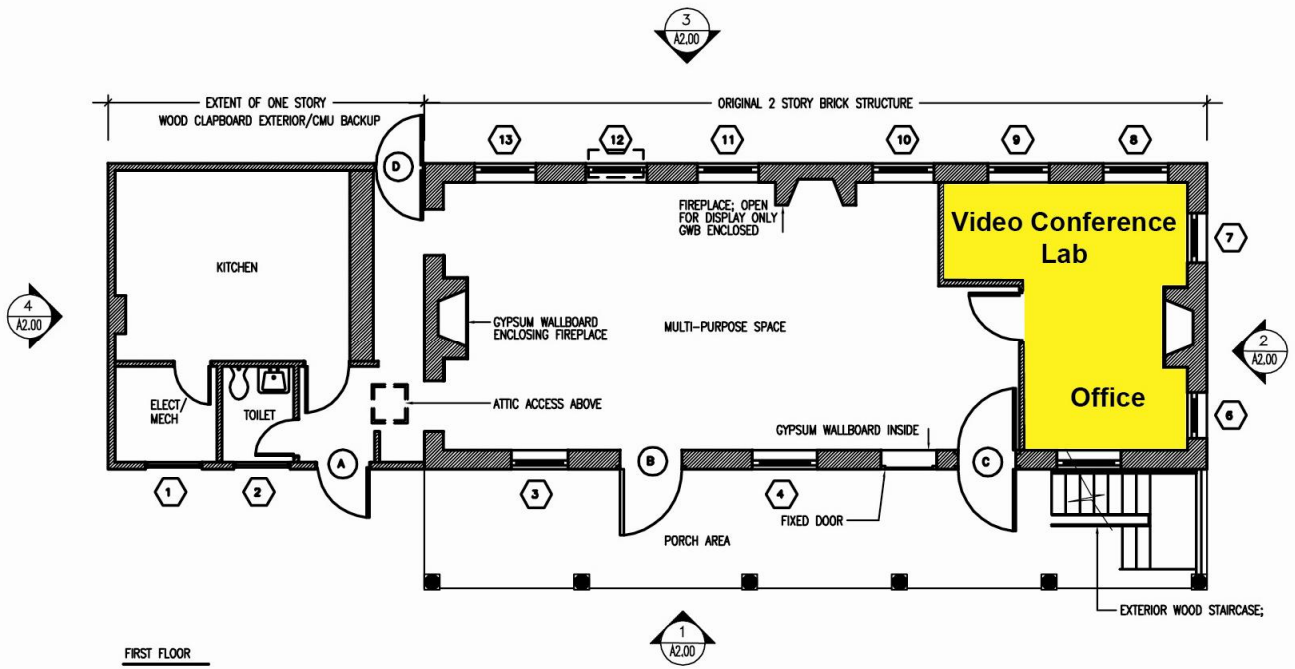


Figure 3: Restoration Hospital/Mess Hall

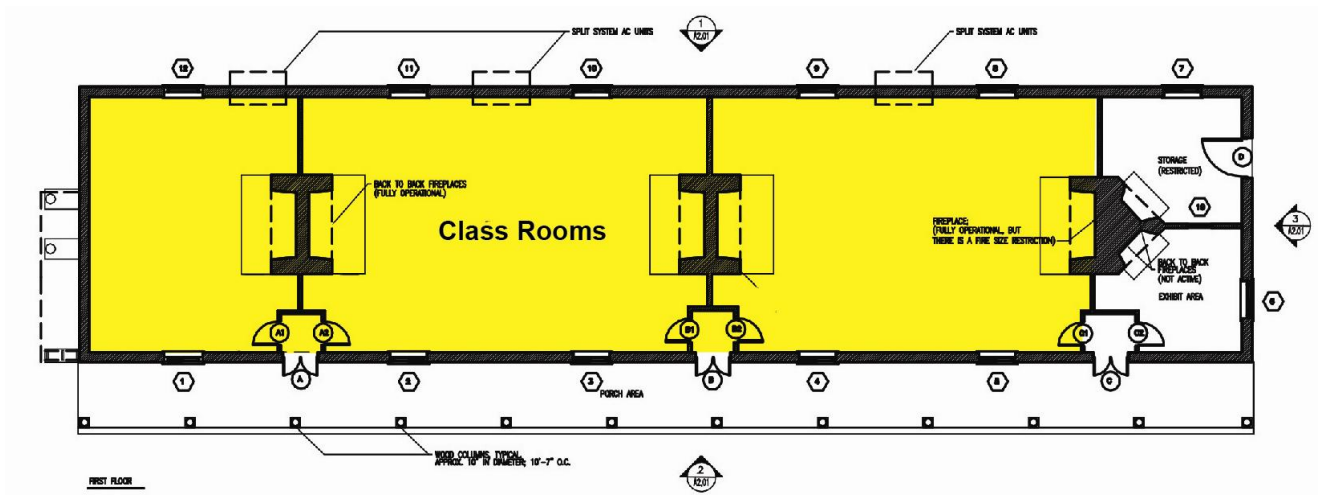


Figure 4: Soldiers' Barracks

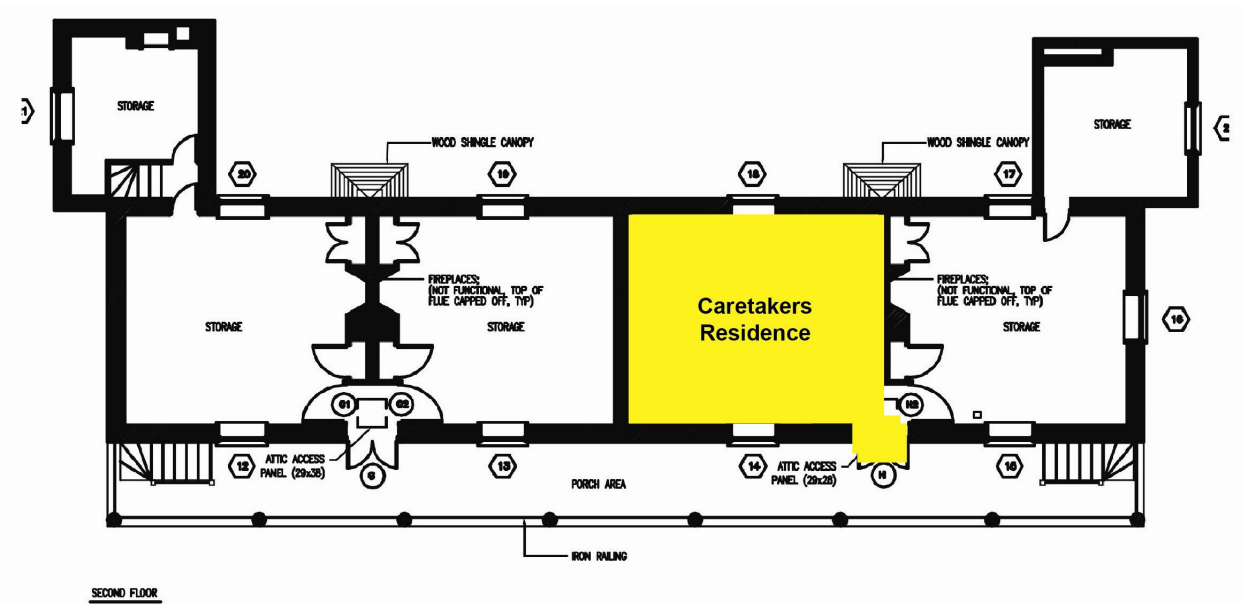


Figure 5: Officers Quarters

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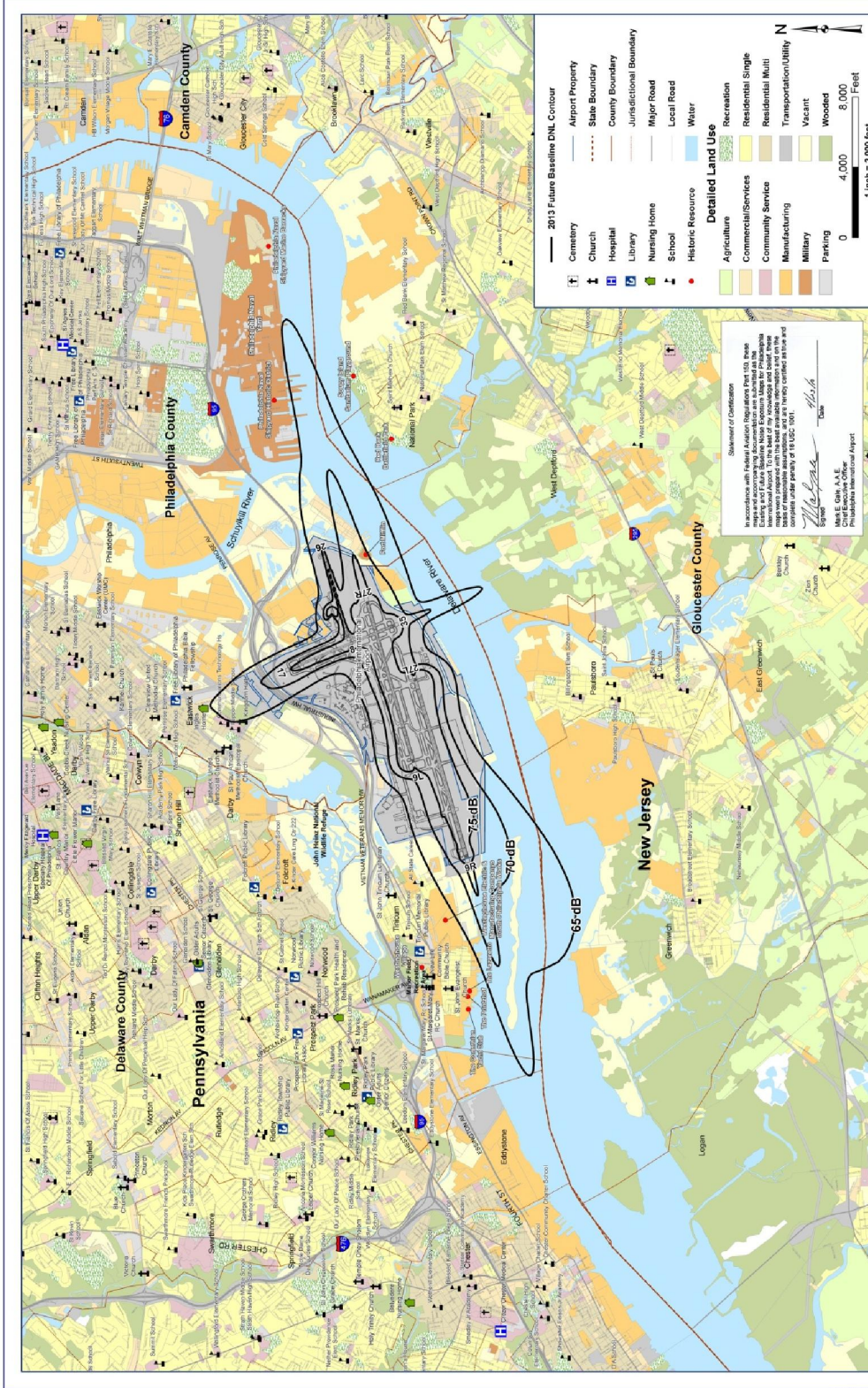


Figure 2 - 2013 Future Baseline Noise Exposure Map

DMJM AVIATION AECOM

Prepared by Wyle



Noise Compatibility Program Update

Coordinate System: NAD 1983 StatePlane Pennsylvania South Feet

Figure 6: Approved PHL Noise Exposure Map

Section 4(f) De-Minimis Impact Evaluation

Section 4(f) Impact Analysis and Supporting Documentation for a De Minimis Impact Finding

Introduction

According to Federal Aviation Administration (“FAA”) policies and procedures for implementing the National Environmental Policy Act (“NEPA”), the City of Philadelphia Division of Aviation is preparing a Short Form Environmental Assessment (“EA”) to implement an action contained in the Philadelphia International Airport (PHL) Noise Compatibility Program for which a Record of Approval was issued by the FAA in July 2012. The action is to sound insulate eligible rooms within historic Fort Mifflin to meet FAA noise level reduction (NLR) standards while ensuring that the historic fabric of the facility is not compromised. Figure D-1 shows the overall project location in relation to the Airport.

Fort Mifflin is a National Historic Landmark. The potential “use” of the Fort associated with the proposed project is an action covered under the Department of Transportation Act of 1966, Section 4(f). This memorandum outlines the Section 4(f) regulations applicable to the project and provides information to support a *De Minimis* impact finding.

Section 4(f) Regulations

Section 4(f) of the Department of Transportation Act of 1966 (49 USC Section 303 and 23 CFR Part 774) states that the Secretary of Transportation (Secretary) may not approve the use of land from a significant publicly-owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

- (i) There is no feasible and prudent alternative to the use of land from the property; and
- (ii) The action includes all possible planning to minimize harm to the property resulting from such use.

A “use” under Section 4(f) can be any of the following:

- Direct use – property is permanently incorporated into the transportation project;
- Temporary use – property is temporarily occupied in a way that is adverse to the property’s purpose; or
- Constructive use – occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished (23 CFR Section 774.15(a)).

U.S. Department of Transportation (“USDOT”) and FAA policies and procedures for preparing Section 4(f) evaluations and determinations and for consulting with other agencies are stated in USDOT Order 5610.1C, Attachment 2, paragraph 4, and in Section 4(b)(1). FAA uses Federal Highway Administration (“FHWA”)/Federal Transit Administration (“FTA”) Section 4(f) regulations as guidance to the extent relevant to FAA programs. FAA also uses FHWA’s Section 4(f) Policy Paper of March 1, 2005 as an aid in implementing Section 4(f). It is assumed that FAA will adopt the updated FHWA Section 4(f) Policy Paper of July 20, 2012, which has further clarification on Section 4(f).

Federal law (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users ("SAFETEA-LU", Section 6009(a)) amended Section 4(f) to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). USDOT subsequently issued guidance for making findings of *de minimis* impact and also amended its Section 4(f) regulations to provide for these findings (24 CFR 774.3(b), 774.5(b), 774.17).

An impact to a park, recreation area, or wildlife and waterfowl refuge may be determined to be *de minimis* if:

1. The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
2. The official(s) with jurisdiction over the property are informed of the Secretary's intent to make the *de minimis* impact finding based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f); and
3. The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource.

Under the new provisions, once the USDOT determines that a transportation use of Section 4(f) property results in a *de minimis* impact, analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete (FHWA Web site: www.fhwa.dot.gov/hep/guidedeminimis.htm).

Section 4(f) is considered satisfied with respect to historic sites and parks, recreation areas, and wildlife and waterfowl refuges if the Secretary makes a *de minimis* impact finding. These requirements apply only to actual physical impacts, not constructive use.

1. *De minimis* findings for historic sites. FAA may make this finding on behalf of the Secretary if:
 - a. Under Section 106 of the National Historic Preservation Act ("NHPA"), it has determined the project will not adversely affect or not affect historic properties;
 - b. The Section 106 finding has received written concurrences from the State Historic Preservation Officer ("SHPO") or the Tribal Historic Preservation Officer ("THPO") (and the Advisory Council on Historic Preservation ("ACHP"), if the ACHP is participating); and
 - c. The Section 106 finding was developed in consultation with parties consulting in the Section 106 process;
2. *De minimis* findings for parks, recreation areas, and wildlife or waterfowl refuges. FAA may make this finding on behalf of the Secretary if:
 - a. It has determined, after public notice and opportunity for public review and comment, that the project will not adversely affect the activities, features, and attributes of the eligible Section 4(f) property; and
 - b. The officials with jurisdiction over the Section 4(f) property have concurred with FAA's determination.

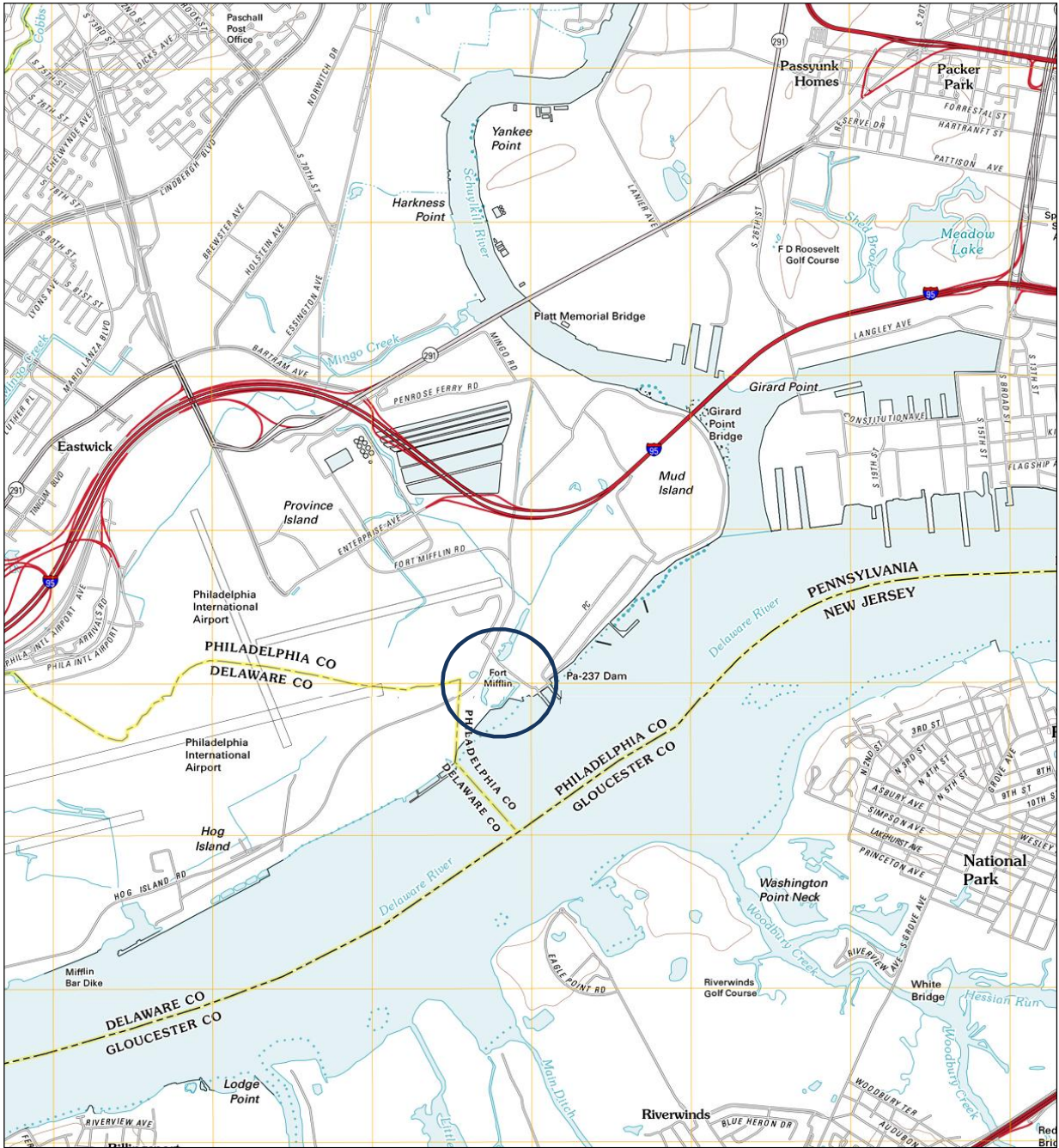


Figure D-1
Fort Mifflin Location Plan

Source: U.S. Department of the Interior U. S. Geological Survey
Woodbury Quadrangle 7.5 minute series 2011
Philadelphia Quadrangle 7.5 minute series 2011

Fort Mifflin

Fort Mifflin was initially constructed between 1772 and the onset of the Revolutionary War. The fort was heavily bombarded and largely destroyed during a British attack in November 1777. After the Revolution, the fort was rebuilt into a proper military facility that included a hospital building, commandant's quarters, an arsenal, a blacksmith's shop, and soldiers' and officers' barracks, according to the designs of Pierre L'Enfant.

The island on which the fort had been originally built was joined to the mainland in the nineteenth century through the natural and artificial infilling of its western channel. The fort was used during the Civil War as a prison for captured Confederate soldiers and Union deserters, many of the latter executed by hanging in the fort's parade ground. The fort was disarmed in 1904. The United States War Department declared the site a national monument in 1915 and transferred it to the USACE for maintenance. The City of Philadelphia assumed title to the property in 1962. In 1970, the Fort was designated a National Historic Landmark.¹

Fort Mifflin has been restored to its 1834 appearance. It is currently managed by the non-profit organization Fort Mifflin on the Delaware, Inc. and is maintained in part by the City of Philadelphia. The aspects of integrity that are most important to this resource are its location and setting along the Delaware River and the materials and design that remain from its use as a point of military defense. Fort Mifflin is considered a visually sensitive resource because views toward the Delaware River contribute to the resource's significance and integrity of setting. The site of the fort was ideal because of its views toward enemy advancements and its firing position within the Delaware River, as well as its proximity to Philadelphia. The qualities of the fort's visual setting, particularly its location along and views toward the Delaware River, contribute greatly to its significance as a key defensive position during the Revolutionary War.

Today Fort Mifflin is frequently used for educational purposes, special events, overnight stays and education programs for schools from the tri-state area. The staff develops events and programming that continues to attract more and more visitors to the Fort. Each year thousands of school children and visitors from Pennsylvania, New Jersey, Delaware, and beyond visit Fort Mifflin for the combination of educational programming, tours and special events.

Project Description

The project will involve sound attenuating the video conference lab in the Restoration Hospital/Mess Hall; two classrooms in the Soldiers' Barracks; and the caretaker's residence in the Officer's Quarters through a combination of architectural improvements (i.e. windows, doors, ceilings and walls) and mechanical/electrical improvements, as required.

Extensive renovations were completed at the Restoration Hospital/Mess Hall and the Officers' Quarters by the City of Philadelphia in the 1980's. Core building elements such as exterior walls, field stone floors and verandas, and some structural framing appear to be original material; however, many of these buildings' "character-defining" features such as doors and windows have been replaced. With the exception of the

¹ Philadelphia International Airport, Capacity Enhancement Program, Section 4(f) and Section 6(f) Resources Technical Report, FAA April 2008

doors in the Soldiers' Barracks, all doors and windows at Fort Mifflin appear to be twentieth century products and materials. This is important to note because there would be little "historic fabric" or material that would be altered or replaced by any of the proposed acoustical treatments. Regardless, in developing potential treatment recommendations, a strategy was adopted for treating architectural elements that match former styles and materials (i.e., like-kind replacement, but with products and materials that meet noise reduction goals) and minimize impacts to visible elements of the buildings that are important to their architectural and historic character. This approach will ensure that the proposed treatments will not compromise Fort Mifflin's historic value.

Impacts to Fort Mifflin

Impacts to Fort Mifflin are related to construction and would be temporary. Construction activities would include delivery of materials and equipment; replacement of existing doors, windows, and interior features such as HVAC components and attic insulation; and, the removal of construction debris. These activities can be accomplished using on-road vehicles, light-duty equipment, and hand-held tools.

There are no anticipated adverse impacts in terms of air, noise, or water pollution, or vehicular traffic volumes as a result of the construction activities. No construction would occur without a building permit from the City of Philadelphia Department of Licenses and Inspection, which requires review and approval from the Philadelphia Historical Commission.

De Minimis Impact Analysis

As noted previously, an impact to a historic site may be determined to be *de minimis* if the "use" is a physical use as opposed to a constructive use, and if under Section 106 of the National Historic Preservation Act ("NHPA"), it has determined the project will not adversely affect or not affect historic properties.

The temporary construction impacts necessary to implement the proposed action represent the physical use to the Fort. The Pennsylvania Historical and Museum Commission (The State Historic Preservation Office) has reviewed the proposed action in accordance with Section 106 of the National Historic Preservation Act (NHPA). The review found that the project would have No Adverse Effect upon Fort Mifflin. The SHPO added that this finding is conditional on review of more detailed plans and their compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The letter from the SHPO is attached.

Applicability of De Minimis Criteria

An analysis of the applicability of the *de minimis* criteria is found below in Table D-1.

Criteria	Meets <i>De Minimis</i> Impact Determination Criteria
Under Section 106 of the National Historic Preservation Act (“NHPA”), it has determined the project will not adversely affect or not affect historic properties	Yes. SHPO letter with this finding is attached.
The Section 106 finding has received written concurrences from the State Historic Preservation Officer (“SHPO”) or the Tribal Historic Preservation Officer (“THPO”) (and the Advisory Council on Historic Preservation (“ACHP”), if the ACHP is participating)	Yes. SHPO letter of concurrence is attached.
The Section 106 finding was developed in consultation with parties consulting in the Section 106 process	Yes. Consulting parties include the Philadelphia Historic Commission and the National Park Service. The SHPO and the PHC letter are attached.

Documentation Requirements

A *de minimis* impact determination must be supported with sufficient information included in the project file to demonstrate that the *de minimis* impact and coordination criteria are satisfied. The approval of the *de minimis* impact would be documented in accordance with the documentation requirements (23 CFR 774.7(f)). These requirements can be satisfied by including the approval in the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI).

Attachment E
FEMA FIRM Maps

NOTES TO USERS

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To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' National Geodetic Vertical Datum of 1929 (NGVD 29). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Pennsylvania State Plane south zone (FIPSZONE 3702). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
NOAA, NINGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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Base map information shown on this FIRM was obtained from the City of Philadelphia including transportation, hydrography, and political boundaries. These files were rectified in 1998 to curb lines generated from orthophotography flown in March of 1996. Additional information has been derived from other sources.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

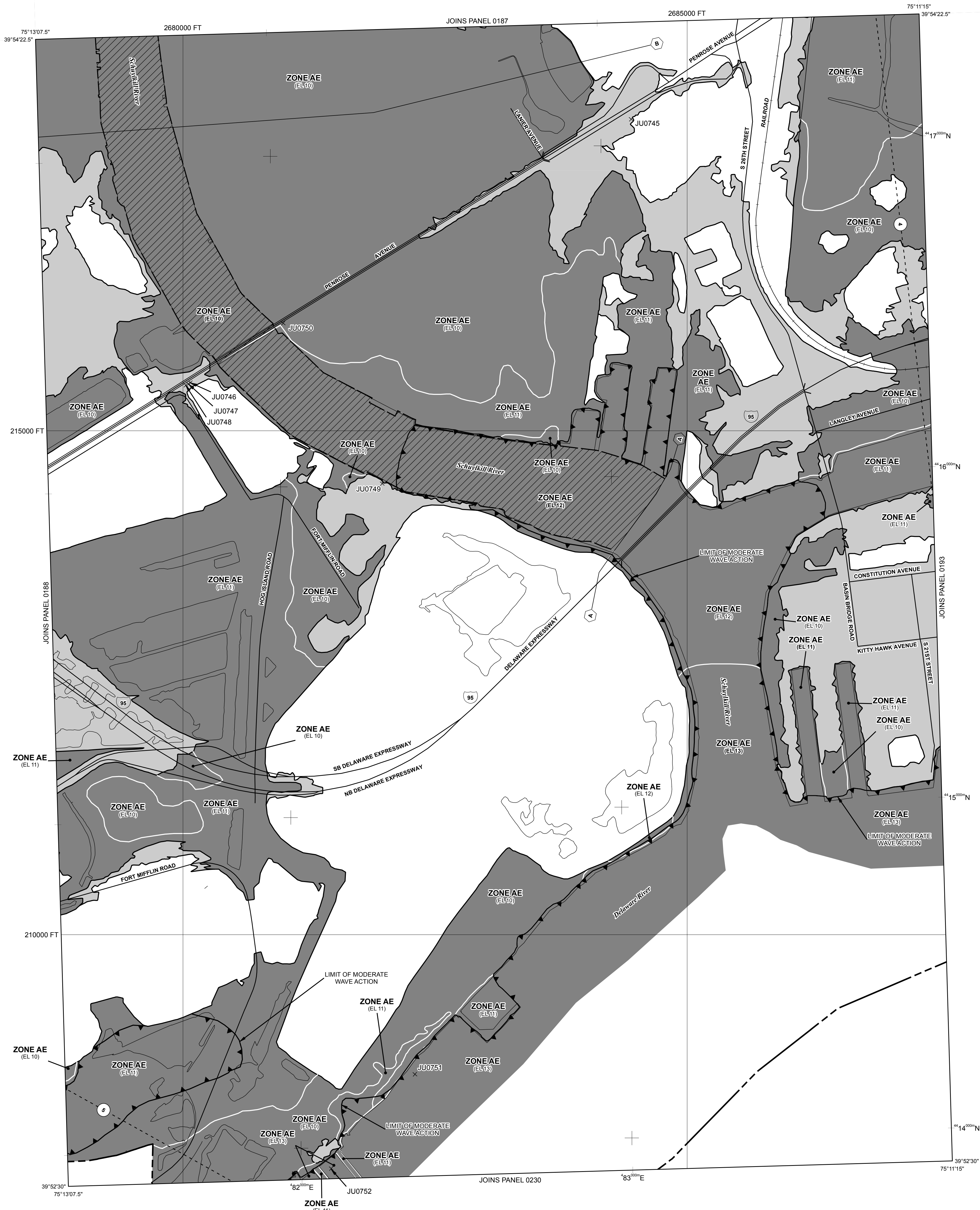
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The AE Zone category has been divided by a **Limit of Moderate Wave Action (LIMWA)**. The LIMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LIMWA (or between the shoreline and the LIMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://maps.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

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LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
 - The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.
 - ZONE A** No Base Flood Elevations determined.
 - ZONE AE** Base Flood Elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
 - ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently derelict. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
 - ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
 - ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
 - ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
 - The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
 - ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
 - OTHER AREAS** Areas determined to be outside the 0.2% annual chance floodplain.
 - ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
 - CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
 - Floodplain boundary
 - Floodway boundary
 - Zone D boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, Flood depths or flood velocities.
 - Limit of Moderate Wave Action
 - 513 Base Flood Elevation line and value; elevation in feet* (EL 987)
 - Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929

A --- A Cross section line
 --- Transverse line
 --- Culvert, Flume, Penstock or Aqueduct
 --- Road or Railroad Bridge
 --- Footbridge

87°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

44°17'00"N
44°16'00"N
44°15'00"N
44°14'00"N

600000 FT 5000-foot grid values: Pennsylvania State Plane coordinate system, South zone (FIPSZONE 3702), Lambert Conformal Conic projection

DX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)

M 1.5 River Mile

MAP REPOSITORY
PHILADELPHIA CITY PLANNING COMMISSION, ONE PARKWAY, 13TH FLOOR, 1515 ARCH STREET, PHILADELPHIA, PENNSYLVANIA 19102 (Maps available for reference only, not for distribution.)

INITIAL NFIP MAP DATE
February 27, 1976

FLOOD HAZARD BOUNDARY MAP REVISIONS
February 27, 1976 - NONE

FLOOD INSURANCE RATE MAP EFFECTIVE
June 15, 1979

FLOOD INSURANCE RATE MAP REVISIONS
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MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0189H

FIRM
FLOOD INSURANCE RATE MAP

CITY OF PHILADELPHIA,
PENNSYLVANIA COUNTY
PHILADELPHIA COUNTY

PANEL 189 OF 230
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
PHILADELPHIA, CITY OF 420757 0189 H

PRELIMINARY
FEBRUARY 20, 2014

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
4207570189H

MAP REVISED

Federal Emergency Management Agency

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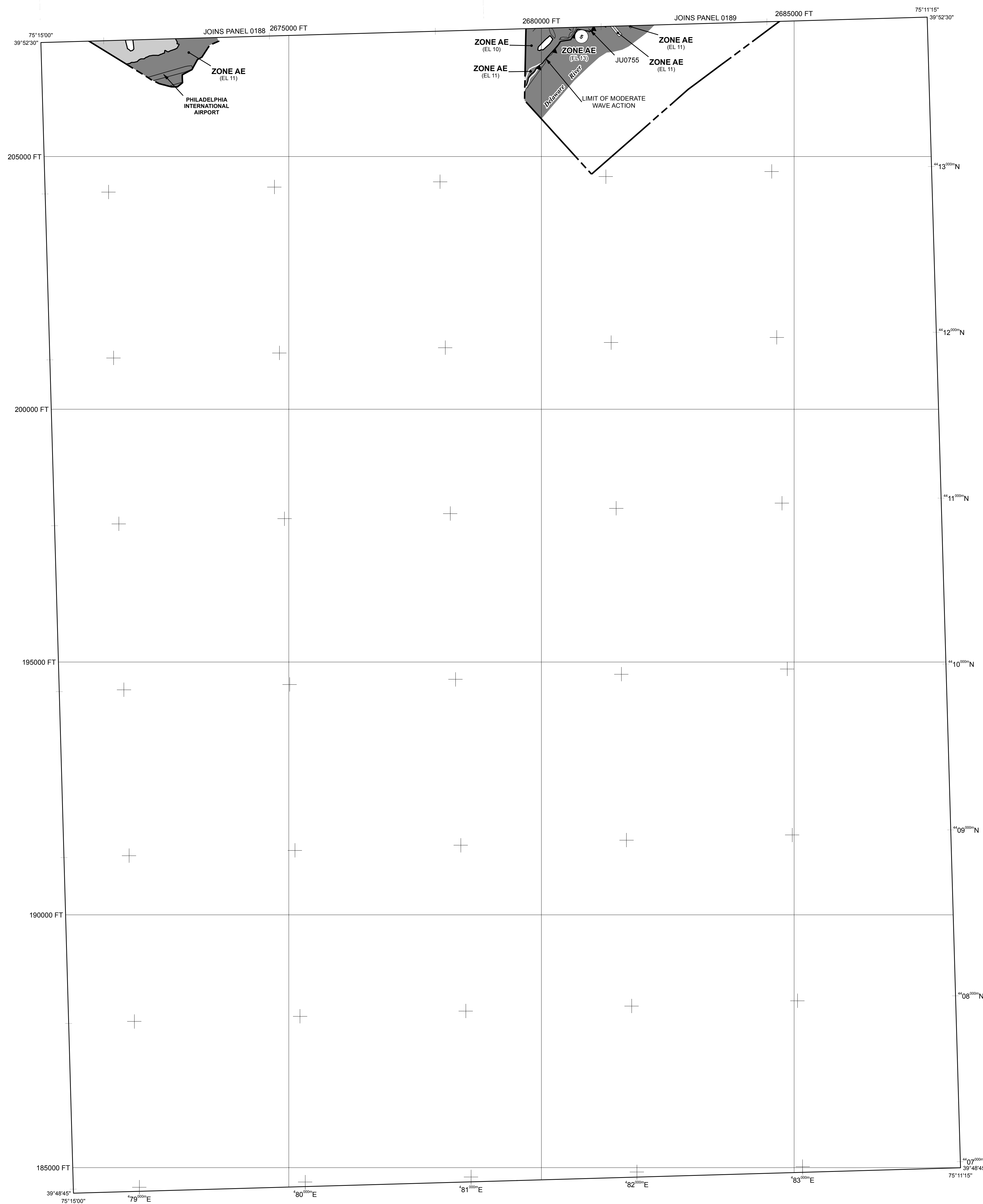
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OTHERWISE PROTECTED AREAS (OPAs)

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- Footbridge

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Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone 18N

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February 27, 1978 - NONE

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MAP SCALE 1" = 1000'

500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0230H

FIRM

FLOOD INSURANCE RATE MAP

CITY OF PHILADELPHIA, PENNSYLVANIA PHILADELPHIA COUNTY

PANEL 230 OF 230
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PHILADELPHIA, CITY OF	420757	0230	H

PRELIMINARY
FEBRUARY 20, 2014

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MAP NUMBER
4207570230H

MAP REVISED

Federal Emergency Management Agency