

**FINDING OF SUITABILITY TO TRANSFER**

**NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA  
(APPROXIMATELY 55.12 ACRES)**



**Prepared by:**

**Department of the Navy  
Base Realignment and Closure  
Program Management Office Northeast  
4911 S. Broad Street  
Philadelphia, Pennsylvania 19112**

**March 2012**

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**TABLE OF CONTENTS**

<u><b>SECTION</b></u>	<u><b>PAGE</b></u>
<b>1.0 PURPOSE.....</b>	<b>1</b>
<b>2.0 PROPERTY DESCRIPTION.....</b>	<b>1</b>
<b>3.0 SUMMARY OF ENVIRONMENTAL REQUIREMENTS AND NOTIFICATION .....</b>	<b>3</b>
A.    Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)....	4
B.    Resource Conservation and Recovery Act (RCRA) .....	7
C.    Presence of Petroleum Products and Derivatives .....	8
D.    Underground/Aboveground Storage Tanks .....	8
E.    Munitions and Explosives of Concern (MEC) .....	8
F.    Asbestos-Containing Material (ACM).....	8
G.    Lead-Based Paint (LBP), Target Housing and Residential Property.....	10
H.    Polychlorinated Biphenyls (PCBs) .....	10
I.    Environmental Restrictions, Provisions, and Conditions .....	11
J.    Environmental Compliance Agreements/Permits/Orders .....	14
K.    Availability of References.....	14
L.    Notification to Regulatory Agencies/Public .....	15
<b>4.0 FINDING OF SUITABILITY TO TRANSFER .....</b>	<b>16</b>

**EXHIBITS**

- A    References
- B    Site Map
- C    Legal Description and Survey Map
- D    Interview Forms, Floor Plans, and Site Inspection Photographs
- E    CERCA Hazardous Substance Notice
- F    Hazard Advisory Statements
- G    Comments and Responses

**FINDING OF SUITABILITY TO TRANSFER  
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SHENANDOAH WOODS HOUSING COMPLEX  
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**1.0 PURPOSE**

This Finding of Suitability to Transfer (FOST) summarizes how the requirements and notifications for hazardous substances, petroleum products and other regulated material on the property have been satisfied, and documents my determination, as the responsible Department of Defense (DoD) component official, that certain real property and associated improvements known as Shenandoah Woods Housing Complex, Warminster, Pennsylvania (hereafter Subject Property) is environmentally suitable for deed transfer. This real property is associated with the former Naval Air Station Joint Reserve Base (NASJRB), Willow Grove, Pennsylvania.

**2.0 PROPERTY DESCRIPTION**

The Subject Property is located in Warminster, Pennsylvania (Exhibit B). Navy-owned property which is the subject of this FOST consists of approximately 55.12 acres of land. The Subject Property includes two adjoining parcels: Parcel 1 (51.23 acres) developed with the Shenandoah Woods Housing complex, and Parcel 2 (3.89 acres) improved with a ball field. Improvements on Parcel 1 include 40 buildings comprised of four, five, or six unit, two-story townhouse apartments built in 1974. There are 149 three-bedroom units approximately 1,262 square feet in size and 50 four-bedroom units approximately 1,373 square feet in size. The townhomes are standard wood frame construction with concrete slab on grade foundations. All of the units were renovated during 1994 and 1995. Parcel 1 is also improved with a building for the on-site maintenance contractor constructed in 1975, a convenience store (mini-mart) which was built in 1980, and several recreation areas. Parcel 2 contains only a ball field.

Prior to 1943, the Subject Property consisted of farmland and woods. The Naval Air Material Unit (NAMU), established in 1943 in Warminster, Pennsylvania, is where the United States Navy (Navy) coordinated its activities with the National Defense Research Committee and the Special Weapons Experimental Tactical Test Unit. The NAMU Warminster was designated the Naval Air Development Station (NADS) Warminster, prior to being changed to the Naval Air Development Center (NADC) Warminster in 1949 (Navy, 1999). During the period of development and expansion of NADC Warminster (1940s to 1960s), the land comprising the Subject Property remained undeveloped. Farming uses ceased around 1960. The Subject Property was then maintained as a grassy buffer associated with the airfield at NADC Warminster until the Shenandoah Woods housing units were constructed in 1974.

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
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WARMINSTER, PENNSYLVANIA**

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Aldie Foundation "Notice of Intent" (NOI) to serve homeless persons for a period of thirty years or pay the Aldie Foundation (Provider) a fixed sum of three hundred fifty thousand dollars as an accommodation to allow the Aldie Foundation to provide addiction treatment services for homeless individuals at another location.

The Aldie Foundation NOI states that they will acquire five buildings containing 20 residential housing units at Shenandoah Woods to accommodate an average of 10 families and 16 individuals, a full time resident advisor/supervisor, and clinical support programming. This "Passage Program" will provide long term family transitional housing as a final step toward an individual's and family's road to recovery from chemical dependency. The 20 units to be conveyed were identified in the NOI.

The Warminster Township NOI includes transfer of 26 acres of wooded land and conservation district as well as five buildings in the southwest corner of the Subject Property. Warminster Township plans to demolish these five buildings to develop a water feature/detention pond. The other uses for this 26 acre land area include open space, parks, and storm water management areas (HLRA, 2011a).

The remaining 29 acres, minus the buildings to be conveyed to the Aldie Foundation, will be developed for single family detached and two family semi-detached homes. Forty seven existing townhomes will be demolished to accommodate 25 new single family detached homes. Existing building footings and foundations, selected sidewalks, curbs, and roads will be reused. Thirty nine existing townhomes will be demolished to create 88 semi-detached homes. Existing building footings, foundations, sidewalks, curbing, and all roads will be reused in this part of the development (HLRA, 2011a).

Exhibit C is the legal description and survey of the Subject Property. Exhibit D contains the interview forms from the 25 March 2009 site visit associated with this FOST, building floor plans, and the photographs taken during the March 2009 site visit.

### **3.0 SUMMARY OF ENVIRONMENTAL REQUIREMENTS AND NOTIFICATION**

All available information concerning the past storage, release, or disposal of hazardous substances and/or petroleum products on the Subject Property, as collected through record



**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

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CERCLA hazardous substances. Exhibit B contains a figure showing the location of Sites 5, 6, and 7 relative to the Subject Property.

Thirty-six surface soil and 55 subsurface soil samples were taken in the area of Site 5 as part of the RI. Low levels of the volatile organic compound (VOC) trichloroethylene (TCE) were found in 15% of surface soil samples. In surface soils, copper, lead, vanadium, as well as benzo(a)pyrene in two samples and the PCB Aroclor-1254 in three samples were detected above the Risk Based Concentrations (RBCs) protective of residential land use. Arsenic, copper, lead, and vanadium exceeded their respective RBCs at one or more subsurface soil sample locations. Also, Aroclor-1254 (at two locations) and several PAHs (at one location) exceeded residential RBCs indicating that a release may have occurred at some point in time, but quantities are unknown.

The RI Reports for these IR sites, which included the western portion of the Subject Property, identified Area B or Operable Unit 1B (OU-1B, groundwater) (Navy, 2000a) and Operable Unit 10 (OU-10, soil) (Navy, 2000b) as areas of concern and included an assessment of any risk to human health and the environment. Risks posed to human health by surface and subsurface soils at Site 5, as well as Area B surface water and sediment, were found to be within the acceptable risk range for lifetime residential exposure scenarios. The Navy, in conjunction with the United States Environmental Protection Agency (USEPA) and Pennsylvania Department of Environmental Protection (PADEP), issued a No Further Action Record of Decision (ROD) for OU-1B (groundwater) in August 2000 and a No Further Action ROD for OU-10 (soil) in September 2000, indicating that no further action is necessary at either OU to be protective of human health and the environment.

In 2007, additional sediment samples were collected, as part of ongoing NAWC Warminster IRP monitoring activities of OU-10 to confirm there are no impacts on the sediments from Area B as required in the No Further Action ROD (Navy, 2000b). Samples were collected to expand on previous characterization of the creek and to determine whether additional sources of contamination were present. The report concluded that the overall pattern of contaminant distribution and concentrations suggests that Site 5 impacts on sediment are minimal. USEPA and PADEP concurrence

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

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volatile organic compounds (VOC) in the vicinity of the excavations however no readings above background were detected. A large metal object was encountered a few inches beneath the surface. Upon further excavation it was not apparent whether this was a crushed drum or some other large crushed metal object. The metal object was removed from the excavation. Samples were taken from the soil surrounding the object as well as from a solid tar like substance found on the bottom of the object. Sampling analysis revealed that only the tar like substance and one soil sample had semi-volatile organic compounds (SVOC) above the detection limits. The location of the drum coincides with samples previously collected during the Remedial Investigation (RI) of Site 5 which did not exceed action levels. The excavations were backfilled after samples were collected and all debris collected was properly disposed. The debris encountered during the investigation did not indicate the presence of contamination in this area.

CERCLA Covenant: In accordance with CERCLA Section 120(h)(3)(A)(ii), the deed transferring the Subject Property shall contain a covenant warranting that all remedial action necessary to protect human health and the environment with respect to any hazardous substances remaining on the property have been taken before the date of transfer, and any additional remedial action found to be necessary after the date of transfer shall be conducted by the United States.

CERCLA Access Clause: In accordance with CERCLA Section 120(h)(3)(A)(iii), the deed transferring the Subject Property shall contain a clause granting to the United States, its officers, agents, employees, contractors, and subcontractors the right to enter upon the transferred property in any case in which remedial action or corrective action is found to be necessary after the date of transfer or such access is necessary to carry out a response action or corrective action on an adjoining property.

**B. Resource Conservation and Recovery Act (RCRA)**

Based on available information reviewed for this FOST, there are no records of any hazardous waste generation activity or hazardous waste accumulation or storage activity on the Subject Property, except those noted under Section 3A, above.

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

An ACM inspection of the Shenandoah Woods housing area was completed from April 2011 to August 2011. The inspection included a survey of all 199 residential housing units, as well as the storage shed and the mini-mart non-residential structures. A total of 1,622 suspect ACM samples were collected and analyzed from the interiors of the housing units and garages, and from associated exteriors (e.g., roofing material). The presence of ACM was identified in two primary materials present in nearly all of the residences, a black sink undercoating, and adhesive coatings underlying renovated vinyl floor tiles and/or wood parquet floors. The floor adhesive that was identified as an ACM was designated as a hazard (e.g., damaged, friable, and accessible) at eleven locations in ten of the buildings as listed below. The findings of the ACM inspection are summarized in the Asbestos Inspection Summary Report (Michael Baker, 2011a).

<b>Building Number</b>	<b>Unit Number(s)</b>	<b>Material</b>	<b>Area in Square Feet</b>
415	607	Black floor adhesive under parquet flooring material	4422
417	617	Black floor adhesive under parquet flooring material	3721
421	1097, 1101, 1107	Black floor adhesive under parquet flooring material	4206
430	1097, 1103, 1105	Black floor adhesive under vinyl floor tile	3721
432	1119, 1127	Black floor adhesive under vinyl floor tile	2420
433	1131, 1139	Black floor adhesive under vinyl floor tile	2420
434	1146	Black floor adhesive under vinyl floor tile	1928
435	1134	Black floor adhesive under vinyl floor tile	2892
436	1116, 1118, 1120	Black floor adhesive under vinyl floor tile	2420
436	1116, 1120	Black floor adhesive under parquet flooring material	3721
437	1102	Black floor adhesive under vinyl floor tile	32

Of the twenty housing units set aside for conveyance to the Aldie Foundation, the 2011 ACM survey identified friable or damaged (hazard) ACM in two of the units, Units 607 and 617. It is likely that ACM in some or all of the remaining units will deteriorate further and become a hazard prior to transfer. Units not conveyed to the Aldie Foundation are planned for renovation or demolition, as specified in the Redevelopment Plan and Homeless Assistance Submission (HLRA, 2011a). Abatement of ACM in all housing units, including those with friable and damaged ACM, will be the responsibility of the Transferee.

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
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The records indicate PCBs were never stored, released or disposed of on the Subject Property.

**I. Environmental Restrictions, Provisions, and Conditions**

Based on the current environmental condition of the property as described in this FOST, the following restrictions, provisions and conditions, as a minimum, shall be included in the transfer deed for the Subject Property to ensure the protection of human health and the environment and to prevent the interruption of any environmental restoration activities to be conducted by the Navy, if required.

1. Notice Of Hazardous Substance Activity in accordance with 42 U.S.C. §9620(h)(3)(A)(i): Exhibit “\_” to this Quitclaim Deed provides information as to those hazardous substances which it is known, based upon GOVERNMENT’s complete search of its files, were stored for one (1) year or more, or were released or disposed of on the PROPERTY. The information contained in Exhibit “\_” is required under 42 U.S.C. § 9620(h)(3)(A)(i), and implementing EPA regulations at Title 40, Code of Federal Regulations, Part 373.
  
2. CERCLA Covenants: Pursuant to Section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9620(h)(3)(A)(ii) and (B)), the United States warrants that:
  - (a) All remedial action necessary to protect human health and the environment with respect to any hazardous substances identified pursuant to Section 120(h)(3)(A)(i)(I) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 remaining on the PROPERTY has been taken before the date of this deed, and
  - (b) Any additional remedial action found to be necessary after the date of this deed shall be performed by the United States.
  
3. Reservation of Access as Required by 42 U.S.C. §9620(h)(3)(A)(iii): The United States retains and reserves a perpetual and assignable easement and right of access on,

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

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4. Discovery of Previously Unknown Contamination: The GRANTEE, its successors and assigns, or their subcontractors, shall stop all work and notify the Navy immediately if previously unknown contamination, such as, but without limitation, buried debris, stained soil, unusual odors, is discovered during soil disturbing activity such as soil excavation, drilling, digging or other ground-disturbing activities, including disturbance of building slabs, roads and other structures and paved areas.
5. Presence of Asbestos: The GRANTEE, its successors, and assigns, covenant and agree that they will comply with all federal, state and local laws relating to ACM in their use of the building and structures included in this transfer. The GRANTOR assumes no new or further liability as a result of this transfer than it would otherwise have for losses, judgments, claims, demands or expenses, or damages of whatever nature or kind from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with ACM from the building, structures, and underground utilities included in this transfer. Due to the presence of known hazard ACM associated with housing units on the Subject Property, the Grantee is responsible for abatement of ACM in all housing units prior to their maintenance, renovation or demolition. Any invasive work performed by the GRANTEE must be conducted in accordance with applicable regulations and conducted by trained, properly-equipped personnel. The buildings included in this transfer will be transferred "as is" and asbestos hazards in said building will become the responsibility of the GRANTEE. The GRANTEE will be required to sign the Asbestos Hazard Disclosure and Acknowledgment Form included as Exhibit F of the FOST prior to execution of the transfer deed.
6. Presence of Lead-Based Paint: The GRANTEE, its successors, and assigns agree that they will comply with all federal, state, and local laws relating to LBP in their use of the building and structures included in this transfer (including demolition and disposal of existing improvements). The GRANTOR assumes no new or further liability as a result of this transfer than it would otherwise have for losses, judgments, claims, demands, expenses, or damages of whatever nature or kind from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with LBP from the building or structures

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHENANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

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**L. Notification to Regulatory Agencies/Public**

In accordance with Section C8.5.5.2 of the Base Redevelopment and Realignment Manual (DoD, 2006), the USEPA and the PADEP have been advised of the proposed transfer of the Subject Property, and copies of the CERFA Report (letter dated 23 April 2007) and this Draft FOST have been provided to PADEP and USEPA for review and comment. PADEP and USEPA indicated on February 27, 2012 that they had no comments on this Draft FOST (Exhibit G). A public notice of the Navy's intent to sign this FOST will be published at least 30 days prior to transfer by deed. Copies of all transfer documentation will be made available to the HLRA, the USEPA and PADEP upon request after execution of the same.

**Exhibit A**  
**References**



**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHANANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

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**REFERENCES**

- AMEC, 2006. Final Environmental Condition of Property Report for the Off-Base Housing Areas of the Naval Air Station Joint Reserve Base, Willow Grove, Pennsylvania. May.
- DoD, 2006. (Department of Defense, Office of the Deputy Undersecretary of Defense (Installations and Environment)) DoD 4165.66-M Base Redevelopment and Realignment Manual. Washington, D.C., March 1, 2006.
- HLRA, 2011a. Horsham Township Authority for NAS-JRB Willow Grove. Amendment and Supplement to the Redevelopment Plan and Homeless Assistance Submission. May.
- HLRA, 2011b. Horsham Township Authority for NAS-JRB Willow Grove. Legally Binding Agreement Among HLRA, Warminster Township, and Aldie Foundation, Inc. July.
- HUD (U.S. Department of Housing and Urban Development), 2011. Letter from Mark Johnston, Deputy Assistant Secretary for Special Needs, HUD to Michael McGee, Horsham Township Local Redevelopment Authority, re. Approval of Amendment and Supplement to the Redevelopment Plan, July
- Michael Baker Jr., Inc., 2011a. Asbestos Inspection Summary Report for NASJRB Willow Grove. October.
- Michael Baker Jr., Inc., 2011b. Lead-Based Paint Inspection Summary Report for NASJRB Willow Grove. October.
- Navy (Department of the Navy), 1997a. Asbestos Management Plan, Shenandoah Woods, Naval Air Station Joint Reserve Base Willow Grove, Warminster, Pennsylvania. Norfolk, Virginia. January.
- Navy, 1997b. Lead Management Plan, Shenandoah Woods, Naval Air Station Joint Reserve Base Willow Grove, Warminster, Pennsylvania. Norfolk, Virginia. January.
- Navy, 1999. Draft Environmental Baseline Survey, Naval Family Housing, Naval Air Station Willow Grove, Pennsylvania. Lester, Pennsylvania. August.

**FINDING OF SUITABILITY TO TRANSFER  
NAVAL AIR STATION JOINT RESERVE BASE – WILLOW GROVE  
SHANANDOAH WOODS HOUSING COMPLEX  
WARMINSTER, PENNSYLVANIA**

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Navy, 2000a. Record of Decision for OU 1B (Area B Groundwater), Naval Air Warfare Center, Warminster, Pennsylvania. August.

Navy, 2000b. Record of Decision for OU 10 (Site 5 Soil and Area B Surface Water/Sediment), Naval Air Warfare Center, Warminster, Pennsylvania. September.

TtNUS (Tetra Tech NUS, Inc.), 2007a. CERFA Identification of Uncontaminated Property at the Naval Air Station Joint Reserve Base, Willow Grove, Pennsylvania. Germantown, Maryland. April.

TtNUS, 2007b. Operable Unit 10 Sediment Sampling Report, Former Naval Warfare Center Warminster, Warminster, Pennsylvania. King of Prussia, Pennsylvania. October.

Willow Grove Housing Department, 2005. Shenandoah Woods Housing Condition Assessment. Naval Air Station Joint Reserve Base, Willow Grove, Pennsylvania.

**Exhibit B**

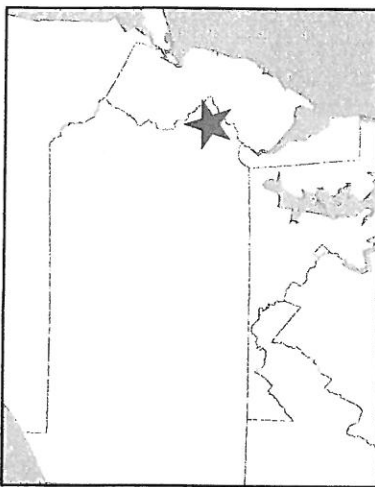
**Site Map**

**Location Map – Sites 5, 6 and 7**

## Site Map



**SITE LOCATION**



Background Imagery: Google 2007

**Legend**

-  Shenandoah Woods Housing Area

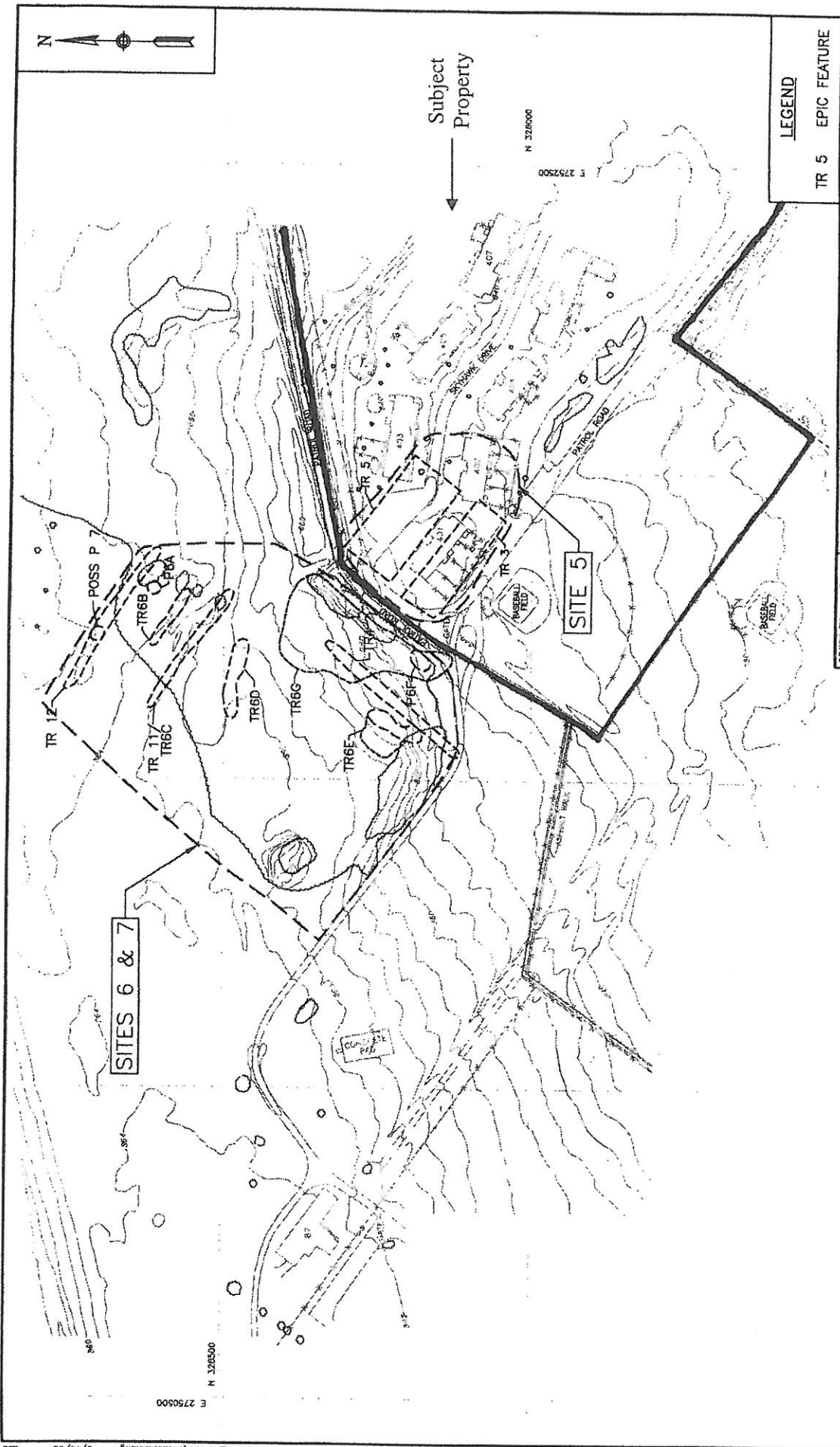


**Tetra Tech NUS, Inc**

**SHENANDOAH WOODS HOUSING  
WARMINSTER, PA**

FILE	Shenandoah Woods Housing Area_111811	SCALE	AS NOTED
FIGURE NUMBER	EXHIBIT B	REV	DATE
		2	11/18/11

**Location of Sites 5, 6, and 7  
Relative to the Subject Property**



CONTRACT NO.	1412
OWNER INC.	6010
APPROVED BY	RA
DATE	12/21/00
DRAWING NO.	FIGURE 1-3
REV.	

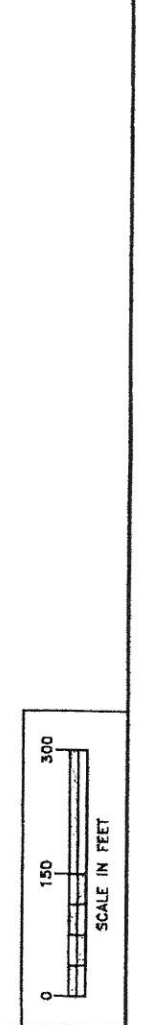
**LEGEND**

TR 5 EPIC FEATURE

**AREA B LAYOUT**  
FORMER NAWC WARMINSTER  
WARMINSTER, PENNSYLVANIA

**RT**  
**Tetra Tech**  
**NUS, Inc.**

DRAWN BY	LDL	DATE	7/7/00
CHECKED BY		DATE	
REVISED BY		DATE	
SCALE	AS NOTED		





**Exhibit C**  
**Legal Description and Survey Map**

Ludgate Engineering Corporation

Surveyors, Land Planners,  
Geotechnical Scientists

Robert B. Ludgate, Sr., PE, PLS, President  
Edwin H. Nordahl, II, PE, VP Engineering Services  
Robert B. Ludgate, Jr., VP Municipal Services  
Thomas B. Ludgate, PLS, VP Surveying Services  
Peter C. Eisenbrown, PE, VP Construction Services

Lincoln Corporate Center  
10 Vanguard Drive, Suite 90  
Reading, PA 19606  
610-404-7330  
610-404-7371 (Fax)  
1-888-646-6161 (Toll Free)  
www.ludgate-eng.com

June 30, 2009

Revised July 30, 2009

Deed Description

Shenandoah Woods Housing

ALL THAT CERTAIN parcel of ground with the improvements thereon on the southwest side of Bristol Road and the south of lands of Township of Warminster situate in Warminster Township, Bucks County, Pennsylvania shown on a Boundary Survey Plan of "Shenandoah Woods Housing" prepared by Ludgate Engineering Corporation Plan Number D-8400609 dated 6-30-09 and being more fully bounded and described as follows to WIT:

Parcel 1

BEGINNING at a P.K. on the southwestern right-of-way line of Bristol Road and a corner of the subdivision plan of Countryside Estates Plan Book Volume 147 pg 17B;  
Thence along Plan Book Volume 147 pg 17B and along Plan Book Volume 6 pg 49 and along Plan Book Volume 84 pg 5A South 45 degrees 04 minutes 22 seconds West 2697.77 feet to a point a corner of Plan Book Volume 25 page 39;  
Thence along Plan Book Volume 25 page 39 North 44 degrees 48 minutes 26 seconds West 1224.05 feet to a point a corner of Parcel 2;  
Thence along Parcel 2 North 44 degrees 50 minutes 39 seconds West 660.57 feet to a point a corner of lands of the Township of Warminster;  
Thence along lands of the Township of Warminster the three following courses and distances:

1. North 44 degrees 43 minutes 11 seconds East 169.62 feet to a point.
2. North 88 degrees 33 minutes 21 seconds East 2653.05 feet to a point.
3. North 45 degrees 05 minutes 10 seconds East 599.65 feet to a point on the right of way of Bristol Road.

Thence along the right of way of Bristol Road South 44 degrees 54 minutes 58 seconds East 59.85 feet to a P.K. the Place of BEGINNING.

CONTAINING: 51.23 Acres.

Parcel 2

BEGINNING at a point a corner of the subdivision of Briar Hill Farms, Inc. Plan Book Volume 25 pg 39 and a corner of Parcel #1;  
Thence along Plan Book Volume 25 pg 39 South 45 degrees 11 minutes 04 seconds West 261.95 feet to a point a corner of lands of Pennsylvania State University;  
Thence along lands of Pennsylvania State University the two following courses and distances:

1. North 46 degrees 43 minutes 19 seconds West 574.21 feet to a point.
2. North 23 degrees 13 minutes 17 seconds East 157.34 feet to a point a corner of lands of Warminster Township.

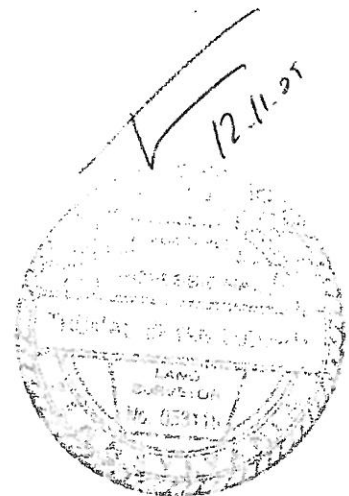
Thence along lands of the Township of Warminster North 33 degrees 31 minutes 04 seconds East 137.64 feet to a point. A corner of Parcel #1;  
Thence along Parcel #1 South 44 degrees 50 minutes 39 seconds East 660.57 feet to a point the Place of BEGINNING

CONTAINING: 3.89 Acres

the above referenced plan.

Being subject to the general notes from

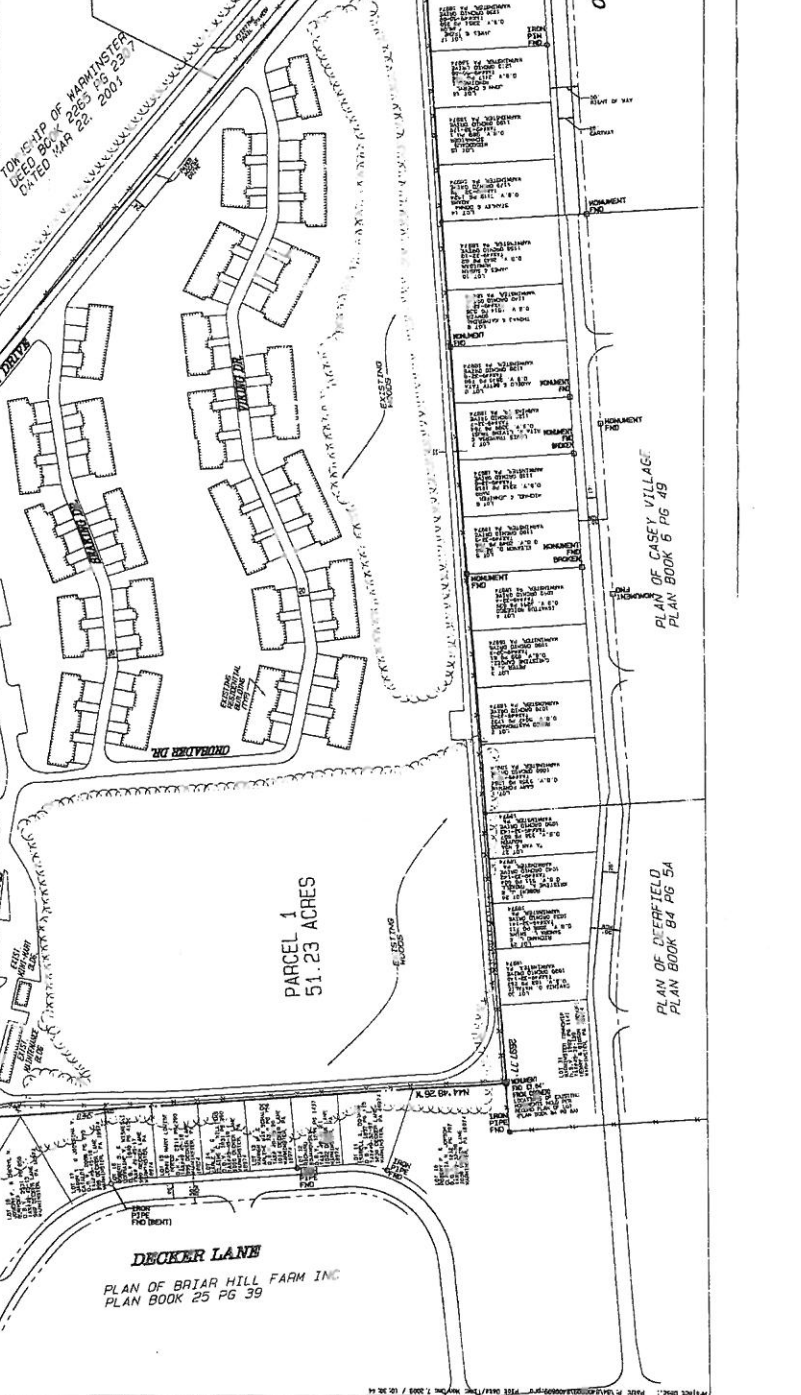
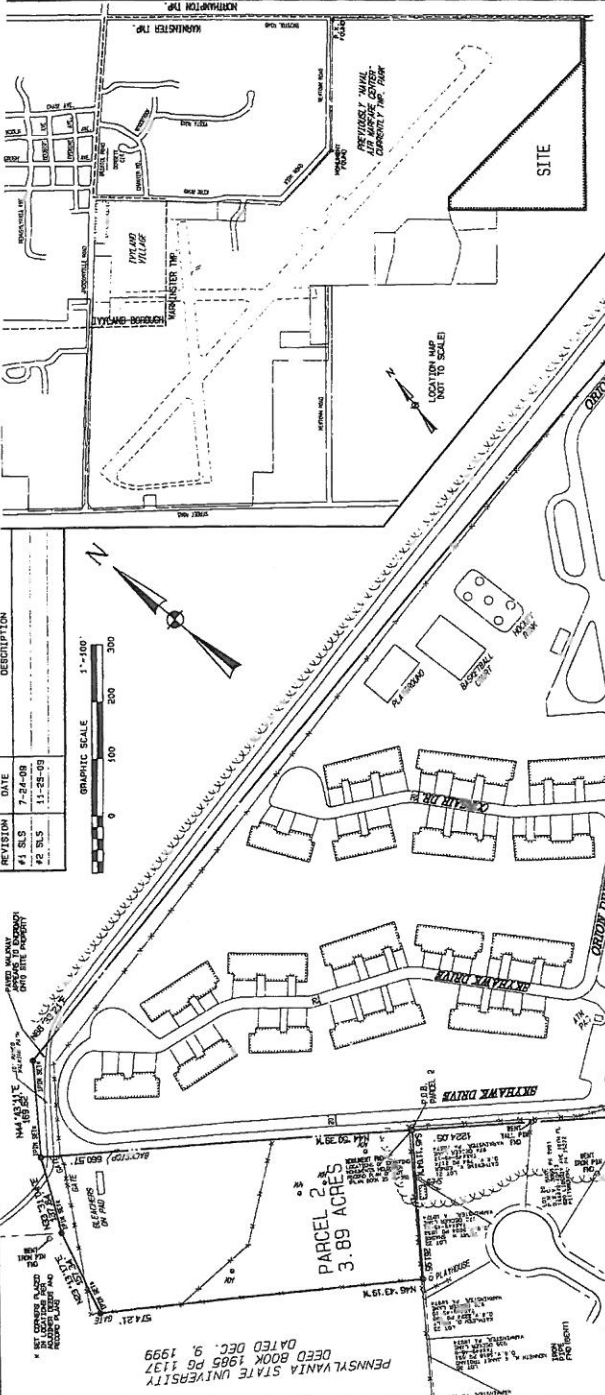
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# BOUNDARY SURVEY & LIMITED TOPOGRAPHIC SURVEY PLOT

STATE IN TOWNSHIP, BUCKLE COUNTY, PENNSYLVANIA	SHENANDOAH WOODS HOUSING Corporation 1500 CORPORATE CENTER PHILADELPHIA, PA. 19112	PREPARED FOR: NAVY BRAC PROGRAM MANAGEMENT OFFICE 1500 CORPORATE CENTER PHILADELPHIA, PA. 19112
LUDGATE ENGINEERING CORPORATION 1500 CORPORATE CENTER PHILADELPHIA, PA. 19112		
COMPUTER FILE NO. 1500-000000 DATE: 11-11-99 DRAWING NO. 1500-000000 SHEET NO. 1-109 SEE NOTES		

- ### NOTES
1. SITE PLAN FOR PARCEL 1 LIMITED AREA ONLY AND AREA NOT SURVEYED FOR THESE AREAS FOR GENERAL REFERENCE ONLY AND ARE NOT SUITABLE FOR CONSTRUCTION FIELD SURVEY OF 6-18-00.
  2. REFERENCES:
    - 1. BUCKLE COUNTY 24x MAPS
    - 2. RECORDS AS SHOWN
    - 3. STARBUCK HOME; REV 25 OR 32A
    - 4. PLAN OF BUCKLE COUNTY OF 1951
    - 5. PLAN OF BUCKLE COUNTY OF 1951
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  3. THE SITE BOUNDARY IS SHOWN PER THE LIMITS OF ADJACENT DEEDS AND RECORDS PLANS AND AS IT CURRENTLY EXISTS.
  4. SITE OWNER:
    - NAVY BRAC PROGRAM
    - 1500 CORPORATE CENTER
    - PHILADELPHIA, PA. 19112
    - TEL: 215-567-1111
    - FAX: 215-567-1111
  5. SITE AREA: PARCEL 1 = 51.23 ACRES ± 231.378 SQ. FT.  
 PARCEL 2 = 3.89 ACRES ± 168,117 SQ. FT.  
 TOTAL = 55.12 ACRES ± 2,399,495 SQ. FT.



**Exhibit D**

**Interview Forms, Floor Plans and Site Inspection Photographs**

## Interview Forms

**FINDINGS OF SUITABILITY TO TRANSFER  
INTERVIEW RECORD**

**SUBJECT PROPERTY NAME:**

Shenandoah Woods Housing Complex, Warminster, Pennsylvania (NASJRB Willow Grove)

**INTERVIEW DATE:**

25 March 2009

**INTERVIEWERS:**

Ms. Amy Stattel, Tetra Tech NUS, Inc.

Ms. Samantha Brenner, Tetra Tech NUS, Inc.

**PERSONS INTERVIEWED:**

Mr. John Floyd, Navy Housing Facilities Manager, NASJRB Willow Grove

**INTERVIEW LOCATION/SETTING:**

NASJRB Willow Grove, Housing Office, Building 148, FOST Kickoff Meeting  
(In Person) and  
Shenandoah Woods Housing Complex, FOST Site Visit (In Person)

**INTERVIEW LOG:**

Mr. Floyd was asked to provide information about any environmental issues or property conditions that have changed since the completion of the 2007 CERFA Report for NASJRB Willow Grove, which included CERFA assessment for the subject property (TtNUS, 2007). Mr. Floyd reported in the last two years the youth center was removed, and a sinkhole that had been previously repaired has re-appeared below part of the hockey rink and near the basketball courts.

Mr. Floyd reported that about five years ago, there was a problem with flooding at the end of Skyhawk Drive due to heavy rainfall during Hurricane Floyd. The grounds maintenance contractor for Shenandoah Woods, Larad Services, had to perform an emergency drainage measure for water that was pooling in the back yard of unit #571, or 403 Skyhawk Drive. The emergency measure, completed in the middle of the night, was to use a loader to break up the curb along Skyhawk Drive and allow the water to flow downstream in a westerly direction onto the paved turnaround and then southeast with stormwater drainage along Skyhawk Drive. Mr. Floyd reported that Ed Strolsky, Director of Larad Services, observed the loader uncovered what appeared to be the tops of several drums as it scraped and disturbed the grass and soil near the curb. Mr. Floyd indicated that the lids of the drums were ajar, and the contents were unknown although at first they thought the contents were tar, possibly buried by the contractor for the original construction of the housing units. He indicated the suspected drums were then covered back over with the removed soil.

Mr. Floyd reported that there have been long-standing issues of surface drainage from the southwest border of the property spilling over across Decker Road. An engineering company was hired to do a study and drainage correction plan. The 75% design was implemented but not the portion of drainage



**FINDINGS OF SUITABILITY TO TRANSFER  
INTERVIEW RECORD**

system off Navy property; further action by the township is still required to fully implement the design. The Navy installed a standpipe system but existing detention basin is still not sufficient. Dewberry & Davis did a plan for two additional detention basins, but Mr. Floyd said that plan was rejected.

During inspection of housing unit at 1131 Viking Road, Mr. Floyd reported that the units all have new windows, new paint on the interior trim, and were renovated with new gas-fired furnaces and hot-water heaters in 1994-95. He reported that the units receive town water and sewer services.

Mr. Floyd provided copies of the Asbestos Management and Lead Management Plans that apply to the Shenandoah Woods housing complex.

**FINDINGS OF SUITABILITY TO TRANSFER  
INTERVIEW RECORD**

**SUBJECT PROPERTY NAME:**

Shenandoah Woods Housing Complex, Warminster, Pennsylvania (NASJRB Willow Grove)

**INTERVIEW DATE:**

25 March 2009

**INTERVIEWERS:**

Ms. Amy Stattel, Tetra Tech NUS, Inc.

Ms. Samantha Brenner, Tetra Tech NUS, Inc.

**PERSONS INTERVIEWED:**

Mr. Ed Strolsky, Director, Larad Services (housing contractor, NASJRB Willow Grove)

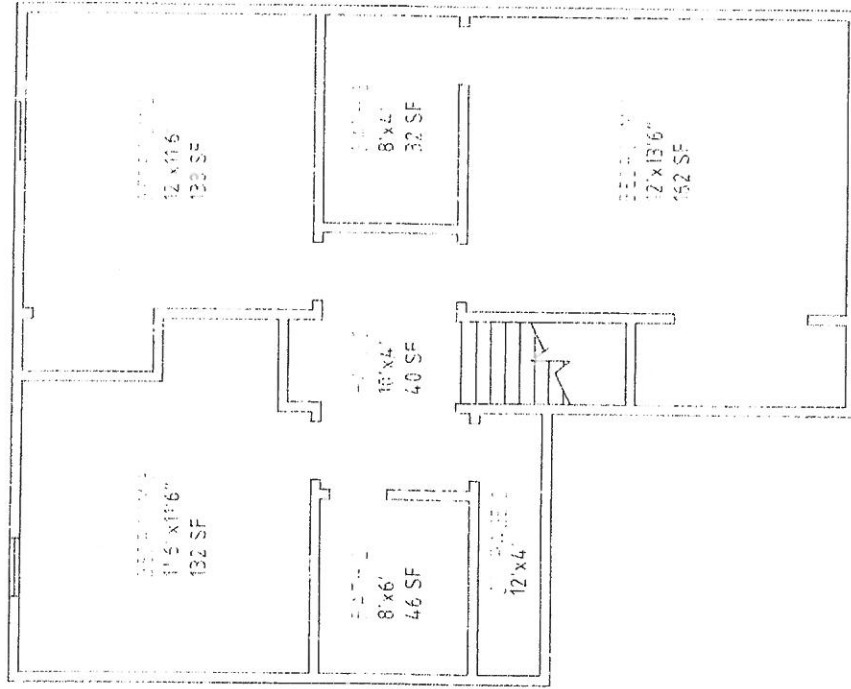
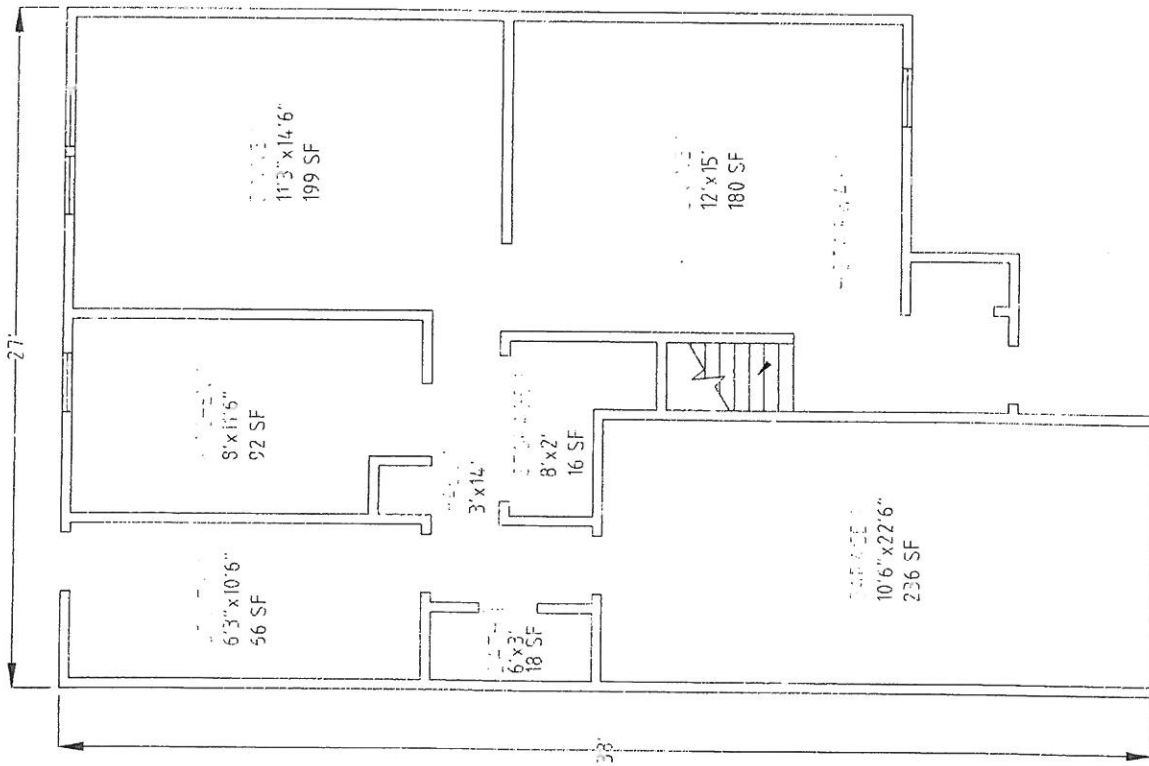
**INTERVIEW LOCATION/SETTING:**

NASJRB Willow Grove, Housing Office, Building 148, FOST Kickoff Meeting  
(In Person)

**INTERVIEW LOG:**

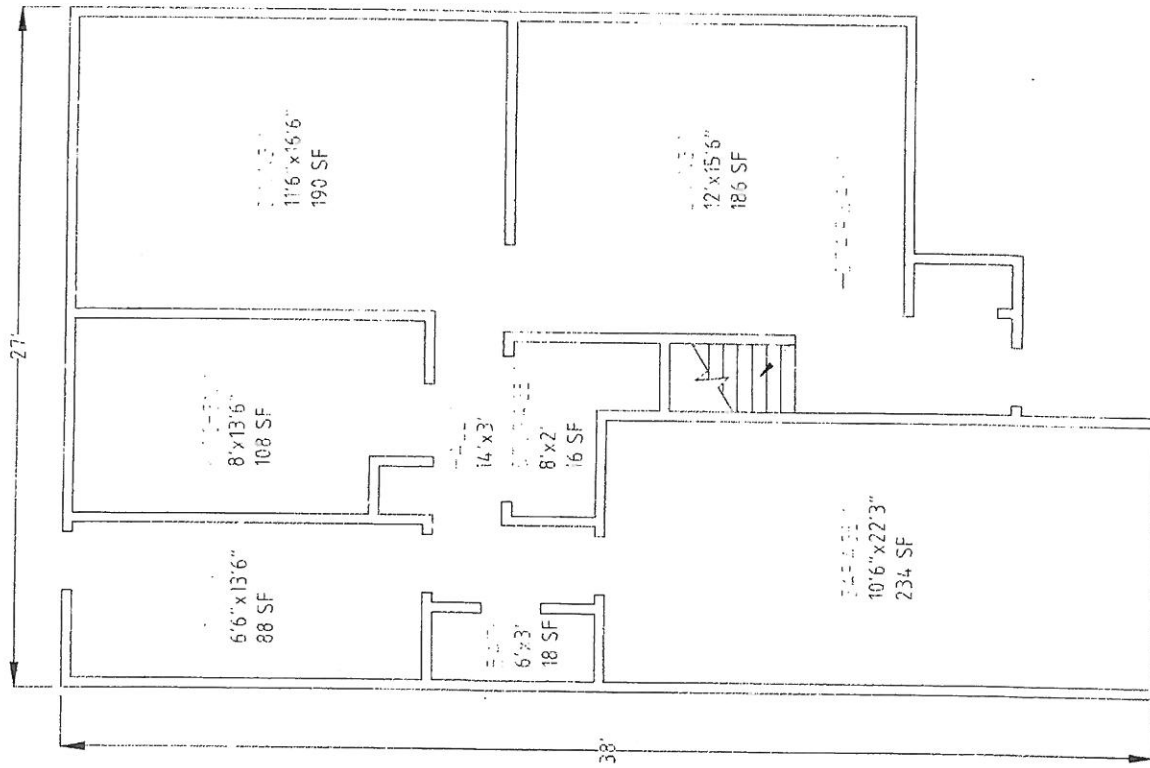
Mr. Strolsky reported that about five years ago, heavy rainfall during Hurricane Floyd caused water to back up in the back yard of unit #571, or 403 Skyhawk Drive. Mr. Strolsky's company, Larad Services, had to perform an emergency drainage measure in the middle of the night to prevent water from flowing in the back patio door at this housing unit. They used a loader to break up the curb along Skyhawk Drive releasing the water pooled up on the grass behind the curb. As the loader scraped the grass and soil near the curb, they uncovered several suspected drums with the lids ajar. Mr. Strolsky reported that the suspected drums had unknown contents, that appeared to be purple and almost "fluorescent". He indicated the drums were then covered back over with the removed soil and to his knowledge were left in place since that time. He reported he did not uncover any other wastes or debris during grounds maintenance activities at Shenandoah Woods, including installation of drains along Skyhawk Drive.

## Floor Plans

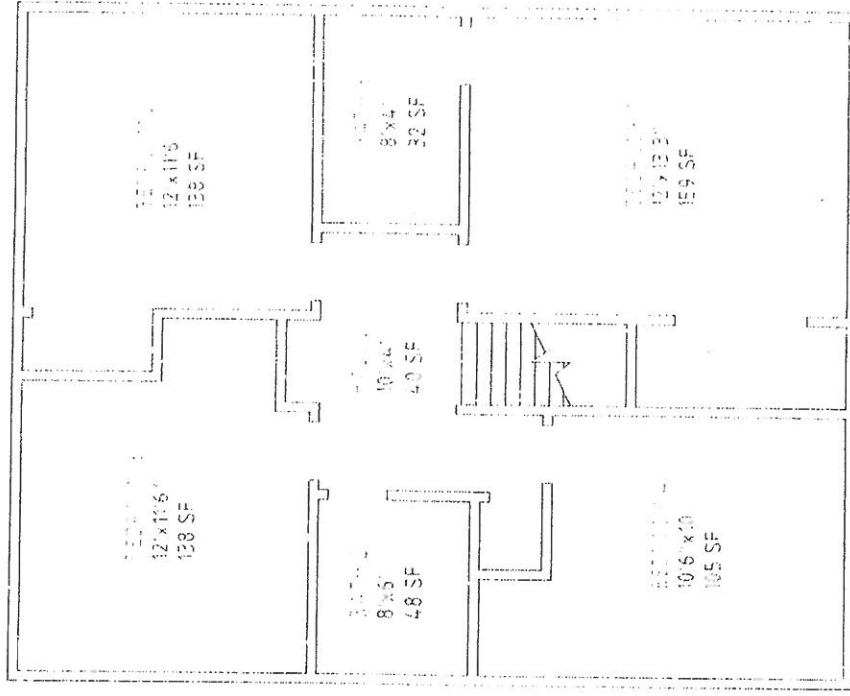


1-2025-1-100

Shenandoah Woods – 3 Bedroom Floor Plan



5,423.15 S.F.



2,213.15 S.F.

Shenandoah Woods – 4 Bedroom Floor Plan

**Site Photographs**

**Naval Air Station Joint Reserve Base – Willow Grove  
Shenandoah Woods Housing Complex  
Warminster, Pennsylvania**

**25 March 2009**



Photo 1  
Typical Shenandoah Woods Housing Unit

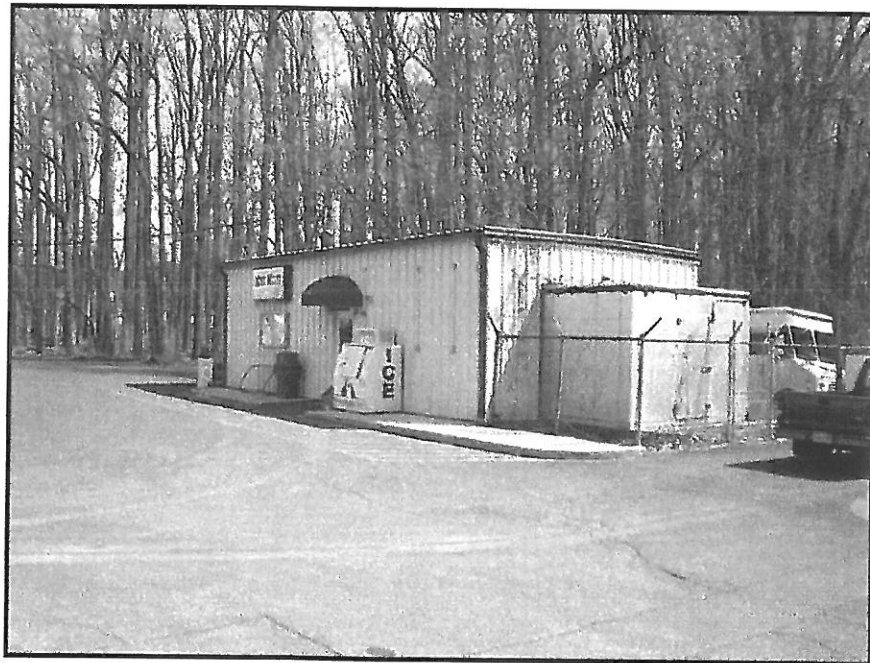


Photo 2  
Shenandoah Woods NEX Mini Mart  
Located East of Facilities Maintenance Department Garage



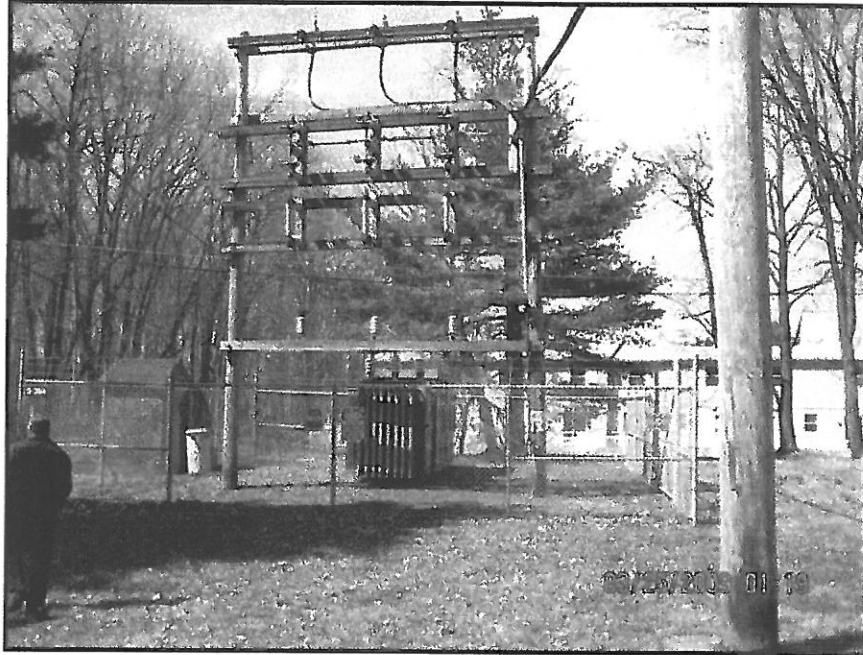


Photo 3  
Shenandoah Woods Power Transfer Station



Photo 4  
Stormwater Retention Pond  
Located South of Facilities Maintenance Department Garage



Photo 5  
Curbing Removed to Facilitate Drainage During Hurricane Floyd  
Located on the Northern Portion of the Property Near 403 Skyhawk Drive

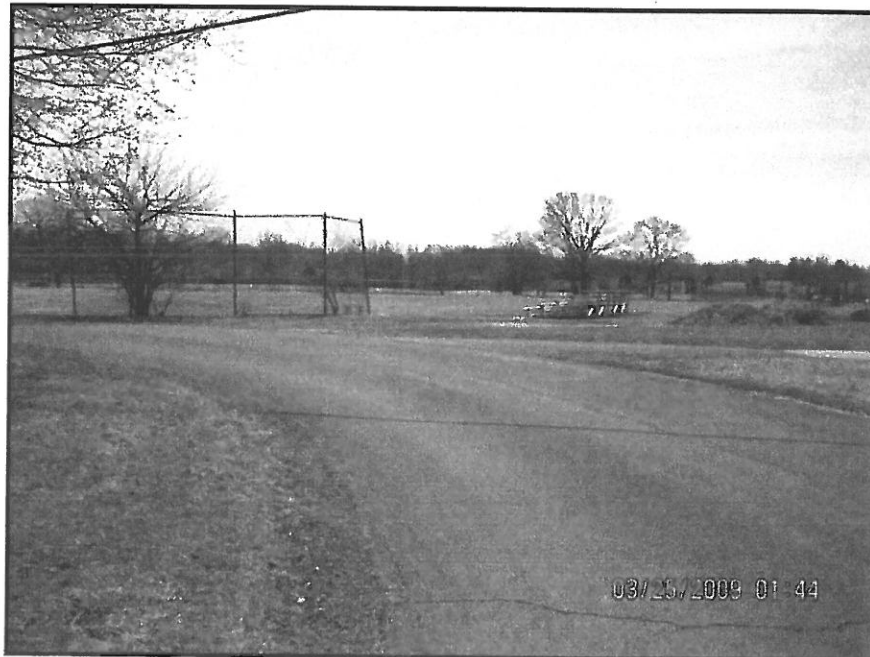


Photo 6  
Recreation Fields  
Located on the Southwestern Portion of the Subject Property

**Exhibit E**

**CERCLA Hazardous Substances Notice**

**EXHIBIT E**  
**CERCLA HAZARDOUS SUBSTANCE NOTICE**  
**SHENANDOAH WOODS HOUSING COMPLEX**  
**WARMINSTER, PENNSYLVANIA**

Location	Substance Name	CAS Registry Number	40 CFR 302.4 Regulatory Synonyms	RCRA Waste Number	Quantity Stored	Date of Storage	Quantity Released	Date of Release	Response
Site 5 North, East and South of Building 401 and West of Building 403	Solid Waste including ash, wood, glass, cardboard, paper, tree limbs, roots, brick, wire, charcoal and scrap metal in a matrix of fill material	79-01-6	Trichloroethene	F001	Unknown	1960 to mid 1980's	Unknown	Unknown	RI, Risk Assessment, "No Action" ROD (September 2000)
		1336363	Aroclors, PBCs	-	Unknown	1960 to mid 1980's	Unknown	Unknown	RI, Risk Assessment, "No Action" ROD (September 2000)
		50-32-8	Benzo(a)pyrene	U022	Unknown	1960 to mid 1980's	Unknown	Unknown	RI, Risk Assessment, "No Action" ROD (September 2000)

**Exhibit F**  
**Hazard Advisory Statements**

**ASBESTOS-CONTAINING MATERIALS  
HAZARD DISCLOSURE AND ACKNOWLEDGMENT FORM**

**ASBESTOS WARNING STATEMENT**

YOU ARE ADVISED THAT CERTAIN HOUSING UNITS WITHIN THE SHENANDAH WOODS HOUSING COMPLEX AT NAVAL AIR STATION JOINT RESERVE BASE WILLOW GROVE, PENNSYLVANIA HAVE ASBESTOS-CONTAINING MATERIALS. INDIVIDUALS (WORKERS) MAY SUFFER ADVERSE HEALTH EFFECTS AS A RESULT OF INHALATION EXPOSURE TO ASBESTOS. THESE ADVERSE HEALTH EFFECTS INCLUDE ASBESTOSIS (PULMONARY FIBROSIS) AND MESOTHELIOMAS (BENIGN OR MALIGNANT TUMORS).

**ACKNOWLEDGMENT**

I acknowledge that:

- (1) I have read and understand the above-stated Asbestos Warning Statement.
- (2) I have received from the Government the following document(s): (a) *Asbestos Management Plan, Senior Enlisted Quarters, Naval Air Station Joint Reserve Base Willow Grove, Warminster, Pennsylvania* (Navy, 1997a); (b) *Asbestos Inspection Summary Report, NASJRB Willow Grove* (Baker, 2011a); and (c) *Finding of Suitability to Transfer, Naval Air Station Joint Reserve Base-Willow Grove, Shenandoah Woods Housing Complex, Warminster, Pennsylvania* (BRAC PMO NE, 2012) representing the best information available to the Government as to the presence of and condition of asbestos-containing-materials hazards in the housing units covered by this transfer (deed).

Buildings and housing units known to contain friable and damaged ACM are listed on the attached table.

**Friable, Accessible, Damaged ACM at Shenandoah Woods Housing Buildings**

<b>Building Number</b>	<b>Unit Number(s)</b>	<b>Material</b>	<b>Area in Square Feet</b>
415	607	Black floor adhesive under parquet flooring material	4422
417	617	Black floor adhesive under parquet flooring material	3721
421	1097, 1101, 1107	Black floor adhesive under parquet flooring material	4206
430	1097, 1103, 1105	Black floor adhesive under vinyl floor tile	3721
432	1119, 1127	Black floor adhesive under vinyl floor tile	2420
433	1131, 1139	Black floor adhesive under vinyl floor tile	2420
434	1146	Black floor adhesive under vinyl floor tile	1928
435	1134	Black floor adhesive under vinyl floor tile	2892
436	1116, 1118, 1120	Black floor adhesive under vinyl floor tile	2420
436	1116, 1120	Black floor adhesive under parquet flooring material	3721
437	1102	Black floor adhesive under vinyl floor tile	32

**LEAD-BASED PAINT HAZARD  
DISCLOSURE AND ACKNOWLEDGMENT FORM**

**LEAD WARNING STATEMENT**

YOU ARE ADVISED THAT STRUCTURES CONSTRUCTED PRIOR TO 1978 MAY PRESENT EXPOSURE TO LEAD FROM LEAD-BASED PAINT THAT MAY PLACE YOUNG CHILDREN AT RISK OF DEVELOPING LEAD POISONING. LEAD POISONING IN YOUNG CHILDREN MAY PRODUCE PERMANENT NEUROLOGICAL DAMAGE. YOU ARE FURTHER ADVISED THAT LEAD POISONING ALSO POSES A PARTICULAR RISK TO PREGNANT WOMEN. WORKERS MAY ALSO SUFFER ADVERSE HEALTH EFFECTS FROM LEAD DUST AND FUME EXPOSURE

**ACKNOWLEDGMENT**

I acknowledge that:

1. I have read and understand the above stated Lead Warning Statement;
2. I have received from the Federal Government the following document(s): (a) *Lead Management Plan, Senior Enlisted Quarters, Naval Air Station Joint Reserve Base Willow Grove, Warminster, Pennsylvania* (Navy, 1997a); (b) *Lead-Based Paint Inspection Summary Report for NASJRB Willow Grove* (Baker, 2011b); and (c) *Finding of Suitability to Transfer, Naval Air Station Joint Reserve Base-Willow Grove, Shenandoah Woods Housing Complex, Warminster, Pennsylvania* (BRAC PMO NE, 2012), representing the best information available to the Government as to the presence of Lead-Based Paint and Lead-Based Paint hazards for the buildings covered by this Transfer;
3. I understand that my failure to inspect, or to become fully informed as to the condition of all or any portion of the property offered will not constitute grounds for any claim or demand for adjustment or withdrawal of any bid or offer made after its opening or tender; and
4. I understand that upon execution of this Transfer, I shall assume full responsibility for preventing future lead exposure by properly managing and maintaining or, as required by applicable Federal, state, or local laws or regulations, for abating any lead-based paint hazard that may pose a risk to human health.

\_\_\_\_\_  
Transferee (or duly authorized agent)

\_\_\_\_\_  
Date

## Are You Planning To Buy, Rent, or Renovate a Home Built Before 1978?

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**M**any houses and apartments built before 1978 have paint that contains high levels of lead (called lead-based paint). Lead from paint, chips, and dust can pose serious health hazards if not taken care of properly.



**OWNERS, BUYERS, and RENTERS** are encouraged to check for lead (see page 6) before renting, buying or renovating pre-1978 housing.

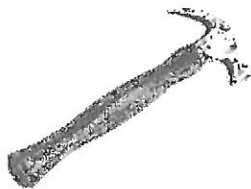
**F**ederal law requires that individuals receive certain information before renting, buying, or renovating pre-1978 housing:



**LANDLORDS** have to disclose known information on lead-based paint and lead-based paint hazards before leases take effect. Leases must include a disclosure about lead-based paint.



**SELLERS** have to disclose known information on lead-based paint and lead-based paint hazards before selling a house. Sales contracts must include a disclosure about lead-based paint. Buyers have up to 10 days to check for lead.



**RENOVATORS** disturbing more than 2 square feet of painted surfaces have to give you this pamphlet before starting work.



# Lead Gets in the Body in Many Ways

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**Childhood lead poisoning remains a major environmental health problem in the U.S.**

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**Even children who appear healthy can have dangerous levels of lead in their bodies.**

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**People can get lead in their body if they:**

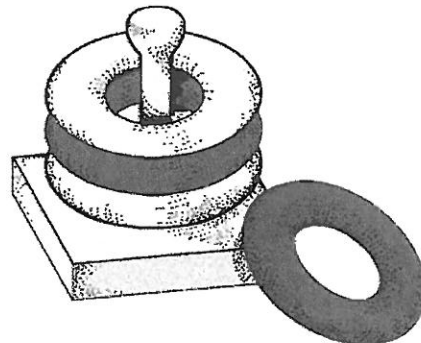
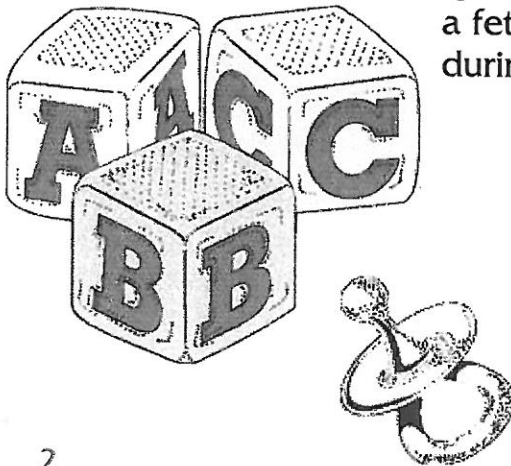
- ◆ Breathe in lead dust (especially during renovations that disturb painted surfaces).
- ◆ Put their hands or other objects covered with lead dust in their mouths.
- ◆ Eat paint chips or soil that contains lead.

**Lead is even more dangerous to children under the age of 6:**

- ◆ At this age children's brains and nervous systems are more sensitive to the damaging effects of lead.
- ◆ Children's growing bodies absorb more lead.
- ◆ Babies and young children often put their hands and other objects in their mouths. These objects can have lead dust on them.

**Lead is also dangerous to women of childbearing age:**

- ◆ Women with a high lead level in their system prior to pregnancy would expose a fetus to lead through the placenta during fetal development.



## Where Lead-Based Paint Is Found

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**In general, the older your home, the more likely it has lead-based paint.**

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**Many homes built before 1978 have lead-based paint.** The federal government banned lead-based paint from housing in 1978. Some states stopped its use even earlier. Lead can be found:

- ◆ In homes in the city, country, or suburbs.
- ◆ In apartments, single-family homes, and both private and public housing.
- ◆ Inside and outside of the house.
- ◆ In soil around a home. (Soil can pick up lead from exterior paint or other sources such as past use of leaded gas in cars.)

## Checking Your Family for Lead

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**Get your children and home tested if you think your home has high levels of lead.**

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**To reduce your child's exposure to lead, get your child checked, have your home tested (especially if your home has paint in poor condition and was built before 1978), and fix any hazards you may have.** Children's blood lead levels tend to increase rapidly from 6 to 12 months of age, and tend to peak at 18 to 24 months of age.

Consult your doctor for advice on testing your children. A simple blood test can detect high levels of lead. Blood tests are usually recommended for:

- ◆ Children at ages 1 and 2.
- ◆ Children or other family members who have been exposed to high levels of lead.
- ◆ Children who should be tested under your state or local health screening plan.

Your doctor can explain what the test results mean and if more testing will be needed.

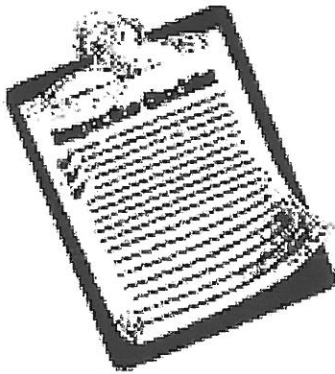
# Checking Your Home for Lead

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**Just knowing that a home has lead-based paint may not tell you if there is a hazard.**

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You can get your home tested for lead in several different ways:

- ◆ A paint **inspection** tells you whether your home has lead-based paint and where it is located. It won't tell you whether or not your home currently has lead hazards.
- ◆ A **risk assessment** tells you if your home currently has any lead hazards from lead in paint, dust, or soil. It also tells you what actions to take to address any hazards.
- ◆ A combination risk assessment and inspection tells you if your home has any lead hazards and if your home has any lead-based paint, and where the lead-based paint is located.

Hire a trained and certified testing professional who will use a range of reliable methods when testing your home.

- ◆ Visual inspection of paint condition and location.
- ◆ A portable x-ray fluorescence (XRF) machine.
- ◆ Lab tests of paint, dust, and soil samples.

There are state and federal programs in place to ensure that testing is done safely, reliably, and effectively. Contact your state or local agency (see bottom of page 11) for more information, or call **1-800-424-LEAD (5323)** for a list of contacts in your area.

**Home test kits for lead are available, but may not always be accurate.** Consumers should not rely on these kits before doing renovations or to assure safety.

## Reducing Lead Hazards In The Home

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**Removing lead improperly can increase the hazard to your family by spreading even more lead dust around the house.**

**Always use a professional who is trained to remove lead hazards safely.**



In addition to day-to-day cleaning and good nutrition:

- ◆ You can **temporarily** reduce lead hazards by taking actions such as repairing damaged painted surfaces and planting grass to cover soil with high lead levels. These actions (called “interim controls”) are not permanent solutions and will need ongoing attention.
- ◆ To **permanently** remove lead hazards, you should hire a certified lead “abatement” contractor. Abatement (or permanent hazard elimination) methods include removing, sealing, or enclosing lead-based paint with special materials. Just painting over the hazard with regular paint is not permanent removal.

Always hire a person with special training for correcting lead problems—someone who knows how to do this work safely and has the proper equipment to clean up thoroughly. Certified contractors will employ qualified workers and follow strict safety rules as set by their state or by the federal government.

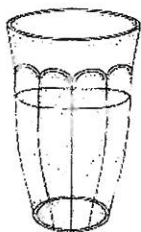
Once the work is completed, dust cleanup activities must be repeated until testing indicates that lead dust levels are below the following:

- ◆ 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) for floors, including carpeted floors;
- ◆ 250  $\mu\text{g}/\text{ft}^2$  for interior windows sills; and
- ◆ 400  $\mu\text{g}/\text{ft}^2$  for window troughs.

Call your state or local agency (see bottom of page 11) for help in locating certified professionals in your area and to see if financial assistance is available.

## Other Sources of Lead

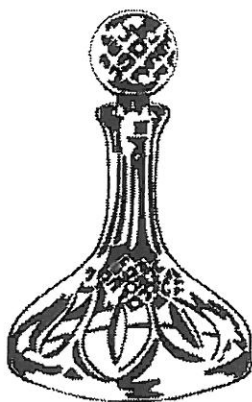
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While paint, dust, and soil are the most common sources of lead, other lead sources also exist.

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- ◆ **Drinking water.** Your home might have plumbing with lead or lead solder. Call your local health department or water supplier to find out about testing your water. You cannot see, smell, or taste lead, and boiling your water will not get rid of lead. If you think your plumbing might have lead in it:
  - Use only cold water for drinking and cooking.
  - Run water for 15 to 30 seconds before drinking it, especially if you have not used your water for a few hours.
- ◆ **The job.** If you work with lead, you could bring it home on your hands or clothes. Shower and change clothes before coming home. Launder your work clothes separately from the rest of your family's clothes.
- ◆ **Old painted toys and furniture.**
- ◆ **Food and liquids stored in lead crystal or lead-glazed pottery or porcelain.**
- ◆ **Lead smelters** or other industries that release lead into the air.
- ◆ **Hobbies** that use lead, such as making pottery or stained glass, or refinishing furniture.
- ◆ **Folk remedies** that contain lead, such as "greta" and "azarcon" used to treat an upset stomach.

# EPA Regional Offices

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Your Regional EPA Office can provide further information regarding regulations and lead protection programs.

## EPA Regional Offices

**Region 1** (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)

Regional Lead Contact  
U.S. EPA Region 1  
Suite 1100 (CPT)  
One Congress Street  
Boston, MA 02114-2023  
1 (888) 372-7341

**Region 2** (New Jersey, New York, Puerto Rico, Virgin Islands)

Regional Lead Contact  
U.S. EPA Region 2  
2890 Woodbridge Avenue  
Building 209, Mail Stop 225  
Edison, NJ 08837-3679  
(732) 321-6671

**Region 3** (Delaware, Maryland, Pennsylvania, Virginia, Washington DC, West Virginia)

Regional Lead Contact  
U.S. EPA Region 3 (3WC33)  
1650 Arch Street  
Philadelphia, PA 19103  
(215) 814-5000

**Region 4** (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)

Regional Lead Contact  
U.S. EPA Region 4  
61 Forsyth Street, SW  
Atlanta, GA 30303  
(404) 562-8998

**Region 5** (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)

Regional Lead Contact  
U.S. EPA Region 5 (DT-8J)  
77 West Jackson Boulevard  
Chicago, IL 60604-3666  
(312) 886-6003

**Region 6** (Arkansas, Louisiana, New Mexico, Oklahoma, Texas)

Regional Lead Contact  
U.S. EPA Region 6  
1445 Ross Avenue, 12th Floor  
Dallas, TX 75202-2733  
(214) 665-7577

**Region 7** (Iowa, Kansas, Missouri, Nebraska)

Regional Lead Contact  
U.S. EPA Region 7  
(ARTD-RALI)  
901 N. 5th Street  
Kansas City, KS 66101  
(913) 551-7020

**Region 8** (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)

Regional Lead Contact  
U.S. EPA Region 8  
999 18th Street, Suite 500  
Denver, CO 80202-2466  
(303) 312-6021

**Region 9** (Arizona, California, Hawaii, Nevada)

Regional Lead Contact  
U.S. Region 9  
75 Hawthorne Street  
San Francisco, CA 94105  
(415) 947-4164

**Region 10** (Alaska, Idaho, Oregon, Washington)

Regional Lead Contact  
U.S. EPA Region 10  
Toxics Section WCM-128  
1200 Sixth Avenue  
Seattle, WA 98101-1128  
(206) 553-1985



# Simple Steps To Protect Your Family From Lead Hazards

## If you think your home has high levels of lead:

- ◆ Get your young children tested for lead, even if they seem healthy.
- ◆ Wash children's hands, bottles, pacifiers, and toys often.
- ◆ Make sure children eat healthy, low-fat foods.
- ◆ Get your home checked for lead hazards.
- ◆ Regularly clean floors, window sills, and other surfaces.
- ◆ Wipe soil off shoes before entering house.
- ◆ Talk to your landlord about fixing surfaces with peeling or chipping paint.
- ◆ Take precautions to avoid exposure to lead dust when remodeling or renovating (call 1-800-424-LEAD for guidelines).
- ◆ Don't use a belt-sander, propane torch, high temperature heat gun, scraper, or sandpaper on painted surfaces that may contain lead.
- ◆ Don't try to remove lead-based paint yourself.



**Recycled/Recyclable**

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(minimum 50% postconsumer) process chlorine free.

**Exhibit G**  
**Comments and Responses**



PADEP reviewed the Draft FOST and responded on February 27, 2012 that they have no comments.

From: Pollich, Margaret [<mailto:mpollich@pa.gov>]  
Sent: Monday, February 27, 2012 11:08 AM  
To: Lin, Willie CIV NAVFAC HQ, BRAC PMO  
Cc: Lisa Cunningham  
Subject: Draft FOST for Shenandoah Woods/Willow Grove NASJRB

I have reviewed the Draft FOST for the Shenandoah Woods Housing Area associated with NASJRB Willow Grove. Based on the information contained in the FOST, I do not have any issues or concerns with its findings that the property is suitable to transfer. My concurrence with the FOST is based on the notices discussed and the covenants that will be contained in the deed.

Margaret Pollich | Project Officer  
Department of Environmental Protection  
2 East Main Street | Norristown, PA 19401  
Phone: 484-250-5731 | Fax: 484-250-5961

8/



DEPARTMENT OF THE NAVY  
BASE REALIGNMENT AND CLOSURE  
PROGRAM MANAGEMENT OFFICE, NORTHEAST  
4911 SOUTH BROAD STREET  
PHILADELPHIA, PA 19112-1303

5090  
BP MO NE/BH  
Ser 12-059  
March 12, 2012

Mr. Dennis Orenshaw  
Remedial Project Manager  
U.S. Environmental Protection Agency Region III (3HS11)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Ms. Margaret Pollich  
Project Officer  
Environmental Cleanup Program  
PA Department of Environmental Protection  
2 East Main Street  
Norristown, PA 19401-4915

RECEIVED MAR 22 2012

Dear Mr. Orenshaw and Ms. Pollich:

Enclosed is the signed Finding of Suitability to Transfer (FOST) for the Shenandoah Woods Housing Area property associated with Naval Air Station Joint Reserve Base Willow Grove, but located in Warminster, PA.

Should you require any further information concerning this subject, please contact Brian Helland at (215) 897-4912.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Drozd".

DAVID DROZD  
Director

Enclosure:

Signed FOST for Shenandoah Woods Housing Complex, Warminster, PA

Copy to:

EPA Region III (L. Cunningham)  
Horsham Township Authority (T. Ames)  
Aldie Foundation, Inc. (V. Deon)  
Navy Caretaker Site Office (M. Schy)  
Horsham Township Library