

## **Appendix B – Agency Correspondence**

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**Section 106** Consultation and  
Memorandum of Agreement (MOA)

**MEMORANDUM OF AGREEMENT  
BETWEEN  
THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT,  
THE VIRGINIA STATE HISTORIC PRESERVATION OFFICE,  
U.S. ARMY GARRISON FORT BELVOIR  
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE DECOMMISSIONING OF  
THE STATIONARY MEDIUM POWER PLANT NUMBER 1 (SM-1),  
FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA**

**WHEREAS**, the U.S. Army Corps of Engineers (hereinafter “USACE”) – Baltimore District is proposing to radiologically decommission and subsequently dismantle and demolish the deactivated Stationary Medium Power Plant Number 1 (hereinafter “SM-1”) Reactor Facility (hereinafter “undertaking”; Virginia Department of Historic Resources [hereinafter “DHR”] project file number 2015-1247), located at U.S. Army Garrison Fort Belvoir (hereinafter “Fort Belvoir”) in Fairfax County, Virginia, as shown as Attachment A to this Memorandum of Agreement (hereinafter “MOA”); and

**WHEREAS**, the SM-1 decommissioning is authorized by Section 91(b) of the Atomic Energy Act of 1954, as amended, which authorized the SM-1 Reactor Facility to be designed, built, and operated as part of the Army Nuclear Power Program under authority granted by the Department of Defense (hereinafter “DOD”). Section 91(b) authorizes the DOD to procure and utilize special nuclear materials in the interest of national defense and to acquire utilization facilities, i.e., reactors for military purposes. Section 110(b) of the Atomic Energy Act excludes such utilization facilities acquired by DOD from any of the licensing requirements of the Atomic Energy Act. The decommissioning is within the Atomic Energy Act authorities granted to the DOD, specifically Section 91(b) and 110(b) which give DOD the authority to regulate the radioactive materials, and is consistent with relevant guidance identified in 10 Code of Federal Regulations (C.F.R.) § 20.1402, the radiological criteria for unrestricted use; and

**WHEREAS**, although the SM-1 is located on Fort Belvoir’s fee title land, Army Regulation 50-7 assigns USACE the responsibility to act as the lead Army component and is the single point of contact at Headquarters Department of the Army for nuclear reactor decommissioning to ensure compliance with environmental requirements for decommissioning Army nuclear reactors, and

**WHEREAS**, in accordance with 36 C.F.R. § 800.2(a)(2) the Department of the Army and Fort Belvoir have designated USACE as lead federal agency for purposes of Section 106; and

**WHEREAS**, the decommissioning will involve the demolition and disposal of the SM-1 Reactor Facility Building (also known as Building 372), removal and disposal of the remaining primary and secondary reactor systems, and demolition and disposal of associated structures (including a warehouse, the water intake pier, and pump house); the removal and disposal of contaminated



soils; restoration of the SM-1 Reactor Facility site to green space; and the termination of the permit under which the facility is currently being maintained by USACE; and

**WHEREAS**, USACE determined that the decommissioning is considered an undertaking under Section 106 of the National Historic Preservation Act of 1966 (hereinafter “NHPA”), as amended, (54 U.S.C. § 306108) and its implementing regulations, *Protection of Historic Properties* (36 C.F.R. § 800) (hereinafter known collectively as “Section 106”) and is therefore subject to that act; and

**WHEREAS**, USACE has determined that the proposed demolition and removal of buildings, removal of site infrastructure improvements, removal of contaminated soils, and site restoration have the potential to affect historic properties (defined as listed in or eligible for listing in the National Register of Historic Places [hereinafter “NRHP”]); and

**WHEREAS**, USACE, as the lead federal agency responsible for compliance with Section 106, has initiated consultation with the DHR, which acts as the Virginia State Historic Preservation Office (hereinafter “SHPO”) pursuant to 36 C.F.R. § 800.14(b)(1)(iii); and

**WHEREAS**, by a letter to SHPO dated October 29, 2015, USACE defined the undertaking and the area of potential effect (hereinafter “APE”), in accordance with 36 C.F.R. § 800.6(d). For direct effects on above-ground resources, the APE is coterminous with the 10.76-acre area surrounding the SM-1 compound. Building 371 (Lab/Test Building, built in 1957) and Building 380 (Lab/Test Building, built in 1965) are outside the SM-1 compound but still subject to possible visual and/or cumulative effects from demolition activity (Neither Building 371 nor Building 380 is proposed for demolition). For direct effects on archaeological resources, the APE is coterminous with the boundaries of ground disturbance related to demolition, site cleanup, and staging activities (Attachment B); and

**WHEREAS**, in February 2018, AECOM-Tidewater Joint Venture, under contract to USACE, conducted a Phase I archaeological survey at the SM-1 Reactor Facility site and within its 1.84-hectare (4.54-acre) area of ground disturbance to determine if potentially significant archaeological resources were present; and

**WHEREAS**, USACE determined and the SHPO concurred in a letter dated March 21, 2018, that the one (1) previously identified archaeological resource in the APE, Site # 44FX1331, was not eligible for listing in the NRHP and that no further archaeological study of the SM-1 site was recommended; and

**WHEREAS**, in 1996, the U.S. Army Package Power Reactor (DHR ID# 029-0193), known by its current name as the SM-1 Reactor Facility, was determined eligible for listing in the NRHP under Criterion A on the national level with a period of significance between 1955 and 1973; and

**WHEREAS**, because the SM-1 Reactor Facility was less than fifty (50) years old at the time, NRHP Criteria Consideration G (for resources less than fifty [50] years old) applied, as the facility met the threshold for "exceptional importance" according to NRHP Criteria Consideration G; and

**WHEREAS**, due to prior demolitions, only four (4) of the eight (8) buildings/structures within the NRHP boundary of the SM-1 Reactor Facility are still extant; and

**WHEREAS**, these four (4) extant buildings/structures at the SM-1 Reactor Facility include Building 372 (SM-1 Reactor Building); Building 350 (Sewage Lift Station, now Building 7350); Building 349 (Warehouse/Storage Building); and Building 375 (Pump House and small pier connecting it to the shore); and

**WHEREAS**, in 2009, Fort Belvoir identified two (2) buildings located outside the SM-1 Reactor Facility boundary – Building 371, the Nuclear Physics Chemical Lab, and Building 380, the Nuclear Power Simulator Building – as contributing resources to the SM-1 Facility multiple property listing. The SHPO concurred with Fort Belvoir's determination (DHR File No. 2009-1868). (Neither Building 371 nor Building 380 is proposed for demolition as part of this undertaking); and

**WHEREAS**, in accordance with 36 C.F.R. § 800.2(c)(2) and by letters dated August 28, 2018, USACE contacted federally recognized Indian Tribes to participate in Section 106 as consulting parties for the above-described undertaking. Tribes contacted include Chickahominy Indians Eastern Division, Nansemond Indian Tribe, Rappahannock Tribe, Upper Mattaponi Indian Tribe, United Keetoowah Band of Cherokee Indians in Oklahoma, Tuscarora Nation of New York, Pamunkey Indian Tribe, Monacan Indian Nation, Catawba Indian Nation, Eastern Band of Cherokee Indians, and Chickahominy Indian Tribe; and

**WHEREAS**, none of the above-referenced Indian Tribes has responded to USACE's invitation to participate in Section 106 consultation; and

**WHEREAS**, in accordance with 36 C.F.R. § 800.2(c)(3) through (5) and § 800.3(f), USACE identified consulting parties during the Section 106 process and invited them to participate in the SM-1 decommissioning process as consulting parties (Attachment C); and

**WHEREAS**, the following individuals/parties have accepted USACE's invitation to participate as consulting parties, and therefore USACE has invited them to be concurring parties to this MOA: Fairfax County (VA) Department of Planning and Development; Fairfax County Architectural Review Board; Pohick Episcopal Church; and Mr. Charles Harmon, Nuke Digest; and

**WHEREAS**, USACE has also carefully considered the views of the public in accordance with the NHPA and the National Environmental Policy Act (hereinafter "NEPA") (42 U.S.C. § 4231 et seq.) and has held public meetings at various locations to explain the decommissioning process and solicit views from the public; and

**WHEREAS**, based on an Environmental Assessment conducted as part of NEPA review, USACE has determined that there is no feasible and prudent alternative to the demolition of the SM-1 Reactor Facility (Building 372) and three ancillary buildings/structures (Buildings 349, 350, and 379); and

**WHEREAS**, USACE has assessed possible adverse effects on historic properties within the APE in accordance with 36 C.F.R. § 800.5 and has determined that the undertaking will have an adverse effect on SM-1 Reactor Facility (Building 372) and three ancillary buildings/structures (Buildings 349, 350, and 379). The decommissioning of the SM-1 complex will also have an adverse effect on Buildings 371 and 380, as they will lose their historical significance from being associated with the SM-1 Facility; and

**WHEREAS**, SHPO concurred with USACE’s determination of adverse effect for the undertaking in a letter dated January 30, 2020; and

**WHEREAS**, USACE has carefully considered alternatives to the decommissioning and has sought to avoid, minimize, or mitigate any possible adverse effects on historic properties within the APE, from the undertaking, in accordance with 36 C.F.R. § 800.5; and

**WHEREAS**, on April 12, 2019, USACE held a telephone conference call meeting with the invited consulting parties to discuss measures to avoid, minimize, and resolve the adverse effects on historic properties; and

**WHEREAS**, in accordance with 36 CFR § 800.6(a)(1), USACE has notified the Advisory Council on Historic Preservation (hereinafter “ACHP”) of its adverse effect determination with specified documentation, and the ACHP has chosen to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

**WHEREAS**, USACE has invited Fort Belvoir to be a signatory to this MOA pursuant to 36 C.F.R. § 800.6(c)(1) and Fort Belvoir has accepted; and

**WHEREAS**, USACE, the ACHP, the SHPO, and Fort Belvoir are therefore Signatories of this MOA pursuant to 36 C.F.R. § 800.6(c)(1) and have authority to execute, amend, or terminate this MOA; and

**WHEREAS**, USACE has a statutory obligation, as the federal agency, to fulfill the requirements of Section 106 and shall ensure that the measures in the following stipulations are carried out;

**NOW, THEREFORE**, USACE, SHPO, Fort Belvoir, and ACHP (hereinafter “Signatories”) agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

## STIPULATIONS

USACE shall ensure the following stipulations are carried out:

### **I. DOCUMENTATION AND PUBLIC INTERPRETATION OF THE SM-1 REACTOR FACILITY (SHPO ID #029-0193)**

- A. *Historic American Engineering Record (HAER), Level II Documentation:* HAER Level II documentation is appropriate to mitigate the adverse effect on the SM-1 Reactor Facility, a historic property eligible for listing in the NRHP at the level of national significance. USACE shall prepare, or direct to be prepared, documentation to HAER Level II standards as defined in the *Secretary of the Interior Standards and Guidelines for Architectural and Engineering Documentation*. Due to the loss of records over time, security restrictions, health and safety concerns, specifically radiation within the interior of the reactor building (Building 372), and the dangerous structural condition of the pier (Building 375), HAER Level II documentation was determined to be the appropriate level of mitigative documentation.

The HAER Level II documentation shall include the entire SM-1 Reactor Facility consisting of Buildings 372, 350, 349, 375, 371, and 380. This documentation will include information obtained from USACE's Office of History, including motion picture film, photographs, and documents, as appropriate.

1. The HAER documentation will include extensive detailed written historical and descriptive data about the facility. It will include physical descriptions of the facility, detailed discussion of the facility's historic significance, a discussion of how the facility was operated, and a description of the decommissioning and demolition process. Within six (6) months of this MOA's enactment, the draft historical narrative, omitting the detailed decommissioning and demolition sections, will be submitted to the Signatories and other consulting parties for their review and comment prior to demolition.
2. As part of the HAER Level II documentation, USACE will include scanned copies of the available, original as-built drawings of Building 372. Selected drawings will be scanned, digitally enhanced, and converted into Computer Aided Design (CAD) formatting. Selected drawings will be reproduced on vellum. USACE will also prepare additional drawings, on vellum, based on recent 3D Light Detection and

Ranging (LIDAR) scans of Building 372 to supplement the as-built drawings.

3. Due to safety restrictions, photographs with large-format negatives will document the exterior and currently accessible interior areas of Building 372. Photographs with large-format negatives will document the exterior and interior of Building 349 and Building 350. Photographs with large-format negatives will document the exterior only of Building 375, the Pump House, as the approach pier is structurally unsound and the building cannot be accessed. Photographs with large-format negatives will document the exterior only of Buildings 371 and 380, due to security restrictions, as these buildings are currently occupied. Photographs with large-format negatives will also document general views of the SM-1 Reactor Facility. Photography of the existing facility conditions will be submitted to the Signatories, and other consulting parties for their review and comment before demolition begins.
  4. During the demolition process, USACE shall document the dismantling of the facility through video and photography. Within one (1) year following the demobilization of decommissioning operations and personnel from the SM-1 Reactor Facility site, the video and photography will be compiled into a professional video with appropriate context, narration, and labeling. The video will be submitted to the Signatories and other consulting parties for their review and comment before the video is finalized. The video will be submitted to SHPO for their records as a supplemental addition to the HAER Level II documentation. USACE shall maximize the use of large format photography as much as possible. If USACE is unable to utilize large format photography, photographs shall be included as an appendix to include both old historical photos, as well as demolition photographs.
- B. USACE has notified the National Park Service (hereinafter “NPS”) and received its concurrence to prepare HAER Level II documentation of the SM-1 Reactor Facility.
- C. Upon completion, USACE will submit the draft HAER documentation to the Signatories and other consulting parties for their thirty (30) day review. USACE shall incorporate and/or respond to all submitted comments prior to submitting the documentation to the NPS-HAER office for its review and acceptance. USACE shall ensure the resulting documentation is suitable for archiving at the Library of Congress (hereinafter “LOC”), and shall follow all applicable HAER standards and guidelines. USACE will notify the Signatories and other

consulting parties of NPS-HAER acceptance of the HAER documentation for the SM-1 Reactor Facility.

- D. In addition to the LOC, USACE shall provide copies of the final documentation to SHPO, Fort Belvoir, and the USACE Office of History. USACE will identify other appropriate repositories for the documentation in consultation with the Signatories and other consulting parties. USACE shall ensure the resulting documentation is suitable for dissemination to the public with the goal of creating awareness for the historical and engineering significance of the SM-1 Reactor Facility. USACE shall provide copies of the documentation to the other consulting parties upon written request.
- E. Within one (1) year of this MOA's enactment, USACE will carefully remove the commemorative plaque currently affixed to Building 372, and move it to a facility to be restored and displayed at an as-yet-undetermined facility in Virginia. USACE will consult with the Signatories and other consulting parties regarding this action, as well as the appropriate facility for curation/display of the plaque.
- F. Within two (2) years of this MOA's enactment, a draft version of a proposed historical plaque / marker shall be distributed to the Signatories and other consulting parties. This historical plaque's / marker's design shall be agreed upon by the Signatories with input from the other consulting parties prior to installation. Within one (1) year after completion of decommissioning and demolition, USACE / Ft. Belvoir shall erect the agreed upon plaque / marker at the previous site of SM-1. Up to two (2) additional plaques / markers shall be installed at publicly accessible sites. These additional plaques / markers shall have their designs and locations agreed upon by the Signatories and consulting parties prior to installation. Upon final installation of these historical plaques / markers, USACE / Ft. Belvoir shall photograph the installed plaques / markers and distribute to all the Signatories and consulting parties.
- G. USACE shall salvage historical items from the SM-1 Reactor Facility that may be placed on loan to appropriate repositories for traveling exhibits. Within one (1) year of this MOA's enactment, USACE will develop a detailed plan for the identification, curation, storage, transportation, along with specific steps for consultation, and shall submit this plan for review and comment by the Signatories and other consulting parties.

Salvaged items will remain under the control of USACE; items shall be salvaged from SM-1 and sent to USACE, Humphreys Engineering Center (hereinafter "HECSA") in Virginia for storage or a similar facility. Once all salvaged items are compiled at HECSA, USACE will distribute a letter to the

Signatories and other consulting parties with an item inventory and location, as well as a POC to help retrieve items for future exhibits. USACE shall inform the Signatories and other consulting parties of circumstances that will prevent salvage and display of these items.

- H. Since the HAER Level II documentation will document the decommissioning process through demolition, USACE shall complete the requirements of Stipulations I.A, I.C, and I.D within twelve (12) months after completion of the decommissioning and demolition of the SM-1 Reactor Facility (currently estimated completion by 2025).
- I. Within one (1) year of this MOA's enactment, USACE will reach out to former SM-1 operators and employees and shall invite them to be interviewed about their experiences with the facility. The oral interviews will be recorded and relevant information will be incorporated into the final HAER documentation package.

## **II. DECOMMISSIONING AND DEMOLITION**

USACE may proceed with the decommissioning and dismantling activities associated with the decommissioning of the SM-1 Reactor facility, provided that those activities do not interfere with the completion of the stipulations in this MOA.

## **III. PERFORMANCE STANDARDS AND REVIEW**

### **A. Professional Qualifications**

USACE will ensure all actions prescribed by this MOA that involve the identification, evaluation, analysis, recording, treatment, monitoring, or disposition of historic properties, or involve reporting or documentation of such actions in the form of reports, forms, or other records, are carried out by or under the direct supervision of a person who meets the appropriate *Secretary of the Interior's Professional Qualification Standards* (SOI Standards; 48 *Federal Register* 44738-9, Sept. 29, 1983) as an Historian or Architectural Historian.

### **B. Standards and Guidelines**

All work performed under the provisions of this MOA shall be conducted in accordance with the following standards and guidelines, as relevant:

- 1. *Recording Historic Structures and Sites for the Historic American Engineering Record* (48 *Federal Register* 44731-34, September 29, 1983)

2. *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (36 C.F.R. § 61)
  3. *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 C.F.R. § 68)
- C. Review of Submitted Materials
1. The Signatories and other consulting parties agree to respond to USACE in writing to all materials submitted for their review and comment within thirty (30) days of receipt of all information.
  2. USACE shall take into account written comments it receives within the thirty (30)-day review period from the Signatories and other consulting parties.
  3. If a Signatory or other consulting party fails to respond in writing to USACE's request for review and comment, USACE may assume the non-responding party(ies) has/have no comment.
- D. Upon completion of all stipulations under this MOA, USACE shall provide the Signatories and other consulting parties a written memorandum acknowledging it has fulfilled its responsibilities under this MOA.

#### **IV. DISPUTE RESOLUTION**

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, USACE shall consult with such party to resolve the objection. If USACE determines that such objection cannot be resolved, USACE will:

- A. Forward all documentation relevant to the dispute, including USACE's proposed resolution, to the ACHP. The ACHP shall provide USACE with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. USACE will then proceed according to its final decision
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, USACE shall prepare a written response that takes into account any timely comments



regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

- C. USACE's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

## **V. RESOLUTION OF OBJECTIONS BY THE PUBLIC**

At any time during implementation of the measures stipulated in this MOA, should any objections pertaining to any such measures or its manner of implementation be raised by any member of the public in writing, USACE shall notify the parties in this MOA and take the objection into account, consulting with the objector, and should the objector so request, consult with parties in the MOA to resolve the objection.

## **VI. POST-REVIEW DISCOVERIES**

- A. USACE shall ensure that the following provision is included in all construction contracts: "If previously unidentified historic properties or unanticipated effects to historic properties are discovered during construction, the construction contractor shall immediately halt all activity within the immediate area of the discovery and in any adjacent areas where additional or related resources may reasonably be expected to be present, notify USACE of the discovery and implement interim measures to protect the discovery from looting and vandalism. Work in all areas not subject of the discovery may continue."
- B. Upon receipt of a notification required by the contract provision described in Stipulation VI.A, USACE shall:
  - 1. Inspect the construction site to determine the extent of the discovery and ensure that construction activities have halted; and
  - 2. Clearly mark the area of the discovery; and
  - 3. Implement additional measures, to the extent deemed necessary by USACE, in its reasonable discretion acting in good faith, to minimize the risk to the discovery from looting and vandalism; and
  - 4. Have a professional archeologist inspect the construction site to determine the extent of the discovery and provide recommendations regarding its NRHP eligibility and treatment, which shall be limited to sampling and documentation in lieu of preservation in place or full data recovery; and

5. Notify the NPS, the SHPO and other consulting parties of the discovery and describe the measures that have been implemented to comply with this Stipulation.
- C. Upon receipt of the information required in Stipulation VI.B.5, the NPS shall provide USACE, the SHPO, and other consulting parties with its assessment of the NRHP eligibility of the discovery and the measures proposed to resolve adverse effects within twenty-four (24) hours of receipt of information of the discovery. In making its evaluation, the NPS, in consultation with the SHPO, may assume the discovery to be NRHP eligible for the purposes of Section 106 pursuant to 36 CFR § 800.13(c). USACE, the SHPO and other consulting parties shall respond to the NPS's assessment within twenty-four (24) hours of receipt.
- D. The NPS shall take into account the SHPO's, and other consulting parties' recommendations on eligibility and treatment of the discovery and determine which actions, if any, are appropriate for USACE to take with regard to the discovery. The NPS shall notify and provide documentation to USACE regarding any such appropriate actions that are required within twenty-four (24) hours of receiving recommendations. USACE must comply with the required actions and provide the NPS and consulting parties with a report on the actions after completion.
- E. Data recovery activities will not extend outside the support of excavation for SM-1 Reactor facility demolition activities.
- F. Construction activities may proceed in the area of the discovery, when the NPS has determined that implementation of the actions undertaken to address the discovery pursuant to Stipulations VI, A through D are complete.

## **VII. HUMAN REMAINS**

- A. In the event gravesites are unexpectedly discovered, USACE shall make all reasonable efforts to avoid disturbing gravesites, including those containing Native American human remains and associated funerary artifacts. USACE shall treat all human remains in a manner consistent with the ACHP's *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* (February 23, 2007; <http://www.achp.gov/docs/hrpolicy0207.pdf>).
- B. If removal is proposed, USACE shall apply for a permit from the SHPO for the removal of human remains in accordance with the regulations stated above. USACE shall ensure that any removed human skeletal remains and associated funerary objects encountered during the course of actions taken as a result of this undertaking shall be treated in accordance with the *Regulations Governing*

*Permits for the Archaeological Removal of Human Remains* (Virginia Register 390-01-02) found in the Code of Virginia (10.1-2305, et seq., Virginia Antiquities Act)

- C. USACE shall make a good faith effort to ensure that the general public is excluded from viewing any Native American burial site or associated funerary artifacts. The consulting parties shall release no photographs of any Native American burial site or associated funerary artifacts to the press or general public. The NPS shall notify the appropriate federally recognized tribe(s), and/or appropriate State-recognized tribal leaders when Native American burials, human skeletal remains, or funerary artifacts are encountered on the project, prior to any analysis or recovery.

USACE shall deliver any removed Native American human skeletal remains and associated funerary artifacts recovered to the appropriate tribe to be reinterred. The disposition of any other human skeletal remains and associated funerary artifacts shall be governed as specified in any permit issued by the SHPO or any order of the local court authorizing their removal. USACE will be responsible for all reasonable costs associated with treatment of human remains and associated funerary objects.

## **VIII. AMMENDMENT PROCESS**

This MOA may be amended when such an amendment is agreed to in writing by all Signatories. The amendment will be effective on the date a copy signed by all of the Signatories is filed with the ACHP.

## **IX. TERMINATION**

- A. If any Signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.
- B. Once the MOA is terminated, and prior to work continuing on the undertaking, USACE must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. USACE shall notify the signatories as to the course of action it will pursue.

## **X. DURATION**

This MOA will be considered null and void if its terms are not implemented within six (6) years of the effective date. The Signatories to this MOA will consult six (6) months prior to expiration to determine if there is a need to extend or amend this MOA. Upon completion of the Stipulations set forth above, USACE will provide a letter (with attached documentation) of completion to SHPO, with a copy to the Signatories to this MOA. If SHPO concurs the Stipulations are complete within thirty (30) calendar days, USACE will notify the Signatories and Consulting Parties in writing and this MOA will expire, at which time the Signatories will have no further obligations hereunder.

## **XI. DEFINITIONS**

- A. Unless otherwise specified herein, the term “days” means Federal business days.
- B. The term “date of this signed MOA” means the date of the last Signatory’s signature affixed thereto.

## **XII. IMPLEMENTATION OF MOA**

This MOA may be implemented in counterparts, with a separate page for each Signatory, and USACE shall ensure that each party is provided with a complete copy. This MOA shall become effective on the date of the last Signatory’s signature.

Execution of this MOA by USACE, Fort Belvoir, SHPO, and the ACHP and implementation of its terms evidence that USACE has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA  
STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1  
(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**U.S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT**

By:  Date: 08 MAY 20  
John T. Litz  
Colonel, U.S. Army  
Commander and District Engineer

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STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
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(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**VIRGINIA STATE HISTORIC PRESERVATION OFFICER**

By: \_\_\_\_\_

Julie V. Langan

Director, Department of Historic Resources

Date: 5-14-2020

**ADVISORY COUNCIL ON HISTORIC PRESERVATION**

By: \_\_\_\_\_ Date: \_\_\_\_\_  
John M. Fowler  
Executive Director

MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA  
STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
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(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**U.S. ARMY GARRISON FORT BELVOIR**

By: Michael H. Greenberg Date: 30 Apr 20  
Col. Michael H. Greenberg  
Garrison Commander  
U.S. Army Garrison Fort Belvoir




**Concurring Parties:**

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STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
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(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**FAIRFAX COUNTY DEPARTMENT OF PLANNING AND DEVELOPMENT**

By: Nicole Brown Date: 4/8/20  
For: Barbara Byron  
Director, Fairfax County Department of Planning and Development

**FAIRFAX COUNTY ARCHITECTURAL REVIEW BOARD**

By:  Date: April 9, 2020  
John A. Burns  
Chairman, Fairfax County Architectural Review Board

MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA  
STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
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(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**NUKE DIGEST**

By: Charles D. Harmon Date: 4/8/2020  
Charlie Harmon  
Editor

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STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BEL VOIR, AND THE ADVISORY COUNCIL ON  
HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1  
(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**POHICK EPISCOPAL CHURCH, FAIRFAX COUNTY, VIRGINIA**

By: Rev Dr. Lynn P. Ronaldi Date: 4-30-20  
Lynn P. Ronaldi  
Priest in Charge, Pohick Episcopal Church

/

MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA  
STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1  
(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

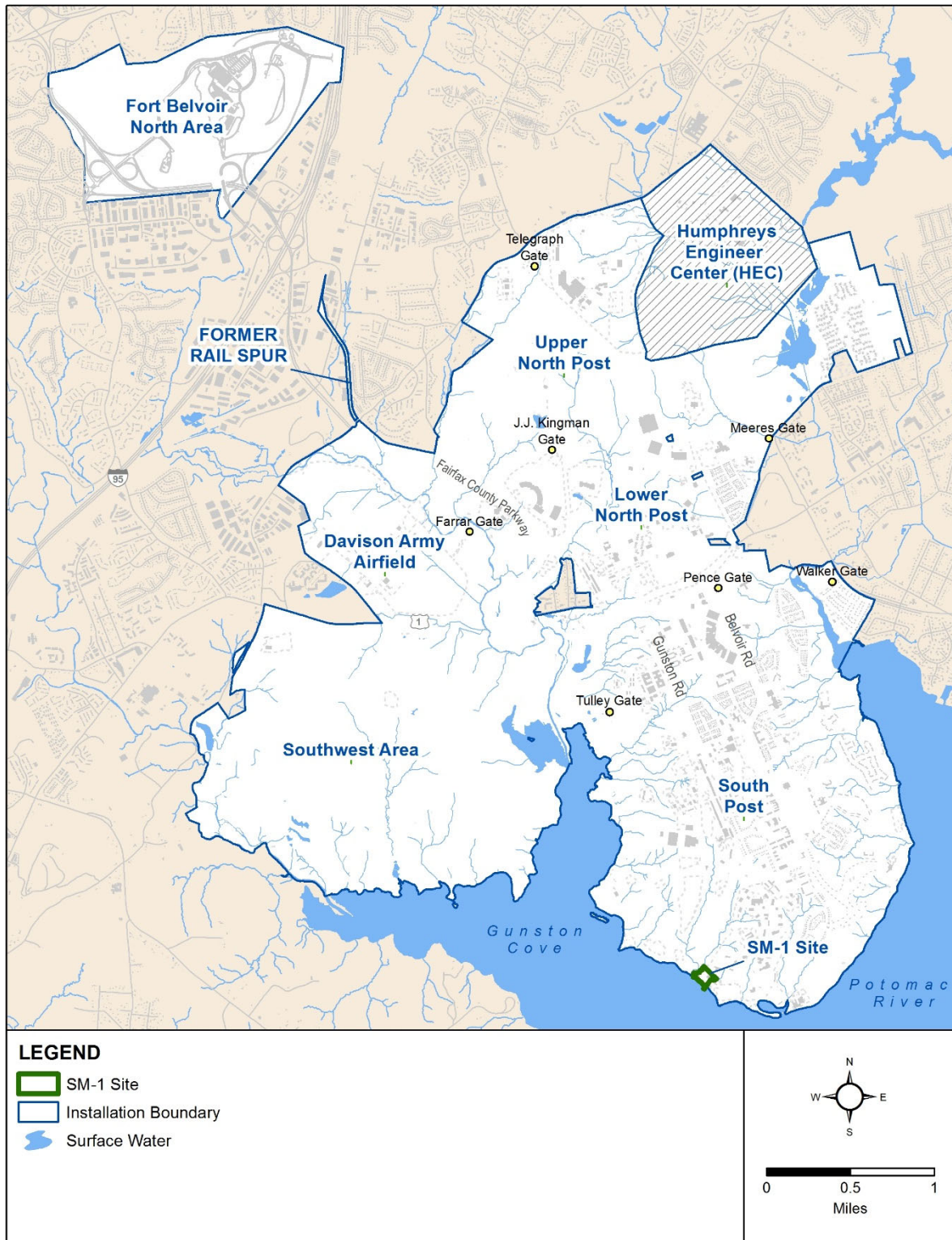
## **ATTACHMENT A**

### **LOCATION OF SM-1 REACTOR FACILITY**

### **FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA**



MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1 (SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA



Location of the SM-1 Reactor Facility (SM-1 Site) at Fort Belvoir, Virginia

MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA  
STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1  
(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

**ATTACHMENT B**

**AREA OF POTENTIAL EFFECTS**

**SM-1 REACTOR FACILITY DECOMMISSIONING PROJECT**



MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1 (SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA



SM-1 Reactor Facility Decommissioning Project Area of Potential Effects, Fort Belvoir, Virginia

MEMORANDUM OF AGREEMENT BETWEEN THE U.S. ARMY CORPS OF ENGINEERS – BALTIMORE DISTRICT, THE VIRGINIA  
STATE HISTORIC PRESERVATION OFFICE, U.S. ARMY GARRISON FORT BELVOIR, AND THE ADVISORY COUNCIL ON  
HISTORIC PRESERVATION REGARDING THE DECOMMISSIONING OF THE STATIONARY MEDIUM POWER PLANT NUMBER 1  
(SM-1), FORT BELVOIR, FAIRFAX COUNTY, VIRGINIA

## **ATTACHMENT C**

### **USACE-IDENTIFIED CONSULTING PARTIES FOR SECTION 106 CONSULTATION**

#### **SM-1 DECOMMISSIONING**

**USACE-Identified Potentially Interested Parties for Section 106 Consultation for the  
SM-1 Reactor Facility Decommissioning, Fort Belvoir, VA**

USACE has identified the following potential consulting parties and federally recognized Indian Tribes:

Proposed Consulting Parties:

- Fairfax County Planning & Development
- Fairfax County Architectural Review Board
- Fairfax County Park Authority
- Fairfax County History Commission
- National Capital Planning Commission
- National Park Service: Potomac Heritage Scenic Trail
- Council of Virginia Archaeologists
- National Trust for Historic Preservation
- Woodlawn NHL
- Woodlawn Baptist Church
- Gunston Hall Plantation
- Woodlawn-Faith United Methodist Church
- Historical Society of Fairfax County
- Pohick Episcopal Church
- Ms. Martha Catlin (Interested Person)
- US Armed Forces Nuclear Energy Association
- American Nuclear Society
- The Nuke Digest (publication)

Federally Recognized Native American Tribes with Historic or Cultural Ties to Virginia:

- Eastern Band of Cherokee Indians
- Tuscarora Nation of New York
- United Keetoowah Band of Cherokee Indians in Oklahoma
- Catawba Indian Nation
- Pamunkey Indian Tribe
- Chickahominy Indian Tribe
- Chickahominy Indian Tribe – Eastern Division
- Upper Mattaponi Tribe
- Rappahannock Tribe
- Monacan Indian Nation
- Nansemond Indian Nation



# COMMONWEALTH of VIRGINIA

## Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Matt Strickler  
*Secretary of Natural Resources*

Julie V. Langan  
*Director*

Tel: (804) 367-2323  
Fax: (804) 367-2391  
[www.dhr.virginia.gov](http://www.dhr.virginia.gov)

30 January 2020

Ms Brenda M. Barber  
Department of the Army  
Corps of Engineers, Baltimore District  
2 Hopkins Plaza  
Baltimore, Maryland 21201

RE: Decommissioning of SM-1 Nuclear Reactor Facility—Effects Determination  
Fort Belvoir, Fairfax County, Virginia  
DHR File No. 2015-1247


Dear Ms. Barber:

The Department of Historic Resources (DHR) has received your letter of 27 January 2020 requesting our concurrence on the United States Army Corps of Engineers—Baltimore District's (Corps) adverse effect determination for the above referenced project. The undertaking involves the decommissioning of the Stationary Medium Power Plant Number 1 (SM-1) Nuclear Reactor Facility (DHR Inventory No. 029-0193) located at Fort Belvoir, Fairfax County, Virginia. The decommissioning activities will involve demolition of the Reactor Building and Stack (Building 372), Sewage Lift Station (Building 7350), Warehouse/Storage Building (Building 349), and Pump Station and small pier connecting it to shore (Building 375); removal of underground pipes and other utilities; evacuation and removal of contaminated soils; removal of paved areas and building slabs; and site restoration. As you are aware, the SM-1 Reactor Facility (Building 372) and associated buildings are eligible for listing in the National Register of Historic Places (NRHP) under Criterion A as the first water-pressurized nuclear reactor in the United States and for its role as the first prototype nuclear power plant developed as a training facility for military personnel. The DHR listed the reactor and its dependencies in the Virginia Landmarks Register.

We concur with the Corps that the planned decommissioning of the SM-1 Reactor Facility will have an adverse effect on the historic property. The DHR is in the process of reviewing on the draft Memorandum of Agreement (MOA) for the undertaking. We will forward our comments to the Corps as soon as our review of the draft MOA is complete.

If you have any questions about our comments, please contact me at [REDACTED]

Sincerely,

  
Marc Holma, Architectural Historian  
Division of Review and Compliance

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 862-6408  
Fax: (804) 862-6196

Eastern Region Office  
2801 Kensington Avenue  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5443  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7029  
Fax: (540) 868-7033

C: Ms Kate Cline, Fort Belvoir  
Mr. Chris Daniel, ACHP  
Mr. Jordan Tannenbaum, Fairfax County Historical Commission  
Ms Laura Arseneau, Fairfax County  
Ms Nicole Brannan, Fairfax County



Aimee Jorjani  
Chairman

Leonard A. Forsman  
Vice Chairman

John M. Fowler  
Executive Director



Preserving America's Heritage

January 7, 2020

The Honorable R.D. James  
Assistant Secretary for the Army for Civil Works  
Office of the Assistant Secretary of the Army (Civil Works)  
108 Army Pentagon  
Washington, DC 20310-0108

Ref: *Decommissioning of the Stationary Medium Power Plant Number 1 (SM-1) Reactor Facility*  
*Fairfax County, Virginia*  
*ACHPConnect Log Number: 013997*

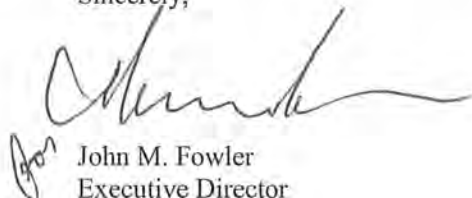
Dear Mr. James:

In response to the recent notification by the United States Army Corps of Engineers, the Advisory Council on Historic Preservation (ACHP) will participate in consultation to develop a Section 106 agreement document for the referenced undertaking. Our decision to participate in this consultation is based on the *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, contained within the regulations, "Protection of Historic Properties" (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act. The criteria are met for this proposed undertaking because it has substantial impacts on important historic properties and the potential for procedural problems.

Section 800.6(a)(1)(iii) of our regulations requires that we notify you, as the head of the agency, of our decision to participate in consultation. By copy of this letter, we are also notifying Ms. Brenda M. Barber, Baltimore District Project Manager, of this decision.

Our participation in this consultation will be handled by Mr. Christopher Daniel, who can be reached at [REDACTED] or via e-mail at [REDACTED]. We look forward to working with your agency and other consulting parties to reach agreement on alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties.

Sincerely,



John M. Fowler  
Executive Director

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308B, Washington, DC 20001-2637  
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, BALTIMORE DISTRICT**  
**2 HOPKINS PLAZA**  
**BALTIMORE, MD 21201**

April 17, 2019

Reid Nelson  
Director, Office of Federal Agency Programs  
Advisory Council on Historic Preservation  
401 F Street, NW, Suite 308  
Washington, DC 20001

*RE: Invitation to Participate in Section 106 Consultation for the Stationary Medium Power Plant  
Number 1 (SM-1) Reactor Facility, Fort Belvoir, Fairfax County, Virginia.*

Dear Mr. Nelson:

The U.S. Army Corps of Engineers - Baltimore District (USACE) has proposed the decommissioning of the Stationary Medium Power Plant Number 1 (SM-1) Reactor Facility located at Fort Belvoir in Fairfax County, Virginia. The SM-1 Reactor Facility (Building 372), along with four secondary resources (Buildings 7350, 375, 371, and 380), was determined eligible for listing on the National Register of Historic Places (NRHP) in 1996 and is also listed on the Virginia Landmarks Register.

The proposed decommissioning is a federal "undertaking" as defined in Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulation, 36 CFR Part 800, "Protection of Historic Properties." In accordance with Section 106, USACE initiated consultation with the Virginia Department of Historic Resources (VDHR) by letter dated October 28, 2015 (Attachment A) which gives a fuller description of the undertaking, the Area of Potential Effects (APE), and the historic properties affected.

USACE's proposed action alternative consists of the removal of all radiologically contaminated structures, equipment, and media from the SM-1 site, as needed to allow for the termination of the permit under which the SM-1 Reactor Facility is currently maintained and the release of the site for unrestricted use. This action involves removal of materials and equipment from Building 372, demolition of Building 372, and the demolition and removal of the other three buildings (Buildings 349, 350, and 375) on the SM-1 Reactor Facility Site. Because USACE's Proposed Action Alternative will include the demolition and removal of buildings, removal of site infrastructure improvements, the removal of contaminated soils, and site restoration, the proposed action has the potential to affect historic properties (defined as listed in or eligible for listing in the NRHP).

In accordance with both Section 106 and with the provisions of the National Environmental Protection Act (NEPA), USACE has identified potential consulting parties that may have an interest in the proposed undertaking and its effects on historic properties. In a follow-up letter to VDHR dated August 22, 2018, USACE submitted its list of potential consulting parties (Attachment B) for the SM-1 Facility decommissioning project. As specified in 36 CFR Part 800, consulting parties may include other federal, state, regional, or local agencies as well as historical groups that may have responsibilities for historic properties.

These groups may want to review reports and findings for an undertaking within or near their jurisdiction. USACE also has identified specialized groups and organizations that may have a scientific interest in the SM-1 reactor and its history. Additionally, in accordance with 36 CFR 800.2(c)(2), USACE has identified federally recognized Native American tribes in Virginia as consulting parties who may comment on the undertaking and on any measures to mitigate possible adverse effects from the project on NRHP-eligible resources. To date, five parties/individuals (including VDHR) have accepted USACE's invitation to become consulting parties and they are copied on this communication.

In a teleconference held on April 12, 2019, USACE consulted with VDHR and other consulting parties in accordance with Section 106 with respect to its efforts to avoid or minimize any adverse effects on historic properties within the APE. The USACE has determined that its Proposed Action Alternative would have an Adverse Effect on the NRHP-eligible SM-1 Reactor Facility (Buildings #372, #350/7350, and #375) and the two associated NRHP-eligible buildings (Building #371 and #380). Measures to mitigate the adverse effect will be developed by USACE in consultation with VDHR, the Advisory Council on Historic Preservation (ACHP), and other consulting parties and will be memorialized in the form of a Memorandum of Agreement.

In accordance with 36 CFR § 800.6(a)(1), FRA is hereby inviting the ACHP to participate in further Section 106 consultation. USACE is available to meet with you or your staff to discuss both the Project and the ACHP's participation in Section 106 consultation going forward.

Sincerely,

Brenda M. Barber, P.E.  
U.S. Army Corps of Engineers - Baltimore District  
Project Manager - Environmental and Munitions Design Center  
ATTN: CENAB-ENE-C  
2 Hopkins Plaza  
09-A-10 (Cube)  
Baltimore, MD 21201  
[REDACTED]

CC Hans Honerlah, USACE

Kevin Taylor, AECOM  
Craig Carver, AECOM  
Charlene Wu, AECOM  
Michael Robertson, AECOM  
Geoffrey Henry, AECOM

Section 106 Consulting Parties:

Marc Holma, VDHR, [REDACTED]  
Christine Heacock, Department of Public Works, Fort Belvoir, [REDACTED]  
Nicole Brannan, Fairfax County (VA) Department of Planning, [REDACTED]  
Charlie Brannon (Nuke Digest), [REDACTED]  
Fred Crawford, Primary Representative, Pohick Episcopal Church, Virginia, [REDACTED]





DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, BALTIMORE DISTRICT  
2 HOPKINS PLAZA  
BALTIMORE, MD 21201

January 25, 2019

Ms. Martha Catlin  
8324 Mount Vernon Hwy.  
Alexandria, VA 22309

***RE: Initiation of Section 106 Consultation and Invitation to be a Consulting Party in  
SM-1 Nuclear Reactor Facility Decommissioning Planning, Fort Belvoir, Fairfax County,  
Virginia***

Dear Ms. Catlin,

The U.S. Army Corps of Engineers - Baltimore District (USACE) has proposed the decommissioning of the Stationary Medium Power Plant Number 1 (SM-1) Nuclear Reactor Facility located at Fort Belvoir in Fairfax County, Virginia. The SM-1 Reactor Facility (Building 372), along with four secondary resources (Buildings 7350, 375, 371, and 380), was determined eligible for listing in the National Register of Historic Places (NRHP) in 1996. The reactor building is also listed in the Virginia Landmarks Register. These resources are shown on Figure 1.

The proposed decommissioning is a federal "undertaking," as defined in Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, 36 CFR Part 800, "Protection of Historic Properties." In accordance with Section 106, USACE has initiated consultation with the Virginia Department of Historic Resources (VDHR) by letter dated October 28, 2015 (Attachment A). This letter provides a more comprehensive description of the undertaking, the Area of Potential Effects (APE), and the historic properties affected.

In accordance with both Section 106 and with the provisions of the National Environmental Policy Act (NEPA), USACE has identified potential consulting parties that may have an interest in the proposed undertaking and its effects on historic properties. In a follow-up letter to VDHR dated August 22, 2018, USACE submitted a list of potential consulting parties (Attachment B) for the ***SM-1 Nuclear Reactor Facility Decommissioning*** project. As specified in 36 CFR Part 800, consulting parties may include other federal, state, regional, or local agencies as well as historical groups that may have responsibilities for historic properties. These groups may want to review reports and findings for an undertaking within or near their jurisdiction. USACE also has identified specialized groups and organizations that may have a scientific interest in the SM-1 nuclear reactor facility and its history. Additionally, in accordance with 36 CFR 800.2(c)(2), USACE has identified federally recognized Indian tribes in Virginia as consulting parties that may comment

on the undertaking and on any measures to mitigate possible adverse effects resulting from the project on NRHP listed or eligible resources.

Per the requirements of the Section 106 process, USACE extends an invitation to your group to participate as a consulting party for the **SM-1 Nuclear Reactor Facility Decommissioning** project. Please notify USACE within 30 days of receipt of this letter if you have any questions or concerns about the project's effects on historic properties or if you are interested in participating in consultation as the project moves forward. USACE intends to schedule and host a meeting at a future date at the Fairfax County South County Center near Fort Belvoir to discuss the project and the Section 106 process, including assessment of any effects on historic properties from the undertaking. Pursuant to 36 CFR 800.11(e) through (g), views of the public will be included in documentation of project effects on historic properties.

Please respond at the mailing and/or email address on the above letterhead.

Sincerely,

*Brenda M. Barber, P.E.*

Brenda M. Barber, P.E.  
U.S. Army Corps of Engineers - Baltimore District  
Project Manager Environmental and Munitions Design Center

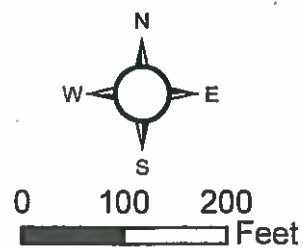
cc: Hans Honerlah, USACE – Baltimore District  
Patrick Read, USACE – Baltimore District  
Scott Watson, USACE – Baltimore District  
Jeff Lorenz, USACE – Baltimore District  
Christine Heacock, Fort Belvoir - Cultural Resources



### SM-1 Reactor Facility, Fort Belvoir, Virginia

- National Register Boundary/Limits of Archaeological Investigation
- Historic Property
- Area of Potential Effects
- ### Building Number

Figure 1



Source: U.S. Army Garrison Fort Belvoir, ESRI

## **ATTACHMENT B**

USACE has identified the following potential consulting parties and federally recognized Native American Tribes:

### **Proposed Consulting Parties:**

- Virginia Department of Historic Resources
- Fairfax County Planning & Zoning
- Fairfax County Park Authority
- Fairfax County History Commission
- National Capital Planning Commission
- National Park Service: Potomac Heritage Scenic Trail
- Council of Virginia Archaeologists
- National Trust for Historic Preservation
- Woodlawn NHL
- Woodlawn Baptist Church
- Fairfax County Architectural Review Board
- Gunston Hall Plantation
- Woodlawn-Faith United Methodist Church
- Historical Society of Fairfax County
- Pohick Episcopal Church
- Ms. Martha Catlin (Interested Person)
- US Armed Forces Nuclear Energy Association
- American Nuclear Society
- The Nuke Digest (publication)

### **Federally Recognized Native American Tribes in Virginia:**

- Eastern Band of Cherokee Indians
- Tuscarora Nation of New York
- United Keetowah Band of Cherokee Indians in Oklahoma
- Catawba Indian Nation
- Pamunkey Indian Tribe
- Chickahominy Indian Tribe
- Chickahominy Indian Tribe – Eastern Division
- Upper Mattaponi Tribe
- Rappahannock Tribe
- Monacan Indian Nation
- Nansemond Indian Nation



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, BALTIMORE DISTRICT  
2 HOPKINS PLAZA  
BALTIMORE, MD 21201

August 22, 2018

Mr. Marc Holma  
Architectural Historian  
Project Review  
Virginia Department of Historic Resources  
2801 Kensington Avenue  
Richmond, VA 23221

Dear Mr. Holma:

***RE: SM-1 Reactor Facility Decommissioning Planning, Fort Belvoir,  
Fairfax County, VA  
VDHR File No. 2015-1247***

By this letter, the U.S. Army Corps of Engineers - Baltimore District (USACE), is continuing consultation with your office regarding the proposed Stationary Medium Power Nuclear Power Reactor Prototype Number 1 (SM-1) Facility decommissioning at Fort Belvoir in Fairfax County, Virginia, in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulation, 36 CFR Part 800, "Protection of Historic Properties." The SM-1 Reactor Facility (Building 372) (VDHR ID # 029-0193) was determined eligible for listing in the National Register of Historic Places (NRHP) and is also listed in the Virginia Landmarks Register.

USACE previously has communicated with your office by letter dated October 28, 2015 to initiate Section 106 consultation and has met with your staff at VDHR headquarters in Richmond on December 2, 2015 to discuss the project and its potential to affect historic properties. The October 28, 2015 consultation letter described the undertaking (as defined by Section 106), the project purpose and need, and defined the project's Area of Potential Effect (APE).

Since the December 2, 2015 meeting with VDHR, USACE has completed several additional tasks in compliance with Section 106, which are described below:

## *1. Archaeology*

One archaeological site, 44FX1331, was identified in 1987 during a pedestrian survey of the area by former Fairfax County Archaeologist, Michael Johnson. In February 2018, AECOM-Tidewater Joint Venture conducted a Phase I archaeological survey at the SM-1 site and its 1.84-hectare (4.54-acre) archaeological APE to determine if other potentially significant archaeological resources were present. The survey determined that extensive ground disturbances associated with construction of the SM-1 Reactor Facility severely impacted the landform and may have destroyed much of the site's subsurface integrity. As a result, the site was recommended not eligible for listing in the NRHP and no further archaeological study of the SM-1 site was recommended. The results of the survey were reported in *Phase I Archaeological Survey of the SM-1 Reactor Facility, US Army Garrison Fort Belvoir, Fairfax County, VA* (Boyd et al 2018), submitted to your office in February, 2018. By letter dated March 21, 2018, VDHR concurred with the findings and recommendations of the archaeological survey by AECOM that no further archaeology work at the SM-1 site is required (VDHR File No. 2015-1247).

## *2. Consulting Parties and Native American Consultation*

In accordance with Section 106 and with the provisions of the National Environmental Protection Act (NEPA), USACE has identified potential consulting parties that may have an interest in the proposed undertaking and its effects on historic properties. As specified in 36 CFR Part 800, consulting parties may include other federal, state, regional, or local agencies as well as historical groups that may have responsibilities for historic properties. These groups may want to review reports and findings for an undertaking within or near their jurisdiction. USACE has also considered interested individuals' written requests to participate as consulting parties in the development of measures to avoid, minimize, and mitigate adverse effects on historic properties. Additionally, USACE has identified specialized groups and organizations that may have a scientific interest in the SM-1 reactor and its history. USACE intends to schedule and host a meeting at the Fairfax County South County Center near Fort Belvoir to discuss the project and the Section 106 process, including assessment of any effects on historic properties from the undertaking. Pursuant to 36 CFR 800.11(e) through (g), views of the public will be included in documentation of project effects on historic properties and any resulting MOAs (if required).

Additionally, in accordance with 36 CFR 800.2(c)(2), USACE has identified federally recognized Native American tribes in Virginia as consulting parties who may comment on the undertaking and on any measures to mitigate possible adverse effects from the project on NRHP-eligible resources.

To date, USACE has identified the following potential consulting parties and welcomes review and comment by your office on the following list:

Proposed Consulting Parties:

- Virginia Department of Historic Resources
- Fairfax County Planning & Zoning
- Fairfax County Park Authority
- Fairfax County History Commission
- National Capital Planning Commission
- National Park Service: Potomac Heritage Scenic Trail
- Council of Virginia Archaeologists
- National Trust for Historic Preservation
- Woodlawn NHL
- Woodlawn Baptist Church
- Fairfax County Architectural Review Board
- Gunston Hall Plantation
- Woodlawn-Faith United Methodist Church
- Historical Society of Fairfax County
- Pohick Episcopal Church
- Ms. Martha Catlin (Interested Person)
- US Armed Forces Nuclear Energy Association
- American Nuclear Society
- The Nuke Digest (publication)

Federally Recognized Native American Tribes in Virginia:

- Eastern Band of Cherokee Indians
- Tuscarora Nation of New York
- United Keetowah Band of Cherokee Indians in Oklahoma
- Catawba Indian Nation
- Pamunkey Indian Tribe
- Chickahominy Indian Tribe
- Chickahominy Indian Tribe – Eastern Division
- Upper Mattaponi Tribe
- Rappahannock Tribe
- Monacan Indian Nation
- Nansemond Indian Nation



### 3. *Assessment of Effects from SM-1 Decommissioning*

In accordance with Section 106, USACE has sought to identify measures to avoid or minimize adverse effects that would result from the SM-1 decommissioning process. Nuclear Regulatory Commission (NRC) regulations for decommissioning licensed nuclear facilities such as the SM-1 Reactor Facility are provided in 10 CFR Part 20 Subpart E, and Parts 30, 50, and 51. NRC does not license the SM-1 Reactor; however, the Army Reactor Office (ARO) adheres to NRC regulations to the maximum extent possible with the exception of reporting requirements to the NRC.

The NRC's 1988 *Final Generic Environmental Impact Statement of Decommissioning Nuclear Facilities* (NUREG-0586) offers the choice of three decommissioning methods:

- DECON – Soon after the nuclear facility closes, equipment, structures, and portions of the facility containing radioactive contaminants are removed or decontaminated to a level that permits release of the property and termination of the license.
- SAFSTOR – Often considered "deferred dismantling," the nuclear facility is maintained and monitored in a condition that allows the radioactivity to decay; afterwards, the plant is dismantled and the property is decontaminated to a level that permits release of the property and termination of the license.

ENTOMB – Radioactive contaminants are permanently encased on site in structurally-sound material such as concrete; the facility is maintained and monitored until the radioactivity decays to a level permitting restricted release of the property.

As required by 10 CFR 50.82(a)(3), decommissioning must be completed within 60 years of the plant ceasing operations. To date, the SM-1 Reactor has been in a SAFSTOR condition for 44 years. Recent radiological surveys and data have shown that, within the time left before the 60-year deadline is reached, natural radiological decay would not sufficiently reduce residual radioactivity to allow for release of the facility without significant decontamination being performed. Additionally, the increasing cost and decreasing availability of radioactive waste disposal facilities raise concerns about the continuing feasibility of decontamination beyond the next few years.

USACE has determined that demolition of SM-1 and the following ancillary features, along with disposal of the contaminated soil, is the only feasible and prudent alternative for decommissioning:



- Building 372, Reactor Building and Stack;
- Building 7350, Sewage Lift Station;
- Building 349, Warehouse/Storage Building (non-contributing);
- Building 375, Pump Station and small pier connecting it to the shore (non-contributing);
- Underground pipes and other unused utilities.

In compliance with Section 106, USACE applied the Criteria of Adverse Effect to the historic property (SM-1 and ancillary buildings/structures) according to § 800.5 "Assessment of adverse effects" and has determined that the undertaking will cause "physical destruction or damage to all of the property" and will therefore have an adverse effect.

USACE seeks comment from your office on USACE's efforts to date to avoid or minimize adverse effects on the historic property from the undertaking, and concurrence with USACE's determination that the proposed demolition activity at the SM-1 site is an adverse effect, as defined by Section 106. By separate letter, and in accordance with 36 CFR § 800.6(a)(1), USACE will notify the Advisory Council on Historic Preservation (ACHP) of the adverse effect determination, provide the documentation specified in 36 CFR 800.11(e), and invite them to participate in the Section 106 process. USACE will also notify each of the identified consulting parties and federally recognized tribes of the adverse effect determination and solicit their input to develop possible mitigation measures. These measures will be codified in a Memorandum of Agreement, which will be sent to your office and any signing consulting parties for concurrence and signature.

Sincerely,

*Brenda M. Barber, P.E.*

Brenda M. Barber, P.E.  
U.S. Army Corps of Engineers - Baltimore District  
Project Manager Environmental and Munitions Design Center

cc: Hans Honerlah, USACE – Baltimore District  
Patrick Read, USACE – Baltimore District  
Scott Watson, USACE – Baltimore District  
Jeff Lorenz, USACE – Baltimore District  
Christine Heacock, Fort Belvoir - Cultural Resources



**DEPARTMENT OF THE ARMY  
BALTIMORE DISTRICT CORPS OF ENGINEERS  
P.O. BOX 1715  
BALTIMORE, MARYLAND 21203-1715**

October 28, 2015

Mr. Marc Holma  
Architectural Historian  
Project Review  
Virginia Department of Historic Resources  
2801 Kensington Avenue  
Richmond, VA 23221

Dear Mr. Holma:

Re: SM-1 Reactor Facility Decommissioning Planning, Fort Belvoir, Fairfax County, VA

This letter is to initiate consultation with your office regarding the proposed Stationary Medium Power Plant Number 1 (SM-1) Reactor Facility decommissioning at Fort Belvoir in Fairfax County, VA (Figure 1) in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulation, 36 CFR 800, "Protection of Historic Properties."

The SM-1 Reactor Facility (historically known as the U.S. Army Package Power Reactor) was built in 1957 to generate electricity for commercial use and cut back on the Department of Defense's dependency on fossil fuels (Figure 2). Additional buildings and structures were added to the compound through the 1950s, 1960s, and into 1970. The compound sits on a terrace overlooking Gunston Cove. Portions of the compound were graded and leveled in the 1950s to provide suitable sites for the buildings and structures.

The SM-1 Reactor Facility (Building 372), along with six secondary resources (Buildings 7350, 373, 375, 376, 384, and the emergency siren), was determined eligible for listing on the National Register of Historic Places (NRHP) under Criterion A because it was the first water-pressurized reactor in the U.S. and due to its role as the first prototype nuclear power plant developed as a training facility for military personnel (DHR File No. 029-193 and NRHP Nomination Form 1996). It is also listed on the Virginia Landmarks Register (VLR No. 06-19-1996). Two additional buildings, 371 and 380, were associated with the SM-1 compound, though not included in the NRHP nomination. The SM-1 Reactor Facility was shut down by 1973. Buildings 373, 376, 384, and the emergency siren structure were demolished in the late 1990s as part of a separate, independent action.

One archaeological site, 44FX1331, has been identified within the proposed project area. Site 44FX1331 was identified in 1987 during a pedestrian survey of the area by former

Fairfax County Archaeologist, Michael Johnson, Ph.D. Numerous quartz and quartzite debitage, one quartz lanceolate point, and one quartz Piscataway point were recovered, suggesting a Late Archaic to Early Woodland Period occupation in the project area. Dr. Johnson noted on the site form that the majority of the site appeared to be severely disturbed by construction; however, no subsurface testing was conducted as part of the survey. The location of the site varies slightly between the V-CRIS file, the Fairfax County site form, and the Fort Belvoir GIS system (Figure 3). The site acreage was not listed, but is estimated at approximately 3 acres (allowing for overlapping site boundaries from the different systems).

Details on the undertaking and the proposed Area of Potential Effect (APE) are provided below. A Project Review Form is also attached for your review.

### **Description of the Undertaking**

It is anticipated that the decommissioning of the SM-1 Reactor Facility will include the demolition and removal of buildings, removal of site infrastructure improvements (e.g., roads, fence), the removal of contaminated soils, and site restoration. Some potential significant activities expected to decommission the SM-1 Reactor Facility include:

- Construction of temporary facilities and/or modification of existing facilities to support the decommissioning effort. This phase includes preparation of lay-down areas and installation of office trailers, waste storage, and sanitary facilities.
- Reconfiguration and modification of site structures and facilities as needed to support the decommissioning effort. This may include the upgrading of roads (on and off site) to facilitate hauling and transport and/or the installation of a barge slip and concrete pad to support a temporary/mobile crane.
- Interior work including decontamination or fixing of loose contamination, removal of asbestos containing materials, removal of radioactive material and equipment (M&E), and radiation surveys of clean areas.
- Modification of the Vapor Container (domed structure of Building 372) to allow removal of the reactor and other large components prior to demolition of the structure.
- Demolition of the following buildings:
  - Building 372, Reactor Building and Stack
  - Building 7350, Sewage Lift Station
  - Building 349, Warehouse/Storage Building
  - Building 375, Pump Station and small pier connecting it to the shore
- Removal of underground pipes and other unused utilities
- Excavation and removal of contaminated soils
- Removal of paved areas and building slabs
- Site restoration

Waste generated from the decommissioning will include low-level radioactive waste (e.g., soil, building materials, and M&E), non-radioactive hazardous materials, clean M&E, and building demolition waste. The wastes will go to various licensed disposal facilities

dependent upon the specific waste stream. Following demonstration that the site meets the radiological release criteria, site restoration will be performed. Stockpiled clean soil from the excavations may be used as clean fill. Clean fill may also be imported to complete backfilling of the excavated areas. Once final grade is achieved, the soil will be loamed and seeded with an approved vegetative cover.

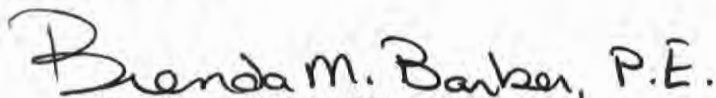
### **Area of Potential Effect**

The total proposed APE is 10.76 acres (Figures 4 and 5). The architectural history APE for this proposed project is coterminous with the 10.76 acres surrounding the SM-1 compound and Buildings 371 and 380. The archaeological APE is coterminous with the boundaries of ground disturbance related to the demolition, site cleanup, and staging activities.

It is anticipated that the proposed decommissioning activities will have an adverse effect on the NRHP-eligible SM-1 Reactor Facility and may affect archaeological resources associated with site 44FX1331. As a result, we request a meeting with you and Mr. Gregg LaBudde to discuss the decommissioning of SM-1 and future steps to further determine the extent of, and address, these potential adverse effects.

If you need additional information, please contact me at [REDACTED] or via email at [REDACTED]

Sincerely,



Brenda M. Barber, P.E.

U.S. Army Corps of Engineers - Baltimore District

Project Manager Environmental and Munitions Design Center

cc: Hans Honerlah, U.S. Army Corps of Engineers - Baltimore District  
Scott Watson, U.S. Army Corps of Engineers - Baltimore District  
Alison Talbot, U.S. Army Garrison Fort Belvoir  
Kevin Taylor, AECOM  
Laurent Cartayrade, AECOM  
Varna Boyd, AECOM

## **Section 7 Consultation**

## **GARFO ESA Section 7: 2017 NLAA Program Verification Form**

(Please submit a signed version of this form, together with any project plans, maps, supporting analyses, etc., to [nmfs.gar.esa.section7@noaa.gov](mailto:nmfs.gar.esa.section7@noaa.gov) with "2017 NLAA Program" in the subject line)

### **Section 1: General Project Details**

Application Number:	N/A		
Applicant(s):	U.S. Army Corps of Engineers - Baltimore District		
Permit Type (e.g. NWP, LOP, RGP, IP, Permit Modification):	N/A		
Anticipated project start date (e.g., 9/1/2017)	06/01/2020		
Anticipated project end date (e.g., 3/14/2018 – if there is no permit expiration date, write “N/A”)	12/31/2025		
Project Type/Category (check all that apply to entire action):			
<input type="checkbox"/>	Aquaculture (shellfish) and artificial reef creation	<input type="checkbox"/>	Transportation and development (e.g., culvert construction, bridge repair)
<input type="checkbox"/>	Routine maintenance dredging and disposal/beach nourishment	<input type="checkbox"/>	Mitigation (fish/wildlife enhancement or restoration)
<input checked="" type="checkbox"/>	Piers, ramps, floats, and other structures	<input type="checkbox"/>	Bank stabilization and dam maintenance
<input checked="" type="checkbox"/>	If other, describe project type/category: Demolition of an existing pier, pump house, and inactive wastewater discharge outfall pipe		
Project/Action Description and Purpose ( <i>include town/city/state and water body where project is occurring; relevant permit conditions that aren't captured elsewhere on form</i> ):			
<p>The US Army Corps of Engineers, Baltimore District (USACE) proposes to complete decommissioning and dismantlement of the Deactivated SM-1 Nuclear Reactor at Fort Belvoir in Fairfax County, Virginia (Proposed Action). SM-1 is located on Fort Belvoir's South Post adjacent to Gunston Cove, a tidal embayment of the Potomac River.</p> <p>SM-1 was deactivated in 1973 and has since been maintained in a safe storage (SAFSTOR) condition by USACE. Decommissioning and dismantlement of deactivated nuclear reactors is required within 60 years of deactivation in accordance with US Nuclear Regulatory</p>			



Type of Habitat Modified (e.g., sand, cobble, silt/mud/clay):	Area (acres):
Sand / silt	1.30
Project Latitude (e.g., 42.625884)	38.675830
Project Longitude (e.g., -70.646114)	-77.143610

**Section 2: ESA-listed species and/or critical habitat in the action area:**

<input checked="" type="checkbox"/>	Atlantic sturgeon (all DPSs) If not all DPSs, list which here:	<input type="checkbox"/>	Kemp's ridley sea turtle
<input checked="" type="checkbox"/>	Atlantic sturgeon critical habitat (proposed or designated) Indicate which DPS (GOM, NYB, Chesapeake Bay DPSs): Chesapeake Bay DPS	<input type="checkbox"/>	Loggerhead sea turtle (NW Atlantic DPS)
<input checked="" type="checkbox"/>	Shortnose sturgeon	<input type="checkbox"/>	Leatherback sea turtle
<input type="checkbox"/>	Atlantic salmon (GOM DPS)	<input type="checkbox"/>	North Atlantic right whale
<input type="checkbox"/>	Atlantic salmon critical habitat (GOM DPS)	<input type="checkbox"/>	North Atlantic right whale critical habitat
<input type="checkbox"/>	Green sea turtle (N. Atlantic DPS)	<input type="checkbox"/>	Fin whale

**Section 3: NLAA Determination (check all applicable fields):**

a) GENERAL PDC	
<input type="checkbox"/>	Yes, my project meets all of the General PDC.
<input checked="" type="checkbox"/>	No, my project does not meet all the General PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):
	<b>Information for PDC 8</b> (if "max extent of stressor" exceeds "width of water body", PDC 8 is NOT met, and a justification in Section 4 is required to proceed with the verification form)

	Width (m) of water body in action area:	Stressor Category (stressor that extends furthest distance into water body – e.g., turbidity plume; sound pressure wave):	Max extent (m) of stressor into the water body:
	1,244.00	Sound pressure wave	328.00
<input type="checkbox"/>	1.	No work will individually or cumulatively have an adverse effect on ESA-listed species or designated critical habitat; no work will cause adverse modification or destruction to proposed critical habitat.	
<input type="checkbox"/>	2.	No work will occur in the tidally influenced portion of rivers/streams where Atlantic salmon presence is possible from April 10–November 7.	
<input type="checkbox"/>	3.	No work will occur in Atlantic or shortnose sturgeon spawning grounds as follows: i. New England: April 1–Aug. 31 ii. New York/Philadelphia: March 15–August 31 iii. Baltimore/Norfolk: March 15–July 1 and Sept. 15–Nov. 1	
<input type="checkbox"/>	4.	No work will occur in shortnose sturgeon overwintering grounds as follows: i. New England District: October 15–April 30 ii. New York/Philadelphia: Nov. 1–March 15 iii. Baltimore: Nov. 1–March 15	
<input type="checkbox"/>	5.	Within designated Atlantic salmon critical habitat, no work will affect spawning and rearing areas (PBFs 1-7).	
<input type="checkbox"/>	6.	Within proposed/designated Atlantic sturgeon critical habitat, no work will affect hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand) (PBF 1).	
<input type="checkbox"/>	7.	Work will not change temperature, water flow, salinity, or dissolved oxygen levels.	
<input type="checkbox"/>	8.	If it is possible for ESA-listed species to pass through the action area, a zone of passage with appropriate habitat for ESA-listed species (e.g., depth, water velocity, etc.) must be maintained (i.e., physical or biological stressors such as turbidity and sound pressure must not create barrier to passage).	
<input type="checkbox"/>	9.	Any work in designated North Atlantic right whale critical habitat must have no effect on the physical and biological features (PBFs).	
<input checked="" type="checkbox"/>	10.	The project will not adversely impact any submerged aquatic vegetation (SAV).	
<input type="checkbox"/>	11.	No blasting will occur.	

b) The following stressors are applicable to the action  
(check all that apply – use Stressor Category Table for guidance):

<input checked="" type="checkbox"/>	Sound Pressure
<input type="checkbox"/>	Impingement/Entrapment/Capture
<input checked="" type="checkbox"/>	Turbidity/Water Quality
<input type="checkbox"/>	Entanglement



<input type="checkbox"/>	Habitat Modification
<input checked="" type="checkbox"/>	Vessel Traffic

Activity Category	Stressor Category					
	Sound Pressure	Impingement/Entrapment/Capture	Turbidity/Water Quality	Entanglement	Habitat Mod.	Vessel Traffic
Aquaculture (shellfish) and artificial reef creation	N	N	Y	Y	Y	Y
Routine maintenance dredging and disposal/beach nourishment	N	Y	Y	N	Y	Y
Piers, ramps, floats, and other structures	Y	N	Y	Y	Y	Y
Transportation and development (e.g., culvert construction, bridge repair)	Y	N	Y	N	Y	Y
Mitigation (fish/wildlife enhancement or restoration)	N	N	Y	N	Y	Y
Bank stabilization and dam maintenance	Y	N	Y	N	Y	Y

c) SOUND PRESSURE PDC					
<input checked="" type="checkbox"/>	Yes, my project meets all of the Sound Pressure PDC below.				
<input type="checkbox"/>	No, my project does not meet all the Sound Pressure PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):				
	<b>Information for PDC 14</b> (refer to SOPs for guidance):				
	Pile material (e.g., steel pipe, timber, concrete)	Pile diameter/width (inches)	Number of piles	Installation method (e.g., impact hammer, vibratory start and then impact hammer to depth)	
a)					
b)					

	c)				
	d)				
<input type="checkbox"/>	12.	If the pile driving is occurring during a time of year when ESA-listed species may be present, and the anticipated noise is above the behavioral noise threshold of those species (please see SOPs), a 20 minute “soft start” is required to allow for animals to leave the project vicinity before sound pressure increases.			
<input type="checkbox"/>	13.	Any new pile supported structure must involve the installation of $\leq 50$ piles (below MHW).			
<input type="checkbox"/>	14.	All underwater noise (pressure) is below ( $<$ ) the physiological/injury noise threshold for ESA-listed species in the action area (if project involves steel piles, or non-steel piles $> 24$ -inches in diameter/width, include noise estimate with this form).			
d) IMPINGEMENT/ENTRAINMENT/CAPTURE PDC					
<input checked="" type="checkbox"/>	Yes, my project meets all of the Impingement/Entrainment/Capture PDC below.				
<input type="checkbox"/>	No, my project does not meet all the Impingement/Entrainment/Capture PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):				
	<b>Information for Dredging:</b>				
	If dredging permit/authorization includes multiple years of maintenance, include estimated number of dredging/disposal events:				
	<b>Information for PDC 18</b> (refer to SOPs for guidance):				
	Mesh screen size (mm) for temporary intake:				
<input type="checkbox"/>	15.	Only mechanical, cutterhead, and low volume hopper (e.g., CURRITUCK) dredges may be used.			
<input type="checkbox"/>	16.	No new dredging in proposed or designated Atlantic sturgeon or Atlantic salmon critical habitat (maintenance dredging still must meet all other PDCs). New dredging outside Atlantic sturgeon or salmon critical habitat is limited to one time dredge events (e.g., burying a utility line) and minor ( $\leq 2$ acres) expansions of areas already subject to maintenance dredging (e.g., marina/harbor expansion).			
<input type="checkbox"/>	17.	Work behind cofferdams, turbidity curtains, and other methods to block access of animals to dredge footprint is required when operationally feasible and ESA-listed species may be present.			
<input type="checkbox"/>	18.	Temporary intakes related to construction must be equipped with appropriate sized mesh screening (as determined by GARFO section 7 biologist and/or according to <a href="#">Chapter 11 of the NOAA Fisheries Anadromous Salmonid Passage Facility Design</a> ) and must not have greater than 0.5 fps intake velocities, to prevent impingement or entrainment of any ESA-listed species life stage.			
<input type="checkbox"/>	19.	No new permanent intake structures related to cooling water, or any other inflow at facilities (e.g. water treatment plants, power plants, etc.).			
e) TURBIDITY/WATER QUALITY PDC					
<input checked="" type="checkbox"/>	Yes, my project meets all of the Turbidity/Water Quality PDC below.				

<input type="checkbox"/>	No, my project does not meet all the Turbidity/Water Quality PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):	
<input type="checkbox"/>	20.	Work behind cofferdams, turbidity curtains, or other methods to control turbidity are required when operationally feasible and ESA-listed species may be present.
<input type="checkbox"/>	21.	In-water offshore disposal may only occur at designated disposal sites that have already been consulted on with GARFO.
<input type="checkbox"/>	22.	Any temporary discharges must meet state water quality standards; no discharges of toxic substances.
<input type="checkbox"/>	23.	Only repair of existing discharge pipes allowed; no new construction.
f) ENTANGLEMENT PDC		
<input checked="" type="checkbox"/>	Yes, my project meets all of the Entanglement PDC below.	
<input type="checkbox"/>	No, my project does not meet all the Entanglement PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):	
	<b>Information for Aquaculture Projects:</b>	
	Type of Aquaculture (e.g., cage on bottom)	Acreage
	a)	
	b)	
	c)	
<input type="checkbox"/>	24.	Shell on bottom <50 acres with maximum of 4 corner marker buoys;
<input type="checkbox"/>	25.	Cage on bottom with no loose floating lines <5 acres and minimal vertical lines (1 per string of cages, 4 corner marker buoys);
<input type="checkbox"/>	26.	Floating cages in <3 acres in waters and shallower than -10 feet MLLW with no loose lines and minimal vertical lines (1 per string of cages, 4 corner marker buoys);
<input type="checkbox"/>	27.	Floating upweller docks in >10 feet MLLW.
<input type="checkbox"/>	28.	Any in-water lines, ropes, or chains must be made of materials and installed in a manner (properly spaced) to minimize the risk of entanglement by keeping lines taut or using methods to promote rigidity (e.g., sheathed or weighted lines that do not loop or entangle).
g) HABITAT MODIFICATION PDC		
<input checked="" type="checkbox"/>	Yes, my project meets all of the Habitat Modification PDC below.	
<input type="checkbox"/>	No, my project does not meet all the Habitat Modification PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):	

<input type="checkbox"/>	29.	No conversion of habitat type (soft bottom to hard, or vice versa) for aquaculture or reef creation.
h) VESSEL TRAFFIC PDC		
<input checked="" type="checkbox"/>	Yes, my project meets all of the Vessel Traffic PDC below.	
<input type="checkbox"/>	No, my project does not meet all the Vessel Traffic PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):	
<b>Information for PDC 33</b> (refer to SOPs for guidance):		
	Temporary Project Vessel Type (e.g., work barge, tug, scow, etc.)	Number of Vessels
a)	Work barge	1
b)	Barge escort	1
c)	Support boat(s)	1
	Type of Non-Commercial Vessels Added (e.g., 20' recreational motor boat – only include if there is a net increase directly/indirectly resulting from project)	Number of Vessels (if sum > 2, PDC 33 is not met and justification required in Section 4)
a)	None	
b)		
	Type of Commercial Vessels Added (only include if there is a net increase directly/indirectly resulting from project)	Number of Vessels (if > 0, PDC 33 is not met and justification required in Section 4)
a)	None	
b)		
<input type="checkbox"/>	30.	Speed limits below 10 knots for project vessels with buffers of 150 feet for all listed species (1,500 feet for right whales).
<input type="checkbox"/>	31.	While dredging, dredge buffers of 300 feet in the vicinity of any listed species (1,500 feet for right whales), with speeds of 4 knots maximum.
<input type="checkbox"/>	32.	The number of project vessels must be limited to the greatest extent possible, as appropriate to size and scale of project.
<input type="checkbox"/>	33.	The permanent net increase in vessels resulting from a project (e.g., dock/float/pier/boating facility) must not exceed two non-commercial vessels. A project must not result in the permanent net increase of any commercial vessels (e.g., a ferry terminal).

#### Section 4: Justification for Review under the 2017 NLAA Program

If the action is not in compliance with all of the General PDC and appropriate stressor PDC, but you can provide justification and/or special conditions to demonstrate why the project still meets the NLAA determination and is consistent with the aggregate effects considered in the programmatic consultation, you may still certify your project through the NLAA program using

this verification form. Please identify which PDC your project does not meet (e.g., PDC 9, PDC 15, PDC 22, etc.) and provide your rationale and justification for why the project is still eligible for the verification form.

To demonstrate that the project is still NLAA, you must explain why the effects on ESA-listed species or critical habitat are **insignificant** (i.e., too small to be meaningfully measured or detected) or **discountable** (i.e., extremely unlikely to occur). Please use this language in your justification.

PDC#	Justification
10.	<p>Mapped SAV species in Gunston Cove include hydrilla (<i>Hydrilla verticillata</i>) and common reed (<i>Phragmites australis</i>), which are both invasive species, water stargrass (<i>Heteranthera dubia</i>), spiny naiad (<i>Najas marina</i>), coontail (<i>Ceratophyllum demersum</i>), wild celery (<i>Vallisneria americana</i>), and southern naiad (<i>Najas guadalupensis</i>). The presence and extent of SAV adjacent to and near in-water structures associated with SM-1 is not known.</p> <p>SAV adjacent to the concrete discharge pipe, outfall structure, and pier/pump house, if present, could be damaged or destroyed during the proposed in-water activities. These</p>

## Section 5: USACE Verification of Determination

<input type="checkbox"/>	In accordance with the 2017 NLAA Programmatic Consultation, the Corps has determined that the action complies with all applicable PDC and is not likely to adversely affect listed species.
<input checked="" type="checkbox"/>	In accordance with the 2017 NLAA Programmatic Consultation, the Corps has determined that the action is not likely to adversely affect listed species per the justification and/or special conditions provided in Section 4.
USACE Signature:	
Date:	
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## Section 6: GARFO Concurrence

<input type="checkbox"/>	In accordance with the 2017 NLAA Program, GARFO PRD concurs with USACE's determination that the action complies with all applicable PDC and is not likely to adversely affect listed species or critical habitat.
<input checked="" type="checkbox"/>	In accordance with the 2017 NLAA Program, GARFO PRD concurs with USACE's determination that the action is not likely to adversely affect listed species or critical habitat per the justification and/or special conditions provided in Section 4.
<input type="checkbox"/>	GARFO PRD does not concur with USACE's determination that the action complies with the applicable PDC (with or without justification), and recommends an individual Section 7 consultation to be completed independent from the 2017 NLAA Program.
GARFO Signature:	
Date:	
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## Carver, Craig

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**Subject:** SM-1 Decommissioning, Fort Belvoir, VA - Signed Section 7 Programmatic NLAA Form  
**Attachments:** final\_SM-1 Reactor Decomm.pdf

**From:** Brian D Hopper - NOAA Federal [REDACTED]  
**Sent:** Wednesday, March 04, 2020 3:05 PM  
**To:** Carver, Craig [REDACTED]  
**Cc:** Barber, Brenda M CIV USARMY CENAB (US) [REDACTED]  
[REDACTED]; Roblyer, Griffin D K CIV USARMY CENAB (USA)  
[REDACTED]; Taylor, Kevin (Greenville) [REDACTED]; Honerlah, Hans B CIV  
USARMY CENAB (US) [REDACTED]; Ray, Diane M CIV USARMY CENAE (US)  
[REDACTED]; Christine Vaccaro - NOAA Federal [REDACTED]  
**Subject:** Re: SM-1 Decommissioning, Fort Belvoir, VA - Signed Section 7 Programmatic NLAA Form

for your records

On Wed, Mar 4, 2020 at 2:29 PM Carver, Craig [REDACTED] wrote:

Mr. Hopper,

Attached, please find the signed programmatic Section 7 NLAA form for the US Army Corps of Engineers proposed SM-1 decommissioning project at Fort Belvoir. NMFS's response or requests for additional information should be sent to all of the recipients included on this email.

Please let us know if you have any questions. Thank you for your assistance with this matter.

**Craig Carver, AICP**  
Environmental Compliance Specialist

Southeast  
[REDACTED]

**AECOM**  
4840 Cox Road  
Glen Allen, VA 23060, USA  
T +1-804-515-8300  
[aecom.com](http://aecom.com)

**Imagine it. Delivered.**

**Safeguard | Collaborate | Inspire | Anticipate | Deliver | Dream**

--  
Brian D. Hopper  
Protected Resources Division  
NOAA Fisheries  
Greater Atlantic Regional Fisheries Office  
200 Harry S Truman Parkway  
Suite 460  
Annapolis, MD 21401

<http://www.greateratlantic.fisheries.noaa.gov/>







# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Virginia Field Office  
6669 Short Lane  
Gloucester, VA 23061



Date: 10/15/19

### Self-Certification Letter

Project Name: **SM-1 Reactor Facility Decommissioning**

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat.

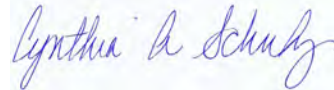
We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website [http://www.fws.gov/northeast/virginiafield/endspecies/project\\_reviews.html](http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html). If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,



Cindy Schulz  
Field Supervisor  
Virginia Ecological Services

Enclosures - project review package



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Virginia Ecological Services Field Office  
6669 Short Lane  
Gloucester, VA 23061-4410  
Phone: (804) 693-6694 Fax: (804) 693-9032  
<http://www.fws.gov/northeast/virginiafield/>

In Reply Refer To:  
Consultation Code: 05E2VA00-2019-SLI-5695  
Event Code: 05E2VA00-2020-E-00561  
Project Name: SM-1 Reactor Facility Decommissioning

October 15, 2019

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Virginia Ecological Services Field Office**

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

## Project Summary

Consultation Code: 05E2VA00-2019-SLI-5695

Event Code: 05E2VA00-2020-E-00561

Project Name: SM-1 Reactor Facility Decommissioning

Project Type: \*\* OTHER \*\*

**Project Description:** The U.S. Army Corps of Engineers (USACE) is proposing to decommission the deactivated SM-1 Reactor Facility at U.S. Army Garrison Fort Belvoir, Virginia (proposed action). The proposed action would involve the demolition and disposal of the Reactor building (Building 372), removal and disposal of the remaining primary and secondary systems, and demolition and disposal of associated structures (including the water intake pier and pump house); the removal and disposal of contaminated soils; site restoration; and the termination of the permit under which the facility is currently being maintained by the U.S. Army. The proposed action would involve selected ground disturbance and tree clearing within the SM-1 facility's approximately 4-acre site on Fort Belvoir, as well as some localized subsurface disturbance in the waters of Gunston Cove adjacent to the site from the removal of an intake pipe, pier, and outfall associated with the facility.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.676607109490384N77.14488045921414W>



Counties: Fairfax, VA

## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

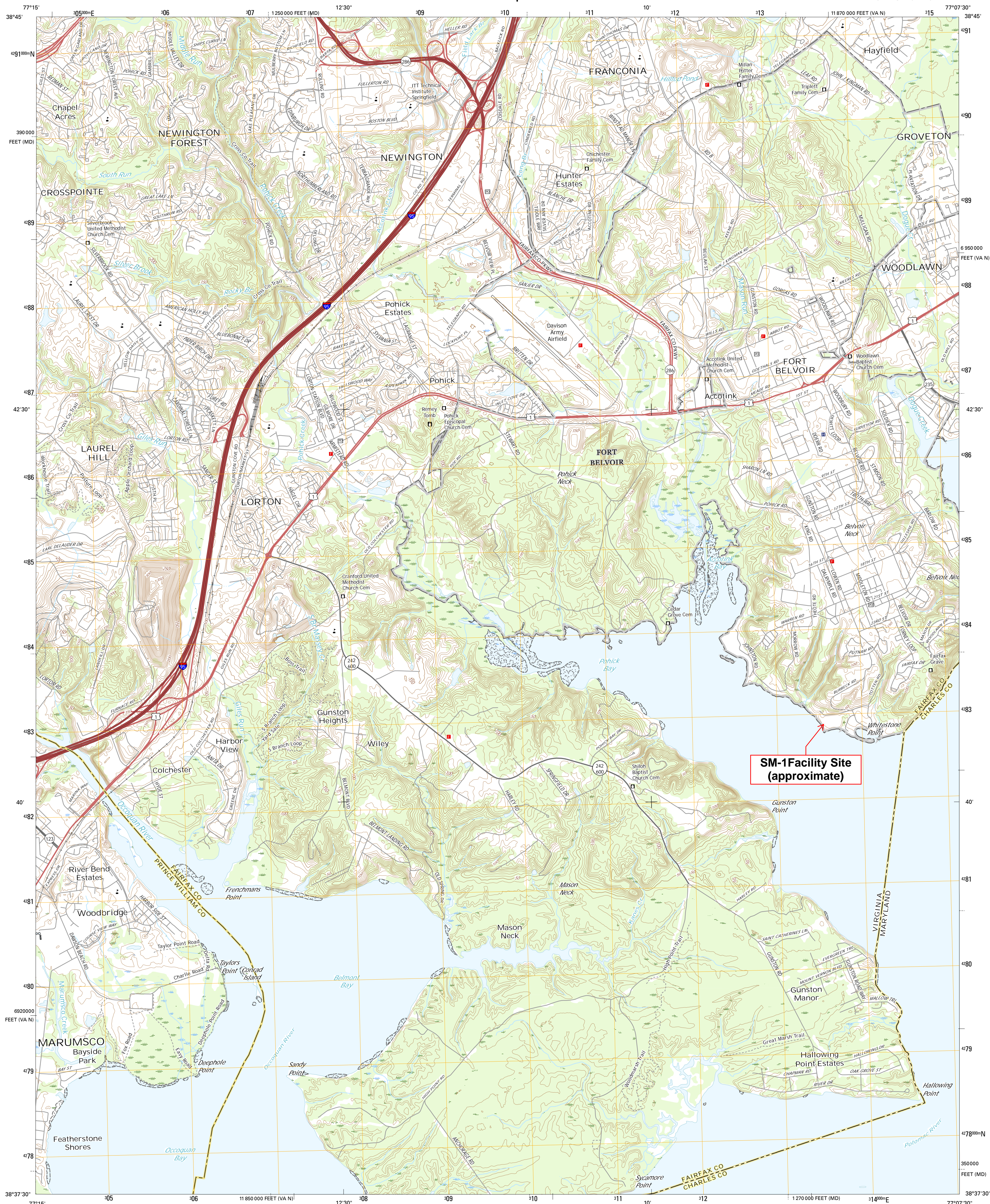
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

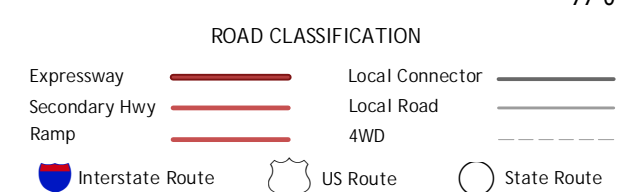
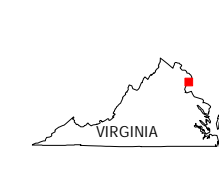
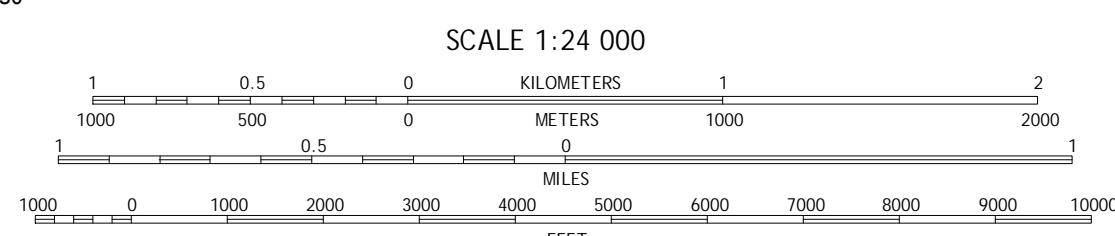
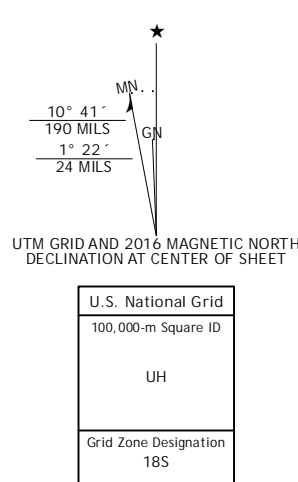




Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1000-meter grid: Universal Transverse Mercator, Zone 18S  
10 000-foot ticks: Virginia Coordinate System of 1983 (north  
zone), Maryland Coordinate System of 1983

This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery.....NAP: August 2014  
Roads.....U.S. Census Bureau, 2015 - 2016  
Names.....GNIS, 2016  
Hydrography.....National Hydrography Dataset, 2014  
Contours.....National Elevation Dataset, 2015  
Boundaries.....Multiple sources: see metadata file 1972 - 2016  
Wetlands.....FWS National Wetlands Inventory 1977 - 2014



1	2	3
4	5	6
7	8	

ADJOINING QUADRANGLES

1 Fairfax  
2 Annandale  
3 Alexandria  
4 Occoquan  
5 Mount Vernon  
6 Quantico  
7 Indian Head  
8 Port Tobacco

FORT BELVOIR, VA-MD  
2016






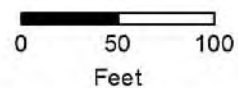
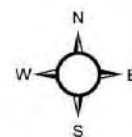
Figure 1





## LEGEND

-  SM-1 Reactor Facility Site
-  Fence
-  Building Number



**Figure 2**

B-70



**Table 1 – Species Conclusions Table**

Project Name: SM-1 Reactor Facility Decommissioning

Date: October 15, 2019

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Potential habitat present and no current <u>site-specific</u> survey conducted	Not likely to adversely affect	No documented hibernaculum within 0.25 mile of the project site. No documented maternity roost trees on or within 150 feet of the project site.  During the implementation of the proposed action, USACE and its contractors would adhere to management policies regarding the northern long-eared bat (NLEB) set forth in Fort Belvoir's <i>Integrated Natural Resources Management Plan</i> (INRMP), including a time of year restriction on tree clearing between April 15 and September 15 of any year to minimize impacts on potential NLEB maternity roost habitat.
Critical habitat <sup>1</sup>	No critical habitat present	No effect	Project would not occur in Virginia counties where critical habitat has been documented.
Notes:  1. USACE is consulting separately with NOAA Fisheries to identify potential impacts on the Atlantic sturgeon, its critical habitat, and other aquatic resources under its jurisdiction in Gunston Cove and/or the Potomac River.			



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
GREATER ATLANTIC REGIONAL FISHERIES OFFICE  
55 Great Republic Drive  
Gloucester, MA 01930-2276

April 19, 2019

Ms. Brenda Barber, P.E.  
Project Manager – Environmental and Munitions Design Center  
U.S. Army Corps of Engineers, Baltimore District  
2 Hopkins Plaza  
09-A-10 (Cube)  
Baltimore, MD 21201

Re: Essential Fish Habitat (EFH) consultation; SM-1 Reactor Facility Decommissioning,  
U.S. Army Garrison Fort Belvoir, Fairfax County, Virginia

Dear Ms. Barber:

We have reviewed the information provided in your letter dated March 5, 2019, describing the proposed action to decommission the deactivated SM-1 Reactor Facility located at U.S. Army Garrison Fort Belvoir, Fairfax County, Virginia. The proposed action includes the demolition and disposal of the Reactor Facility (Bldg. 372) and associated infrastructure including three structures which extend into Gunston Cove, which is contiguous to the Potomac River. The three structures sited in intertidal and subtidal areas of Gunston Cove include a water outfall pipe and an approximately 105 ft. long water intake pier which supports a pump house. Gunston Cove is approximately 1,380 yds. wide at the project site.

As stated in your essential fish habitat (EFH) assessment, the Potomac River and Gunston Cove are designated as EFH for seven (7) federally managed species. The project area is also designated an anadromous fish use area by the Virginia Department of Game and Inland Fisheries (VDGIF). As you know, submerged aquatic vegetation (SAV) has been mapped at the project site by the Virginia Institute of Marine Science (VIMS) SAV monitoring program (VIMS, 2012-2017 data). The density of the SAV has been characterized as dense (70-100%) cover in most years and has been characterized as a suite of species including: *Hydrilla verticillata*, *Heteranthrea dubla*, *Najas minor*, *Najas major*, *Najas guadalupensis*, *Ceratophyllum demersum*, *Vallisneria spiralis* and *Myriophyllum spicatum*, though the most recent ground-truth survey was conducted over ten years ago (VIMS, 2007 data) and may not be indicative of the current species or species composition.

The proposed removal of the outfall pipe, pier and pump house have the potential to adversely affect EFH, SAV and the migration, spawning and nursery habitat of anadromous fish. As stated in your EFH assessment, removal of the water intake pier and pump house will be conducted using a barge-mounted crane and supporting vessels. Following removal of the superstructures, the piles will be removed in their entirety if structurally sound. If complete extraction of piles is not possible, piles may be cut off below the mudline. During deconstruction of the pier and pile removal, the use of a turbidity curtain is proposed to surround the entire work area. A turbidity





curtain will also be employed during the removal of the subaqueous portion of the water outfall pipe to prevent the migration of re-suspended sediment from the work area. This best management practice will reduce the potential direct and indirect impacts to EFH, SAV and any anadromous fish that may be present depending on the time of year construction occurs. Although the entire decommissioning of the SM-1 Reactor Facility is estimated to take five years to complete, the in-water demolition of the pier, pump house and water outfall pipe will only require approximately 45 days.

### **Essential Fish Habitat Conservation Recommendations**

Based on the width of Gunston Cove and the proposed use of turbidity curtains during in-water construction, we agree with your determination that the proposed demolition activities will not have a substantial adverse effect on EFH, SAV or the migration, spawning or nursery habitat of anadromous fish. However, we are concerned that removal of the piles using other methods, such as jetting or dredging may have adverse impacts to EFH, SAV and other aquatic species. As a result we offer the following EFH conservation recommendation pursuant to Section 305 (b) (4) (A) of the Magnuson Stevens Fishery Conservation and Management Act (MSA):

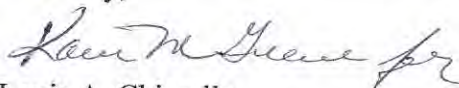
- Should extraction of piles using the barge-mounted crane become difficult or impossible, piles shall be cut below the mudline. Consultation should be reinitiated if other methods of pile removing such as jetting or dredging become necessary.

### **Endangered Species Act**

Endangered species under the jurisdiction of NOAA Fisheries may be present in the project area. The federal action agency is responsible for determining whether the proposed action may affect these species. If you determine that the proposed action may affect a listed species, your determination of effects along with justification and a request for concurrence should be submitted to the attention of the Section 7 Coordinator, NMFS, Greater Atlantic Regional Fisheries Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930, or at [nmfs.gar.esa.section7@noaa.gov](mailto:nmfs.gar.esa.section7@noaa.gov). Guidance and tools to assist you in your effects determination are available on our website at: [www.greateratlantic.fisheries.noaa.gov/section7](http://www.greateratlantic.fisheries.noaa.gov/section7). Please contact Brian Hopper of our Protected Resources Division [REDACTED] if you have any questions or to discuss your project and obligations under Section 7 of the Endangered Species Act.

Thank you for the opportunity to review the EFH assessment for the proposed decommission and demolition of the SM-1 Reactor Facility, water intake pier, pump station and water outfall pipe located on Gunston Cove. If you any questions or require additional information, please contact David O'Brien ([REDACTED]) in our Gloucester Point, VA field office.

Sincerely,



Louis A. Chiarella  
Assistant Regional Administrator  
for Habitat Conservation

cc: B. Hopper - PRD



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, BALTIMORE DISTRICT  
2 HOPKINS PLAZA  
BALTIMORE, MD 21201

CENAB-ENE-C

March 5, 2019

USACE-Baltimore District

Ms. Karen Green  
Mid-Atlantic Field Office Supervisor/EFH Coordinator  
55 Great Republic Drive  
NOAA Fisheries Service  
Gloucester, Massachusetts 01930  
[REDACTED]

Subject: Magnuson-Stevens Fishery Conservation and Management Act Consultation,  
Environmental Assessment for the SM-1 Reactor Facility Decommissioning EA,  
U.S. Army Garrison Fort Belvoir, Fairfax County, Virginia

Dear Ms. Greene,

The purpose of this letter is to solicit comments regarding the U.S. Army Corps of Engineers (USACE) Baltimore District's proposed decommissioning of the deactivated SM-1 Reactor Facility at U.S. Army Garrison Fort Belvoir (Fort Belvoir) in Fairfax County, Virginia (proposed action). USACE is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [USC] §4321 et seq.) to analyze the potential impacts and environmental consequences associated with the decommissioning.

The proposed action would involve the demolition and disposal of the Reactor Facility (Building 372), the remaining primary and secondary systems, and associated structures; the removal and disposal of contaminated soils; site restoration; and the termination of the permit under which the facility is currently being maintained by the U.S. Army. Three structures that would be removed under the proposed action extend into Gunston Cove, a shallow embayment of the Potomac River adjacent to the SM-1 Reactor Facility: a water outfall pipe, an intake pier, and a pump house (situated on the pier). The proposed action is described in additional detail below followed by a discussion of potential Essential Fish Habitat (EFH).

The purpose of this letter is to inform your office of the project, its potential to affect EFH under the jurisdiction of your office, and to request concurrence with our determination.

**Summary of Proposed Action**

The SM-1 Reactor Facility is located on an approximately 5-acre parcel within Fort Belvoir's Main Post in Fairfax County, Virginia, approximately 17 miles southwest of Washington, D.C. (**Figure 1**). Gunston Cove, an embayment of the Potomac River, is located along the southwest side of the parcel and includes a water intake structure and pump house (**Figure 2**).



The proposed action consists of the removal of all radiologically contaminated structures, equipment, and media from the SM-1 Reactor Facility site, as needed, to allow for the termination of the permit under which the facility is currently maintained and the release of the site for unrestricted use. It also includes the removal of additional uncontaminated structures associated with the facility. The proposed action can be broken down into several components, as described below.

**Site preparation.** Preparatory activities would include the establishment of radiological controls on and around the SM-1 Reactor Facility site; the installation of temporary support facilities or modifications to existing facilities to support field activities throughout the duration of the proposed action; the removal of most vegetation from the site and some non-contaminated structures and equipment; and potential upgrades to the transportation network.

**Removal of materials and equipment (M&E) from Building 372.** These activities would include the removal of regulated contaminated and clean M&E from the building. Areas where surface contamination has been detected would be decontaminated to the extent practicable to allow open air demolition and minimize the amount of low-level radioactive waste (LLRW) to be transported and disposed of.

**Demolition of Building 372.** Demolition would occur in two sequential phases starting with structural components situated within the Unrestricted Area. This phase of demolition would include the above ground structure and removal of the remaining floor slab, foundation, and any tanks and piping still present. The resultant debris from these activities would be disposed of as clean waste. The second phase of demolition would occur within the Restricted Area and result in the removal of structures around, and including, the Vapor Container.

**Demolition and removal of other structures.** This component of the proposed action includes the demolition or removal of the water intake pump house and pier, a sewage pump station, and a storage warehouse. It also includes the removal of the water intake pipe to Building 372, the water discharge piping from Building 372 to the Seal Pit, the Seal Pit and associated manholes, the discharge pipe from the Seal Pit to the Outfall, and the unused sanitary sewer line associated with the sewage pump station.

Removal of the water intake pump house and pier, which extends from the shoreline to approximately 100 feet into Gunston Cove, would likely require the use of a barge-mounted crane and other vessels to give the demolition crew and equipment access to the structures. Superstructures would be removed first, followed by the piles if they are found to be structurally sound. If the piles are found to be in a condition that would not allow for complete removal, they may be cut at the mudline and the portions below the cut would be left in place. A boom/turbidity curtain would be put in place around the work area to limit turbidity increases downstream, to prevent the migration of disturbed sediment into the water column, and to ensure disturbed sediments settle near their original location. A boom/turbidity curtain would also be used to contain sediment disturbed by the removal of the underwater portion of the outfall pipe.

**Soils remediation and restoration.** Contaminated soils around and below Building 372 would be removed following demolition. In addition to radiological contamination, surveys have shown the presence of lead around the building, likely from the slow deterioration of lead-based paint. Soils around the underground tanks and piping are also assumed to be contaminated and would be removed along with those structures.



**Waste disposal and transportation.** The proposed decommissioning activities would generate large amounts of waste. All waste would be characterized, segregated, and disposed of as clean waste (no contamination, suitable for recycling or disposal at a regular landfill), LLRW, hazardous waste, or mixed waste. Disposal facilities appropriate for each category of waste would be identified and the waste would be shipped to those facilities in accordance with applicable federal and state regulations.

All waste would be transported off site by trucks, including a 53-foot trailer truck for the Reactor Pressure Vessel (RPV) cask. After leaving Fort Belvoir, the trucks would travel on public roads to either the disposal site or to a road-to-rail transfer location for rail transport to the final destination.

**Safety, health, and environmental control measures.** The proposed action would involve disturbing, demolishing, and moving materials, structures, and soils that are hazardous or radiologically contaminated. These materials would be handled in a controlled manner that would minimize the risk of exposure to project personnel, the general public, and the environment.

The proposed decommissioning activities would take place over an approximately 5-year time period with primary field activities starting in calendar year 2021. It is anticipated the site would be fully restored and available for unrestricted use by 2026. Work in Gunston Cove is anticipated to occur over approximately 45 days during that period.

#### **Essential Fish Habitat**

Removal of the water outfall pipe, water intake pier, and pump house has the potential to affect resources under the jurisdiction of the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). The Magnuson-Stevens Fishery Conservation and Management Act requires Federal agencies to consult with NOAA Fisheries to address activities that may adversely affect EFH, which is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Based on a query of the NOAA EFH Mapper, designated EFH for six species has been mapped in the vicinity of the project area (**Table 1**). Mapping data for the summer flounder was not available in the EFH Mapper tool; however, the species was identified in a non-map query for the Potomac River. No Habitat Areas of Particular Concern (HAPCs) and no EFH Areas Protected from Fishing (EFHA) were identified in the proposed action area.

**Table 1. EFH Species and Life Stages Potentially Found in the Project Area**

Species	Egg	Larvae	Juvenile	Adult
Atlantic Herring	--	--	✓	✓
Clearnose Skate	--	--	✓	✓
Little Skate	--	--	--	✓
Red Hake	✓	✓	✓	✓
Summer Flounder	--	--	✓	✓
Windowpane Flounder	--	--	✓	
Winter Skate	--	--	--	✓

Mean salinity in the Potomac River near the SM-1 Reactor Facility ranges from approximately 0.08 parts per thousand (ppt) to 0.24 ppt depending on freshwater flows from Accotink and Pohick



Creeks and tidal influence from the Potomac River, with higher salinity during the late summer and fall seasons. Mean water temperatures range from approximately 8 degrees Celsius ( $^{\circ}\text{C}$ ) during winter months to highs of  $30^{\circ}\text{C}$  during the summer months. Depth in Gunston Cove ranges from approximately 1.0 meter (m) in the northern region to approximately 2.25 m in the center. Given the low salinity, adult and juvenile EFH species are not expected to occur in the proposed action area, or would occur in low densities, as these species prefer high salinity zones (greater than 10 ppt) of the Chesapeake Bay and low water temperatures (below  $10^{\circ}\text{C}$ ) (New England Fishery Management Council & NMFS, 2017). Water temperatures and salinity levels in Gunston Cove are also anticipated to be outside of ideal conditions for spawning and larval stages of Red Hake (below  $10^{\circ}\text{C}$  and above 0.5 ppt).

In-water activities associated with the removal of the three structures in Gunston Cove would result in demolition-related disturbances (including increased turbidity, physical disturbance, and noise/vibration) that may cause short-term adverse impacts on aquatic species and habitats. Removal activities would be temporary and localized to a small area, allowing adult and juvenile individuals to move out of affected areas. More information can be found in the *NOAA Fisheries EFH Assessment Worksheet* (see **Attachment 1**).

### **Conclusion**

Because EFH species are unlikely to be present in the proposed action area and impacts on habitat would be short-term, any potential adverse impacts would be insignificant. Thus, USACE anticipates that the proposed action *may affect, but is unlikely to adversely affect* EFH, particularly with the implementation of best management practices (BMPs) during construction. BMPs would include the use of containment booms and turbidity barriers, erosion and sediment control and construction stormwater management measures, and seasonal restrictions, as appropriate, in accordance with permit conditions to further avoid or minimize impacts on aquatic species and habitat.

USACE requests NOAA Fisheries' review and concurrence with the effects determination stated in this letter. Please advise if there are any further actions needed to facilitate the implementation of the proposed action in a manner that avoids or minimizes adverse effects on EFH species or habitat.

Please direct any correspondence regarding this request to my attention at:

Project Manager – Environmental and Munitions Design Center  
U.S. Army Corps of Engineers, Baltimore District (CENAB-ENE-C)  
2 Hopkins Plaza  
09-A-10 (Cube)  
Baltimore, Maryland 21201

Should you require any further information concerning this project, feel free to contact me directly at [REDACTED].

Sincerely,

*Brenda M. Barber, P.E.*  
Brenda M. Barber, P.E.

Enclosures

**References:**

New England Fishery Management Council & NMFS. (2017). Omnibus Essential Fish Habitat, Amendment 2, Volume 2: EFH and HAPC Designation Alternatives and Environmental Impacts. Retrieved from [https://www.habitat.noaa.gov/application/efhmapper/oa2\\_efh\\_hapc.pdf#page=36](https://www.habitat.noaa.gov/application/efhmapper/oa2_efh_hapc.pdf#page=36).

**Enclosures:**

Figure 1: Project Location Map

Figure 2: Proposed Action Map

Attachment 1: EFH Assessment Worksheet



FIGURE 1







**ATTACHMENT 1**  
**NOAA FISHERIES**  
**GREATER ATLANTIC REGIONAL FISHERIES OFFICE**  
**Essential Fish Habitat (EFH) Consultation Guidance**  
**EFH ASSESSMENT WORKSHEET**

**Introduction:**

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates that federal agencies conduct an essential fish habitat (EFH) consultation with NOAA Fisheries regarding any of their actions authorized, funded, or undertaken that may adversely affect EFH. An adverse effect means any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

This worksheet has been designed to assist in determining whether a consultation is necessary and in preparing EFH assessments. This worksheet should be used as your EFH assessment or as a guideline for the development of your EFH assessment. At a minimum, all the information required to complete this worksheet should be included in your EFH assessment. If the answers in the worksheet do not fully evaluate the adverse effects to EFH, we may request additional information in order to complete the consultation.

An expanded EFH assessment may be required for more complex projects in order to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, the analysis outlined in this worksheet should be included for an expanded EFH assessment, along with additional information that may be necessary. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects
- the views of recognized experts on the habitat or the species that may be affected
- a review of pertinent literature and related information
- an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH.

**Your analysis of adverse effects to EFH under the MSA should focus on impacts to the habitat for all life stages of species with designated EFH, rather than individual responses of fish species. Fish habitat includes the substrate and benthic resources (e.g., submerged aquatic vegetation, shellfish beds, salt marsh wetlands), as well as the water column and prey species.**

Consultation with us may also be necessary if a proposed action results in adverse impacts to other NOAA-trust resources. Part 6 of the worksheet is designed to help assess the effects of the action on other NOAA-trust resources. This helps maintain efficiency in our interagency coordination process. In addition, further consultation may be required if a proposed action impacts marine mammals or threatened and endangered species for which we are responsible. Staff from our Greater Atlantic Regional Fisheries Office, Protected Resources Division should be contacted regarding potential impacts to marine mammals or threatened and endangered species.

## Instructions for Use:

Federal agencies must submit an EFH assessment to NOAA Fisheries as part of the EFH consultation. Your EFH assessment must include:

- 1) A description of the proposed action.
- 2) An analysis of the potential adverse effects of the action on EFH, and the managed species.
- 3) The federal agency's conclusions regarding the effects of the action on EFH.
- 4) Proposed mitigation if applicable.

In order for this worksheet to be considered as your EFH assessment, you must answer the questions in this worksheet fully and with as much detail as available. Give brief explanations for each answer.

Federal action agencies or the non-federal designated lead agency should submit the completed worksheet to NOAA Fisheries Greater Atlantic Regional Fisheries Office, Habitat Conservation Division (HCD) with the public notice or project application. Include project plans showing existing and proposed conditions, all waters of the U.S. on the project site, with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked and sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom habitat areas and shellfish beds, as well as any available site photographs.

For most consultations, NOAA Fisheries has 30 days to provide EFH conservation recommendations once we receive a complete EFH assessment. Submitting all necessary information at once minimizes delays in review and keeps review timelines consistent. Delays in providing a complete EFH assessment can result in our consultation review period extending beyond the public comment period for a particular project.

The information contained on the [HCD Consultation website](#) and [NOAA's EFH Mapper](#) will assist you in completing this worksheet. Please note that the Mapper is currently being up-dated with new designations and EFH maps and text descriptions for many species are temporarily missing. When you open the Mapper, read the **WARNING** that pops up when you click on the Greater Atlantic Region. It will direct you to a document with maps and text descriptions for each of the missing New England Species and to the Mapper's [Data Inventory](#) where a data layer for all the missing species is available for downloading into GIS software. Once the Mapper is up-dated, you can do a [Location Query](#) for your project location, but until then, the only way to easily generate a list of the missing species and life stages is to use your own GIS software. Before you fill out the worksheet, we recommend that you check with the appropriate [HCD staff member](#) to ensure that your list is complete and accurate. They will be able to answer any questions that you have.

Also note that a number of new Habitat Areas of Particular Concern (HAPCs) have been designated in the Greater Atlantic Region. HAPC maps will also be added to the Mapper the next time it is up-dated. Currently, they can be viewed by following the instructions on the warning page for the region. We expect the Mapper to be fully up-dated and functional later this spring.



## EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 3/2016)

**PROJECT NAME:** Environmental Assessment for the SM-1 Reactor Facility Decommissioning at U.S. Army Garrison Fort Belvoir, Fairfax County, VA

**DATE:** 01/31/2019

**PROJECT NO.:** N/A

**LOCATION (Water body, county, physical address):**

Gunston Cove of the Potomac River, Building 372, Fort Belvoir, Fairfax County, Virginia

**PREPARER:** AECOM on behalf of US Army Corps of Engineers Baltimore District

**Step 1:** Use [NOAA's EFH Mapper](#) to generate the list of designated EFH for federally-managed species and life stages for the geographic area of interest. Use this list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. The list can be included as an attachment to the worksheet. Make a preliminary determination on the need to conduct an EFH consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	Yes	No
<p><b>Is the action located in or adjacent to EFH designated for eggs?</b></p> <p><b>List the species:</b></p> <p>Red Hake</p>	<input checked="checked" type="checkbox"/>	<input type="checkbox"/>
<p><b>Is the action located in or adjacent to EFH designated for larvae?</b></p> <p><b>List the species:</b></p> <p>Red Hake</p>	<input checked="checked" type="checkbox"/>	<input type="checkbox"/>
<p><b>Is the action located in or adjacent to EFH designated for juveniles?</b></p> <p><b>List the species:</b></p> <p>Atlantic Herring Clearnose Skate Red Hake Summer Flounder Windowpane Flounder</p>	<input checked="checked" type="checkbox"/>	<input type="checkbox"/>

<p><b>Is the action located in or adjacent to EFH designated for adults or spawning adults? List the species:</b></p> <p>Atlantic Herring          Cleurnose Skate          Little Skate          Red Hake          Summer Flounder          Windowpane Flounder          Winter Skate</p>	<input checked="checked" type="checkbox"/>	<input type="checkbox"/>
<p>If you answered 'no' to all questions above, then an EFH consultation is not required - go to Section 5.</p> <p>If you answered 'yes' to any of the above questions, proceed to Section 2 and complete the remainder of the worksheet.</p>		

**Step 2:** In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Identify the sources of the information provided and provide as much description as available. These should not be yes or no answers. Please note that there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts. Project plans that show the location and extent of sensitive habitats, as well as water depths, the HTL, MHW and MLW should be provided.

2. SITE CHARACTERISTICS	
Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	The site is intertidal and subtidal.
What are the sediment characteristics?	The sediment is predominantly silt, sand, and gravel substrates.
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the SAV species and spatial extent.	SAV has been mapped in the area by the Virginia Institute of Marine Science and USGS. Species identified in surveys include Hydrilla verticillata, Heteranthera dubia, Najas minor, Najas minor, Ceratophyllum demersum, Vallisneria americana, and Najas guadalupensis.
Are there wetlands present on or adjacent to the site? If so, describe the spatial extent and vegetation types.	There are wetlands adjacent to the site along drainages to the northwest of the project site. The dominant classification of wetlands is palustrine forested wetlands. The Proposed Action would not permanently adversely impact any wetlands.



<b>Is there shellfish present at or adjacent to the project site? If so, please describe the spatial extent and species present.</b>	No
<b>Are there mudflats present at or adjacent to the project site? If so please describe the spatial extent.</b>	No.
<b>Is there rocky or cobble bottom habitat present at or adjacent to the project site? If so, please describe the spatial extent.</b>	No
<b>Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so for which species, what type habitat type, size, characteristics?</b>	No.
<b>What is the typical salinity, depth and water temperature regime/range?</b>	Mean salinity in this section of the Potomac River ranges from approximately 0.08 ppt to 0.24 ppt depending on freshwater flows from Accolink and Pohick Creeks and tidal influence from the Potomac River, with higher salinity during the late summer and fall seasons. Mean water temperatures range from approximately 8°C to during winter months to highs of 30°C during the summer months. Depth in Gunston Cove ranges from approximately 1.0 m in the norther region to approximately 2.25 m in the center.
<b>What is the normal frequency of site disturbance, both natural and man-made?</b>	The SM-1 Reactor is no longer operational. As a result, the substrates and habitat around the water outfall pipe, pump house, and pier have not been disturbed for O&M purposes since the mid-1970's.
<b>What is the area of proposed impact (work footprint &amp; far afield)?</b>	The water outfall pipe, pump house, and pier occupy approximately 4,200 square feet. These areas would experience direct impacts from the removal of these structures. Additional disturbance is anticipated within approximately 100 feet of each structure. In addition barge-mounted cranes/heavy equipment would operate within an approximate 8.8-acre area in the water around the structures during removal.

**Step 3:** This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	Y	N	Description
Nature and duration of activity(s). Clearly describe the activities proposed and the duration of any disturbances.			The Proposed Action includes removal of a water discharge pipe, pumphouse, and pier. Removal of the water intake pump house and pier, which extends from the shoreline to approximately 100 feet into Gunston Cove, would likely require the use of a barge-mounted crane and other vessels to give the demolition crew and equipment access to the structures. Superstructures would be removed first, followed by the piles if they are found to be structurally sound. If the piles are found to be in a condition that would not allow for complete removal, they may be cut at the mudline and the portions below the cut would be left in place. A boom/turbidity curtain would be put in place around the work area to limit turbidity increases downstream, to prevent the migration of disturbed sediment into the water column, and to ensure disturbed sediments settle near their original location.
Will the benthic community be disturbed? If no, why not? If yes, describe in detail how the benthos will be impacted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The benthic community adjacent to (within 100 feet of) the water outfall pipe, pump house, and pier would experience short-term impacts from disturbance to sediments by heavy equipment during removal. These structures occupy approximately 4,200 square feet of area. Following removal, the area would be allowed to recover naturally. In addition, the area of available benthic habitat would increase and expand to areas formerly occupied by the structures.
Will SAV be impacted? If no, why not? If yes, describe in detail how the SAV will be impacted. Consider both direct and indirect impacts. Provide details of any SAV survey conducted at the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SAV in the proposed project area will experience direct and indirect impacts associated with the removal of the structures. SAV adjacent to (within 100 feet of) the structures could be damaged or killed during the demolition and removal process. SAV in the 8.8-acre work area could be damaged by the movement of barge-mounted equipment in the area. Following removal, the area would be allowed to recover and additional habitat would be available in the area formerly occupied by the structures.
Will salt marsh habitat be impacted? If no, why not? If yes, describe in detail how wetlands will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are no salt marsh wetlands in the proposed project area.

<p>Will mudflat habitat be impacted? If no, why not? If yes, describe in detail how mudflats will be impacted. What is the aerial extent of the impacts? Are the effects temporary or permanent?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>None present.</p>
<p>Will shellfish habitat be impacted? If so, provide in detail how the shellfish habitat will be impacted. What is the aerial extent of the impact? Provide details of any shellfish survey conducted at the site.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>None present.</p>
<p>Will hard bottom (rocky, cobble, gravel) habitat be impacted at the site? If so, provide in detail how the hard bottom will be impacted. What is the aerial extent of the impact?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>None present.</p>
<p>Will sediments be altered and/or sedimentation rates change? If no, why not? If yes, describe how.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Removal/demolition activities will cause a short-term localized disturbance in bottom sediments and cause a temporary increase in suspended sediment and turbidity. A boom/turbidity curtain will be used to limit the spread of suspended materials. Any adverse impacts would be temporary and less-than-significant, and further minimized through BMPs.</p>
<p>Will turbidity increase? If no, why not? If yes, describe the causes, the extent of the effects, and the duration.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>See above.</p>

<p>Will water depth change? What are the current and proposed depths?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>No change will occur.</p>
<p>Will contaminants be released into sediments or water column? If yes, describe the nature of the contaminants and the extent of the effects.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>No.</p>
<p>Will tidal flow, currents, or wave patterns be altered? If no, why not? If yes, describe in detail how.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>No.</p>
<p>Will water quality be altered? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration of the impact.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Short-term, less-than-significant, adverse impacts to water quality from increased turbidity during demolition of structures could occur, as previously mentioned. Impacts would be temporary and further minimized through BMPs.</p>
<p>Will ambient noise levels change? If no, why not? If yes, describe in detail how. If the effects are temporary, describe the duration and degree of impact.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There would be short-term, less-than-significant increases to noise during demolition; however, there would be no long-term changes to noise levels. Noise levels are anticipated to be elevated intermittently during an approximately 45-day period.</p>
<p>Does the action have the potential to impact prey species of federally managed fish with EFH designations?</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Prey species may experience temporary displacement during construction activities. However, the Proposed Action area is small in relative to the amount of habitat available to prey species. Further, long-term beneficial impacts could occur from the greater amount of habitat that will be available following demolition.</p>



**Step 4:** This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species (from the list generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. NOAA's [EFH Mapper](#) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted
Will functions and values of EFH be impacted for:			
<u>Spawning</u> If yes, describe in detail how, and for which species. Describe how adverse effects will be avoided and minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The EFH mapper indicates spawning habitat for Red Hake. However, water temperatures in Gunston Cove are anticipated to be above ideal water temperatures for spawning (water temperature below 10°C) during the peak spawning period for the species (May-November).
<u>Nursery</u> If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The EFH mapper indicates larval fish habitat for Red Hake. However, the ideal salinity in Gunston Cove is typically below the preferred salinity for the larval life stage of this species (0.5 ppt).
<u>Forage</u> If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The EFH mapper indicated that habitat may be present for juvenile and/or adult Atlantic herring, red hake, clearnose skate, little skate, winter skate, summer flounder, and windowpane flounder. With the implementation of BMPs to minimize impacts and the short duration of disturbance, there would be little to no adverse impact to managed fish species during foraging. Therefore, the Proposed Action may affect but is unlikely to adversely affect managed species during foraging.
<u>Shelter</u> If yes, describe in detail how and for which species. Describe how adverse effects will be avoided and minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SAV and woody debris are present in the project area and could provide cover for fish species. Disturbance to cover immediately adjacent to the structures being demolished could occur during removal of structures. A boom/turbidity curtain will be used to limit the spread of suspended materials beyond the estimated 8.8-acre work area and 4,200 sq. ft. removal area. Following removal, habitat would be expected to naturally restore to pre-disturbance conditions.

<p><b>Will impacts be temporary or permanent? Please indicate in description box and describe the duration of the impacts.</b></p>			<p>Temporary impacts, such as turbidity and noise increases, would occur during demolition/removal activities of in-water structures. Impacts are anticipated to occur intermittently during an approximately 45-day period.</p>
<p><b>Will compensatory mitigation be used? If no, why not? Describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation plan, if applicable.</b></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>No. BMPs will be used to limit the potential for impacts during removal. Impacts to EFH will be short-term and localized. The area will revert to pre-disturbance conditions following completion of the project. In addition, a small amount of new habitat, currently occupied by the structures, will be created.</p>

**Step 5:** This section provides the federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

Please note: if information provided in the worksheet is insufficient to allow NOAA Fisheries to complete the EFH consultation additional information will be requested.

## 5. DETERMINATION OF IMPACT

### Federal Agency's EFH Determination

<p>Overall degree of adverse effects on EFH (not including compensatory mitigation) will be:</p> <p>(check the appropriate statement)</p>	<input type="checkbox"/>	<p>There is no adverse effect on EFH or no EFH is designated at the project site.</p> <p><b>EFH Consultation is not required.</b></p>
	<input checked="" type="checkbox"/>	<p>The adverse effect on EFH is not substantial. This means that the adverse effects are either no more than minimal, temporary, or that they can be alleviated with minor project modifications or conservation recommendations.</p> <p><b>This is a request for an abbreviated EFH consultation.</b></p>
	<input type="checkbox"/>	<p>The adverse effect on EFH is substantial.</p> <p><b>This is a request for an expanded EFH consultation.</b></p>



Step 6: Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats as part of the Fish and Wildlife Coordination Act. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

<b>6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT</b>	
<b>Species known to occur at site (list others that may apply)</b>	<b>Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat). Please note, impacts to federally listed species of fish, sea turtles, and marine mammals must be coordinated with the GARFO Protected Resources Division.</b>
<b>alewife</b>	Potential spawning and larval cover and foraging habitat is present and could be disrupted by removal activities. The species could be present in the spring and summer.
<b>American eel</b>	Potential cover and foraging habitat for adult eel is present and could be disrupted by removal activities.
<b>American shad</b>	Potential spawning and larval cover and foraging habitat is present and could be disrupted by removal activities. The species could be present in the spring and summer.
<b>Atlantic menhaden</b>	Potential forage and cover habitat for juvenile menhaden is present and could be disrupted by removal activities.
<b>blue crab</b>	Potential nursery and juvenile habitat is present for blue crab and could be disrupted by removal activities.
<b>blue mussel</b>	Blue mussel is unlikely to be present given the low salinity in Gunston Cove.
<b>blueback herring</b>	Potential spawning and larval cover and foraging habitat is present and could be disrupted by removal activities. The species could be present in the spring and summer.

<b>Eastern oyster</b>	Oyster is unlikely to be present given the lack of hard substrate and low salinities in the project area.
<b>horseshoe crab</b>	Horseshoe crab is unlikely to be present given the low salinity in Gunston Cove.
<b>quahog</b>	Quahog is unlikely to be present given the low salinity in Gunston Cove.
<b>soft-shell clams</b>	Soft-shell clams are unlikely to be present given the low salinity in Gunston Cove.
<b>striped bass</b>	Striped bass eggs and larvae could occur in the project area and could be disrupted by removal activities.
<b>other species:</b>	N/A



## Useful Links

[National Wetland Inventory Maps](#)

[EPA's National Estuaries Program](#)

[Northeast Regional Ocean Council \(NROC\) Data](#)

[Mid-Atlantic Regional Council on the Ocean \(MARCO\) Data](#)

## Resources by State:

### Maine

[Eelgrass maps](#)

[Maine Office of GIS Data Catalog](#)

[Casco Bay Estuary Partnership](#)

[Maine GIS Stream Habitat Viewer](#)

### New Hampshire

[New Hampshire's Statewide GIS Clearinghouse, NH GRANIT](#)

[New Hampshire Coastal Viewer](#)

### Massachusetts

[Eelgrass maps](#)

[MADMF Recommended Time of Year Restrictions Document](#)

[Massachusetts Bays National Estuary Program](#)

[Buzzards Bay National Estuary Program](#)

[Massachusetts Division of Marine Fisheries](#)

[Massachusetts Office of Coastal Zone Management](#)

### Rhode Island

[Eelgrass maps](#)

[Narraganset Bay Estuary Program](#)

[Rhode Island Division of Marine Fisheries](#)

[Rhode Island Coastal Resources Management Council](#)

**Connecticut**

[Eelgrass Maps](#)

[Long Island Sound Study](#)

[CT GIS Resources](#)

[CT DEEP Office of Long Island Sound Programs and Fisheries](#)

[CT Bureau of Aquaculture Shellfish](#)

[Maps CT River Watershed Council](#)

**New York**

[Eelgrass report](#)

[Peconic Estuary Program](#)

[NY/NJ Harbor Estuary](#)

**New Jersey**

[Submerged Aquatic Vegetation mapping](#)

[Barnegat Bay Partnership](#)

**Delaware**

[Partnership for the Delaware Estuary](#)

[Center for Delaware Inland Bays](#)

**Maryland**

[Submerged Aquatic Vegetation mapping](#)

[MERLIN](#)

[Maryland Coastal Bays Program](#)

**Virginia**

[Submerged Aquatic Vegetation mapping](#)