MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MEMORANDUM

DATE: June 27, 2013

TO: Montgomery County Planning Board

FROM: Sandra Youla, Senior Planner/Historic Preservation (301-563-3400) sly
Functional Planning and Policy Division/Montgomery County Planning Department

VIA: Scott Whipple, Historic Preservation Supervisor SW
Mary Dolan, Division Chief, Functional Planning and Policy Division MD

SUBJECT: White Oak Science Gateway Worksession #3: Historic Preservation Recommendations
Naval Ordnance Laboratory Administration Building (Resource 33/25-1)

STAFF RECOMMENDATION

The Naval Ordnance Laboratory Administration Building is being considered for designation on the *Master Plan for Historic Preservation in Montgomery County, Maryland* as part of the *White Oak Science Gateway Master Plan*.

In concurrence with the unanimous recommendation of the Historic Preservation Commission on February 22, 2012, Historic Preservation staff recommends that the Naval Ordnance Laboratory Administration Building be:

- added to the *Locational Atlas and Index of Historic Sites in Montgomery County, Maryland* as an interim measure to protect the resource prior to designation; and
- designated on the *Master Plan of Historic Preservation*.

EXECUTIVE SUMMARY

Today the Naval Ordnance Laboratory Administration Building, located at 10903 New Hampshire Avenue, is part of the new U.S. Food and Drug Administration White Oak Campus. When constructed in 1946 according to designs by Eggers and Higgins, a nationally known architectural firm, it served as the principle administration building for another federal complex, the Naval Ordnance Laboratory. One of the few buildings in Montgomery County designed in the modern (or stripped) classical style, the

building is an area landmark and a reminder of the important roll the Naval Ordnance Laboratory played in national defense and the development of the White Oak community. Maryland's State Historic Preservation Office found the Naval Ordnance Laboratory complex eligible for listing in the National Register of Historic Places. The Administration Building was renovated in 2008 as part of the FDA headquarters consolidation at White Oak. The FDA supports the designation of the Administration Building, and the Historic Preservation Commission has recommended that the Planning Board add the resource to the Locational Atlas and recommend its designation on the Master Plan for Historic Preservation.

This staff memo presents background, an analysis, photos and images, and, for the reader's convenience, the Public Hearing Draft Amendment photo, text, and map for the Naval Ordnance Laboratory Administration Building. The staff memo, research forms, and other relevant information may be found online at http://www.montgomeryplanning.org/historic/naval_ordnance_lab/. The Montgomery County Code's list of criteria for designation (per Section 24A-3(b)), along with other referenced materials, is found in the Appendix of this staff memo.

LOCATION

The resource known historically as the Naval Ordnance Laboratory Administration Building is located on an approximately 610-acre parcel (P700) east of New Hampshire Avenue (MD 650) between the Beltway (I-495) and Colesville Road/Columbia Pike (US 29) in the White Oak area of Silver Spring, Maryland. The building's address is 10903 New Hampshire Avenue, and the parcel's tax account ID is 05-00280622. Currently, the building is known as Building 1 in the new U.S. Food and Drug Administration White Oak Campus, within the Federal Research Center. The parcel is owned by the federal government and its legal description is Civil Case 2296 966/342 NOL. The resource number is 33/25-1.

BACKGROUND

Naval Ordnance Laboratory Origins: The Naval Ordnance Laboratory had its origins in 1919 in an operation called the Mine Building at the Washington Navy Yard in southeast Washington, DC. After the Experimental Ammunition Unit joined the operation in 1929, the operation was renamed the Naval Ordnance Laboratory. World War II prompted an increased demand for weapons' research and development. In response, in 1944 the Navy purchased a large tract straddling Prince George's and Montgomery Counties in White Oak to expand facilities.[1] All operations of the Naval Ordnance Laboratory in Washington, DC were transferred there by 1948.

Naval Ordnance Laboratory Building Program: Ultimately, the federal installation at White Oak contained over three hundred buildings, many designed for specialized engineering functions. Buildings were laid out in distinct groups to allow functions to be separated and isolated. Building groups

[1] The site acreage was reduced over time. In 1969, about 137 acres in the south-central portion of the site were transferred to the Department of the Army for construction of the Harry Diamond Laboratories (now the US Army Adelphi Laboratory). In 1996, about 22 vacant acres in the southeastern corner were transferred to the U.S. Army. By 1997, when the Naval Ordnance Laboratory was closed, the site was about 732 acres.

included administration and laboratories, magnetics testing, explosives storage and testing, ballistics, small-scale explosives testing, and hazardous material storage. Most buildings were constructed between 1945 and 1954. The Administration Building was constructed in 1946 within the administration and laboratory group and was one of four interconnected buildings. The building was designed by Eggers and Higgins.

Naval Ordnance Laboratory Name Changes: The Naval Ordnance Laboratory's name was changed to the Naval Surface Weapons Center in 1974 after the Naval Weapons Laboratory in Dahlgren, Virginia, was merged with it. In 1987, the name was changed to the Naval Surface Warfare Center. During its tenure on the site, the laboratory also was informally called the White Oak Laboratory.

Closure and Redevelopment: In 1995, the Defense Base Realignment and Closure Commission recommended that the Naval Surface Warfare Center be closed, and its personnel, equipment, and operations transferred elsewhere. The property was transferred to the General Services Administration in 1997 and renamed the Federal Research Center at White Oak. The General Services Administration and the Food and Drug Administration (FDA) then began evaluating whether to construct consolidated facilities for the Food and Drug Administration on a portion of the site.[2] Construction of the consolidated FDA facilities began in 2001 and is still underway as of the writing of this staff memo. The construction and expansion of the FDA headquarters necessitated removal of many Naval Ordnance Laboratory buildings and structures.[3]

Historic Resource Surveys: The Naval Ordnance Laboratory and Administration Building are not listed on the original 1976 *Locational Atlas and Index of Historic Sites in Montgomery County Maryland*.[4] They are represented in historical surveys prepared from 1992 to 1997 to support the evaluation of whether to close the Naval Surface Warfare Center and construct consolidated FDA facilities. Based on information in one of these surveys, the Maryland Historical Trust in 1997 found that the Naval

[2] The Federal Research Center at White Oak is about 662 acres, 622 of which are within Montgomery County and 40 of which are in Prince George's County. The Food and Drug Administration Consolidation is on a 130-acre portion of the Federal Research Center site and is within Montgomery County.

[3] A Final Environmental Impact Statement from 1997 and a Final Supplemental Environmental Impact Statement from 2005 noted that construction of the FDA Headquarters at White Oak would cause adverse impacts to on-site cultural resources. A Final Supplemental Impact Statement from 2009 assessed the impacts of expansion of the consolidated headquarters at White Oak.

[4] However, a 1995 MNCPPC publication notes that "Eggers and Higgens received many commissions in the Washington DC metropolitan area in the 1940s and 1950s, and would also design the original buildings of the Naval Surface Warfare Center…These buildings were highly representative of the firm's nationally renowned modern Neo-classical design and, with the perspective of additional time, may well be considered to possess public architectural significance and historical importance for their association with the federal government's decentralization policies during the Cold War era." MNCPPC, Montgomery County Planning Department/Design, Zoning & Preservation Division, *Background Report: Historic Resources of the Eastern Montgomery County Master Plan Areas* (August 1995), page 18.

Ordnance Laboratory Historic District was eligible for listing on the National Register.[5] Subsequently, a Section 106 consultation was undertaken.

Memoranda of Agreement: The Maryland Historic Trust, Food and Drug Administration, General Services Administration, and others signed several Memoranda of Agreement starting in 2000 to ensure that measures were implemented to minimize or mitigate the adverse impacts of the Food and Drug Administration consolidation on the historic resources within the site. The 2000 Memorandum of Agreement for the FDA consolidation specified that certain contributing resources be retained, including Building 1 (the Administration Building), the fire station portion of Building 100, and the flagpole with a redesigned circle to be located in front of Building 1. The Memorandum also specified that historic structures within the entire Federal Research Center be documented and recorded to certain standards.[6]

Naval Ordnance Laboratory Administration Building Renovation: Pursuant to the Memoranda of Agreement, the Naval Ordnance Laboratory Administration Building was retained and renovated as part of the FDA headquarters consolidation. The renovated building was dedicated on December 18, 2008 and was the seventh structure completed for the FDA headquarters consolidation at White Oak. The building contains approximately 102,000 s.f. and houses the FDA's Office of the Commissioner and related executive functions. The building earned a U.S. Green Building Council's LEED NC 2.0 Gold certification in 2010. KlingStubbins in Association with RTKL, Washington DC, were the design architects and engineers.[7]

Historic Preservation Commission Evaluation: On February 22, 2012, the Montgomery County Historic Preservation Commission voted unanimously to recommend designating the Naval Ordnance Laboratory Administration Building on the *Master Plan for Historic Preservation* and, as an interim measure, adding the resource to the *Locational Atlas and Index of Historic Sites*.

Planning Board Public Hearing Testimony: On May 23, 2013, the Planning Board held a public hearing on the Public Hearing Draft of the *White Oak Science Gateway Master Plan*. The Public Hearing Draft

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[5] Christopher Martin and David Berg, *Maryland Historic Trust State Historic Sites Inventory Form M: 33-25 -- Naval Ordnance Laboratory Historic District* (February 1997); Maryland Historical Trust NR-Eligibility Review Form, M:33-25 Naval Ordnance Laboratory (June 6, 1997); letter dated June 6, 1997 From J. Rodney Little, Maryland State Historic Preservation Office, to Andrea Mones-O-Hara, Historic Preservation Officer, General Services Administration, National Capital Region; all at http://www.mdihp.net/dsp_search.cfm?search=property&id=17973&viewer=true&requestTimeout=6000.

[6] U.S. Food and Drug Administration Headquarter Consolidation, *Final Supplemental Environmental Impact Statement, March 2005,* prepared by the General Services Administration in cooperation with the U.S. Food and Drug Administration, page 3-34.

[7] U.S. Food and Drug Administration Press Release, December 18, 2008, *Historic Building One Dedicated at FDA's White Oak Federal Research Center*, retrieved January 17, 2012 at http://www.fda.gov.NewsEvents/Newsroom/PressAnnouncements/2008/UCM116996.htm.

contains the recommendation that the Naval Ordnance Laboratory Administration Building be added to the Locational Atlas and designated on the Master Plan for Historic Preservation. Three people testified to the Planning Board regarding the resource.

- William Kirwan, Chair of the Historic Preservation Commission, summarized the Historic Preservation Commission's conclusions and recommendations. **The Historic Preservation Commission found the resource to have exceptional architectural and historic significance and met criteria for designation 1a, 1c, 2a, and 2e of the Historic Preservation Ordinance**. The Historic Preservation Commission also noted that the building is a stellar example of how a successful historic restoration program can also be environmentally sustainable. A written copy of the testimony is in the record of the public hearing before the Planning Board.

- Brian Peper, RA, Architect and Program Manager/White Oak Consolidation Program/Food and Drug Administration, testified that **the FDA supports designation of the Naval Ordnance Laboratory Administration Building**. Mr. Peper also gave a PowerPoint showing the renovation of the building. His written testimony and PowerPoint are in the record of the public hearing before the Planning Board.

- John Tino, President of the White Oak Laboratory Alumni Association, **testified in favor of designation** and gave background on history, mission, and scientific achievements of the Naval Ordnance Laboratory. His written testimony is also in the record of the public hearing before the Planning Board.

See http://www.montgomeryplanning.org/historic/naval_ordnance_lab/ for copies of the testimony and PowerPoint presentation.

DESCRIPTION

Parcel: The parcel within which the Naval Ordnance Administration Building is located is composed of a landscape of woodlands and open spaces, punctuated by groupings of buildings and structures, many of which are being removed. The Paint Branch, West Farm Branch, and other unnamed tributaries of the Paint Branch flow through the parcel. The topography is generally rolling, with steep slopes in the stream valleys. The parcel is within the eastern edge of the fall line between the Piedmont Plateau and the Coastal Plain.

Building: The Naval Ordnance Administration Building faces southwest toward New Hampshire Avenue and is highly visible from the public right of way. The building is the major public face of the new Food and Drug Administration Headquarters, and the entire Federal Research Center. Situated approximately 975 feet from New Hampshire Avenue, the building is accessed via a linear drive (Mahan Road), which forms the main entrance to the Federal Research Center. A flagpole purchased and erected at the time the building was constructed[8] stands within a relocated traffic circle (Mahan Court) directly in front of

[8]Per email dated 3.27.2012 from John Tino, President, White Oak Laboratory Alumni Association, to Sandra Youla: "WOL Flag Pole. Many believed the WOL pole was historical as it was from the sunken USS Maine of the Spanish-

the building. Pedestrian access for employees only is off the traffic circle via a newly constructed, partially below- grade, secure entry pavilion that has replaced the steps that once led up to the main entrance. As at the Bethesda Naval Hospital, a golf course, now preserved as open space, spreads out in front of the building, creating a stately setting for the building. The former steps, separated into component blocks, have been relocated to the southeast side of the Administration Building, near Building 31, which has community meeting space and several history displays. The steps now function as an outdoor art installation commemorating the history of the Naval Ordnance Lab.

The Administration Building is generally rectangular in plan, with two wings that extend laterally from a tripartite central entrance, and two front-projecting ells at either end of the wings. Along the rear (northeast) façade, an arcade connects to Building 2, both newly constructed. The Administration Building is three stories and flat-roofed, with the central entrance section higher than the wings and ells. The central entrance section is topped with a very small fourth story, probably for utilities.

The exterior of the Administration Building is clad primarily in red brick laid in a Flemish Bond, with alternating headers and stretchers. Cornices, copings, window surrounds, watertable, and the projecting tripartite central entrance are limestone. New cladding around the side entrance on the southeast façade and along part of the rear (northeast) façade within the new arcade is also limestone. The newly constructed submerged entry pavilion that replaced the central stairs is topped with both an upswept metal canopy and a glass roof to allow light into the interior. The canopy is supported by rose-colored granite-faced pillars alternating with five glass double doors. Granite-faced walls of the same color extend laterally from either side of the new entry pavilion, acting as retaining walls for plantings above. The new entry pavilion and lateral walls are low and unobtrusive and are a sensitive replacement for the original central stairs.

Fenestration in the main block is stacked and recessed. Compatible replacement awning-style windows alternate with dark stone panels, creating vertical columnar voids that contrast with the red brick of the wings and ells and the limestone of the central entrance. Underneath the stacked windows in the central entrance are three wooden double doors, each door containing four stacked lights.

American War. This turned out not to be accurate. Bob Ridgway, who worked at the WOL discovered the drawing for the flagpole, which in fact was purchased from a company in Silver Spring, MD. Bob wrote the following:

"I did not find the bill of sale for the flag pole. The drawings for the flag pole were in the drawing files that were moved to Bldg. 405 from Bldg. 25. The flag pole is listed as Bldg. No. 6 on the Station Map. Its drawing listed the fabricator and how the commercial pole was to be modified. I removed nothing from the files. I am sure the purchase order had been destroyed a long time ago. At that time all I was interested in doing was to prove that it was not the midland mast from the Maine. The Maine did not have a midland mast."" Therefore, the Martin and Berg Inventory Form, Op. Cit., Section 7 (Description) Continuation Sheet 2, citing a telephone interview of Kenneth Caudle, Betty Gay, John Tino, and Bob Voisinet by David C. Berg of Greenhorne and O'Mara on January 28, 1997, incorrectly asserts that the flagpole is from the USS Maine.

Incised on the limestone above the tripartite central entrance are the words, “Naval Ordnance Laboratory.” A cornerstone incised with “1946” is located on the central entrance façade to the northwest of the three wooden double-door entries.

The sleek interior lobby and public spaces maintain many original features including metal and brass grates, vents, and railings, and beige and rose-colored marble walls and floors.

The Naval Ordnance Laboratory Administration Building evidences strict symmetry, limited ornamentation, and restrained classicism. This style, sometimes called “Modern Classicism” (or “Stripped Classicism”), was popular for government buildings built in the late 1930s and 1940s, particularly in the Washington, DC, area. The building resembles Paul Philippe Cret’s Federal Reserve Building (1937) on Constitution Avenue in Washington, DC. Like the Federal Reserve Building, the Administration Building gives the overall impression of a one-story classical temple.

The condition of the Administration building is excellent. Although alterations have been made, they are sympathetic, and the building maintains a high level of integrity.

FDA Campus: As noted, the Naval Ordnance Laboratory Administration Building was originally part of a complex of four interconnected buildings within the larger administration and laboratories group at the front of the Naval Ordnance Laboratory White Oak Campus. While the Administration Building was retained, most of the buildings within the administration and laboratories group were razed and replaced by new buildings for the FDA campus. The new buildings echo the brick and limestone facades, stacked fenestration, and low massing of the Administration Building. They are arranged in a roughly symmetrical campus plan, and the Administration Building maintains its central prominent location.

ANALYSIS

***Architectural Significance*:** Staff finds that the Naval Ordinance Laboratory Administration Building has architectural significance.

Architecturally, the resource is highly representative of the Modern Classicism of federal buildings from the late 1930s and 1940s, exhibiting hallmark features of the style, including classical composition, implied classical design elements, planar walls, and limited ornamentation.

> *Modern Classicism, also known as Stripped Classicism, was an economical and sober interpretation of the Beaux-Arts-inspired classical idiom favored for much federal architecture from the 1890s to 1940s. Modern Classicism retained classical principles of symmetry and composition (through the use of tripartite facades, plans, and design elements), while flattening and reducing design elements to simple two-dimensional geometric forms. Classical design elements such as columns and capitals were no longer incorporated into facades but instead were merely suggested, usually through manipulation of fenestration and wall surfaces. Limited Art Deco influence often is seen in the style's planar walls, linear ornamentation, and stepped design features.*
>
> *The overall restraint and economy of Modern Classicism was thought to be appropriate during the Depression and WWII years, when the federal government embarked on a large and urgent public building program to reduce unemployment and meet growing defense needs. Modern Classicism was originally advocated for public buildings by the Office of the Supervising Architect, most notably by Louis A. Simon. The Office of the Supervising Architect was the federal agency within the U.S. Treasury Department tasked with designing or commissioning federal buildings between 1852 and 1939. The style was used for major military and civilian federal buildings throughout the 1930s and 1940s, but gradually was abandoned as an appropriate American civic architecture after it became associated with various totalitarian regimes in Europe and Asia.*

Few federal buildings in Montgomery County exhibit Modern Classicism. One example is the Bethesda Naval Hospital Tower Block (1939-41), designed by internationally recognized architect Paul Philippe Cret, a main proponent of Modern Classicism. The Bethesda Naval Hospital Tower Block is on the *National Register of Historic Places* and was designated on the *Master Plan for Historic Preservation in Montgomery County, Maryland* in 1979.

Prior to the 1930s, Montgomery County had few buildings designed by trained architects, and fewer still from nationally known firms. The Naval Ordnance Laboratory Administration Building (1946) was designed by Eggers and Higgins, a prominent New York firm with a national practice. Otto Reinhold Eggers (1882-1964) and Daniel Paul Higgins (1886-1953) worked for many years in the practice of renowned architect John Russell Pope (1874-1937), first as associates and from 1922 as partners. Pope, along with Stanford White, Charles McKim, William Mead, and Daniel Burnham, was an advocate in the early twentieth century of Beaux Arts Classicism for major civic buildings. After Pope's death, Eggers and Higgins reorganized the firm under their own names. The firm had many commissions and was

responsible for the construction phase of Pope's Jefferson Memorial (1939) and the National Gallery (1941), as well as the design of the Dirksen Senate Office Building (1958), a late Modern Classicism building.

The Naval Ordnance Laboratory site – represented by Eggers and Higgins' Naval Ordnance Laboratory Administration Building, with its imposing design, prominent location, and national designers -- helped establish the suburbs of eastern Montgomery County as an upcoming neighborhood. The federal government chose the Naval Ordnance Laboratory site in part because of its easy access to Washington, DC, and proximity to land for new housing and shopping for federal workers. Thus the Administration Building quickly became the symbol of the neighborhood, and with its high visibility off a major thoroughfare, it remains an area landmark to this day.

Conclusion: Therefore, staff finds that the Naval Ordnance Laboratory meets the following criteria from Section 24A-3b of the Historic Preservation Ordinance (Montgomery County Code Chapter 24A. Historic Resources Preservation): 2a. embodies the distinctive characteristics of a type (Modern Classicism), and 2e. represents an established and familiar visual feature of the neighborhood, community, or County. (See Appendix A for criteria.)

***Historical Significance*:** Staff also finds that the Naval Ordinance Laboratory Administration Building has historical significance.

Historically, the Naval Ordnance Laboratory Administration Building, as one of the last remaining original buildings dating to the origins of the Naval Ordnance Laboratory in White Oak and certainly its most visually prominent, is representative of the nationally important role of the Naval Ordnance Laboratory in weapons research, testing, and development. The mission of the Naval Ordnance Laboratory in 1945, when first established at White Oak, was to:

> conduct research, design, development, test, and technical evaluation of ordnance materials, components, assemblies and systems, principally in the fields of fuzes, explosives, warheads, mines, depth charges, torpedoes, bombs and missiles.[9]

Further, the Naval Ordnance Laboratory is known for other advances in science and its association with prominent national scientists and German scientists who were brought to the facility after WWII. For further information on the historical (and architectural) significance of the Naval Ordnance Lab, see Appendix B.

The Naval Ordnance Laboratory also spurred the transformation of the White Oak area from a rural enclave to an emerging suburban community, and illustrates the results of the federal government's policy during and following WWII of dispersing governmental operations that were vulnerable to attack to sites outside but near Washington, DC. As noted in one publication,

[9] Christopher Martin and David Berg, MIHP Research Form MC: 33-25 Naval Ordnance Laboratory Historic District, 1977, citing Joseph P. Smaldone, *History of the White Oak Laboratory, 1945-1975* (Naval Surface Weapons Center: Silver Spring, MD), 1977.

> the immediate imprint of the [Naval Ordnance Laboratory's] construction was felt in the Burnt Mills Knolls neighborhood where it was estimated that 60 percent of the new houses developed around Schindler Drive by 1954, named in honor of the Navy laboratory's former chief Admiral Water Schindler, were purchased by laboratory employees. In 1973, the [Naval Ordnance Laboratory] employed 2,542 persons.[10]

Conclusion: Therefore, staff finds that the Naval Ordnance Laboratory Administration Building meets the following criteria from MCC Chapter 24A (Historic Resources Preservation): 1a. has character, interest, or value as part of the development, heritage or cultural characteristics of the County, State, or Nation; and 1c. is identified with a person or group of persons who influenced society. (See Appendix A for criteria.)

Public Benefits and Public Interest Considerations: The *Master Plan for Historic Preservation* states that the Historic Preservation Commission should identify any public benefits that might result from designating a resource, including that it might be highly visible.[11] Staff notes that the Administration Building is highly visible. Designation also serves to mark the resource's local and national significance and help publicize its little known but important history.

Staff also finds that designation would not compromise other known public interests.[12]

- Maryland Department of Transportation noted in its letter dated May 31, 2013 to White Oak Science Gateway lead planner Nancy Sturgeon that:

> Page 80 – The Naval Ordnance Laboratory (NOL) Administration Building, 10903 New Hampshire Avenue, Resource #33-25 *(sic, #33/25-1)*, is located on MD 650 (New Hampshire Avenue), now a part of the Federal Research Center at White Oak. While the building itself is sited some distance from MD 650 (New Hampshire Avenue), the environmental setting is immediately adjacent to MD 650 (New Hampshire Avenue). Future improvements to MD 650 (New Hampshire Avenue) may have right-of-way impacts to this recommended-for-designation historic resource. Coordinate with Dr. Julie Schablitsky, Assistant Division Chief, Environmental Planning Division, SHA, at 410545-8870 or jschablitsky@sha.state.md.us.

Because the Naval Ordnance Laboratory Administration Building is part of a federal complex, improvements to MD 650 will be reviewed by the Maryland Historical Trust under state and federal review processes designed to help mitigate adverse impacts to historic resources that

[10] MNCPPC, *Background Report: Historic Resources of the Eastern Montgomery County Master Plan Areas*, Op. Cit., page 18.

[11] *Master Plan for Historic Preservation* (MNCPPC: September 1979), page 21.

[12] It should be noted that state and federal facilities are not subject to local laws, and thus local designation is primarily commemorative.

are National Register-eligible or listed on the National Register. The Historic Preservation Section of the Montgomery Planning Department Functional Planning and Policy Division will ask to be a consulting party, but the county-established environmental setting will have no impact on this process.

Locational Atlas: The resource under review was not previously identified on the *Locational Atlas and Index of Historic Sites*. In placing the resource in the *Locational Atlas*, the Planning Board demonstrates its recognition of the resource's significance, pending designation on the *Master Plan for Historic Preservation*. Having found that the resource meets the criteria for designation, staff therefore recommends that the Planning Board add the resource to the *Locational Atlas*.

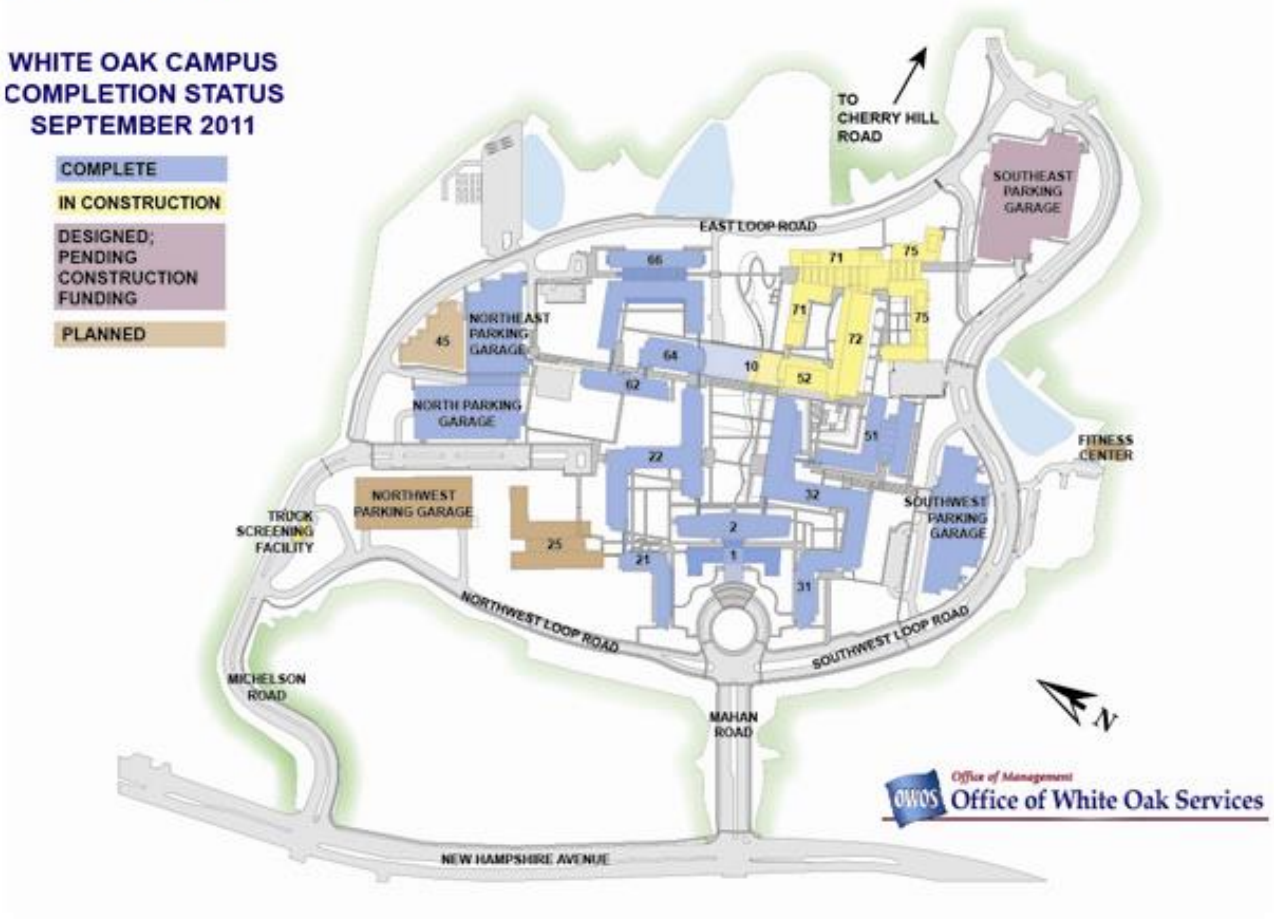
Environmental Setting: See the Planning Board Draft Amendment map and text later in this staff memo for depiction and information about the recommended environmental setting.

PHOTOS AND IMAGES

Naval Ordnance Laboratory Administration and Laboratories Group, Historic View, ca. 1947, with Administration Building at front

Food and Drug Administration Consolidated Headquarters White Oak Campus Plan, with Administration Building on left at terminus of traffic circle

Master Plan



Above – Food and Drug Administration Campus Master Plan – Completion Status 9.2011, still correct as of 6.12.2013.

Building 1 is the Naval Ordnance Administration Building

Left -- Aerial, 2013

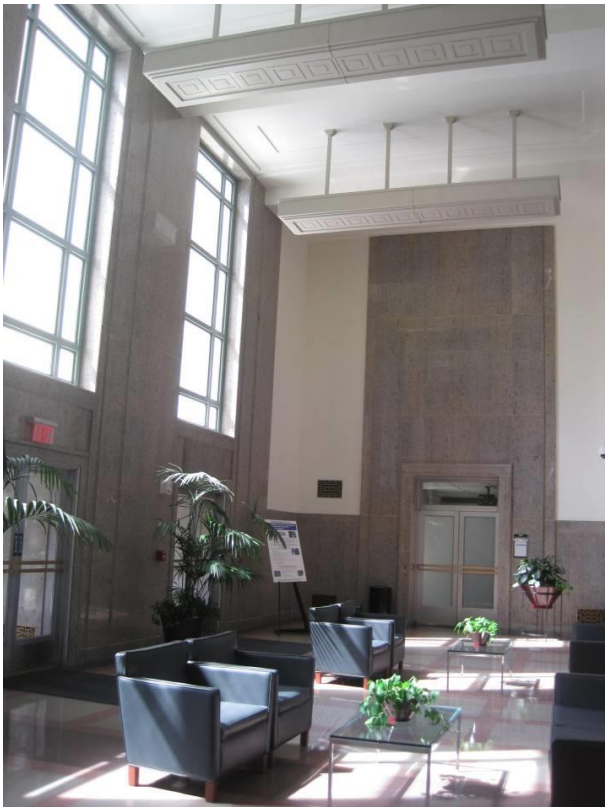
Front façade, partial view, with flagpole and partially submerged new entry, 2011

Front (southwest) façade, tripartite central entry, inscribed with words "Naval Ordnance Laboratory", 2011

Looking toward northwest façade of southeastern ell, 2011

Southeast façade with limestone panels where connector wing once stood, 2011

Main lobby, 2011



Main lobby and front entrance windows, 2011

Brass fretwork in main lobby, 2011

Stairwell with added railing (for code purposes), rear public stairwell lobby, 2011

PUBLIC HEARING DRAFT EXCERPT (Pages 78 – 79) -- AMENDMENT PHOTO, TEXT, AND MAP FOR THE NAVAL ORDNANCE LABORATORY ADMINISTRATION BUILDING

Site Recommended to be added to the Locational Atlas and Designated in the *Master Plan for Historic Preservation*

Naval Ordnance Laboratory Administration Building, 10903 New Hampshire Avenue
Resource ~~#33-25~~ #33/25-1 (Tax Account ID: 05-280622)

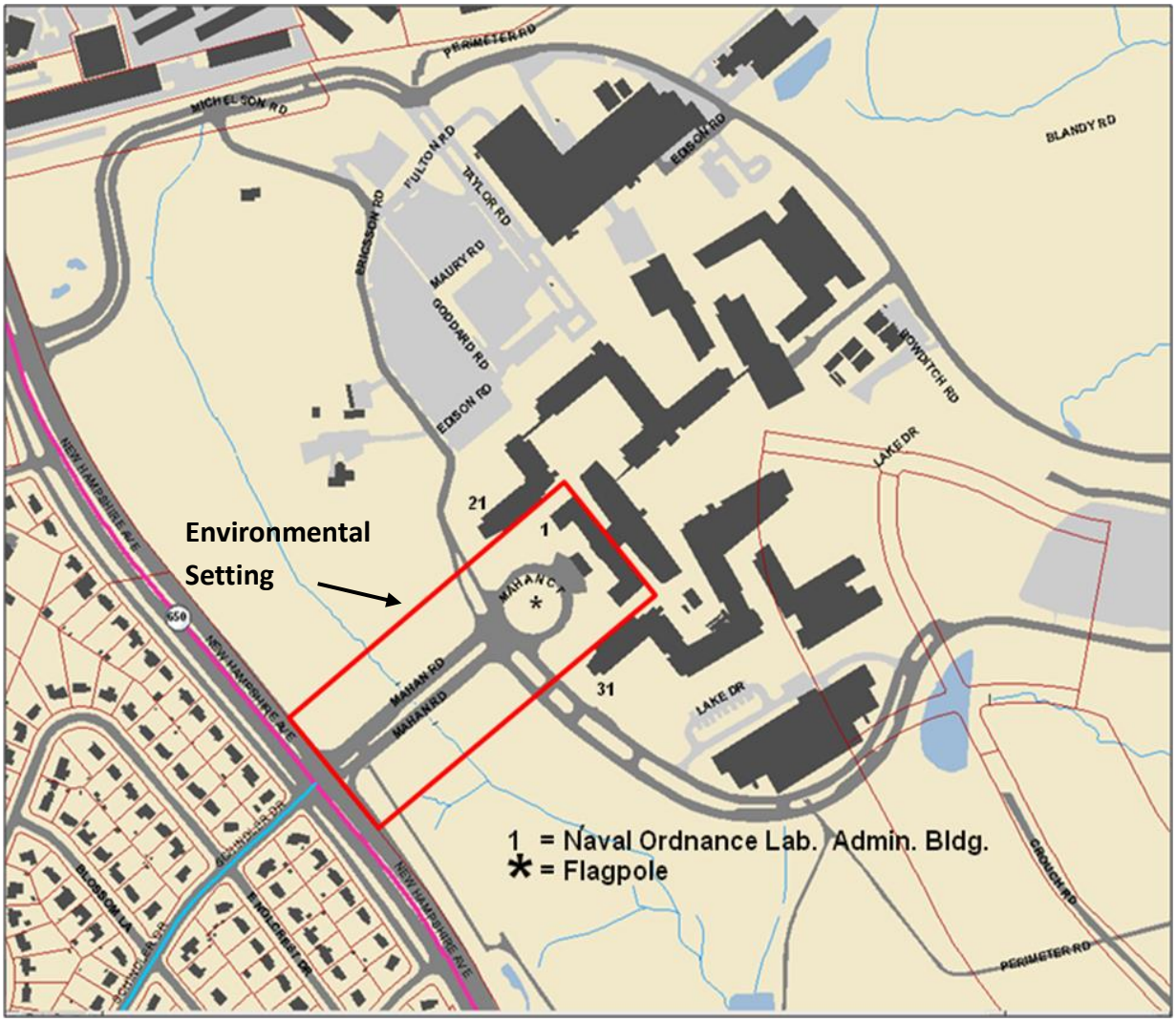
The Historic Preservation Commission (HPC) has evaluated this resource and recommends its designation as a historic site in the *Master Plan for Historic Preservation*. The HPC recommends the resource be added to the Locational Atlas and Index of Historic Resources as an interim measure prior to designation. The Maryland Historical Trust has found the Naval Ordnance Laboratory Historic District, of which this resource is part, eligible for listing on the National Register of Historic Places.

The Naval Ordnance Laboratory (NOL) Administration Building has architectural and historical significance. The building was designed in 1946 by Eggers and Higgins in Modern Classical style, an architectural style used for federal buildings in this era, noted for its restrained classical features. Eggers and Higgins, the successor firm of John Russell Pope, was a nationally prominent firm known for the Dirksen Senate Office Building. The NOL contributed significantly to national weapons research, development, and testing in the postwar era and helped transform White Oak from a rural to suburban area. The NOL Administration Building became a symbol of the NOL and the new neighborhood of federal workers that grew around it, and with its highly visible and prominent location, is still an area landmark. Although the NOL closed in

1997, the campus is now home to the U.S. Food and Drug Administration and the Administration Building (Building 1) has been integrated into the redesigned site and its architectural features are echoed in new buildings. The NOL meets 1a, 1c, 2a, 2e of the Criteria for Historic Designation.

This Plan recommends preserving open space along the main access road and retention of the view of the Administration Building from New Hampshire Avenue.

The environmental setting is approximately 10.5 acres, as depicted on the map below. The setting includes the Administration Building, the flagpole, the traffic circle and axial entrance drive, open space on either side of the drive, and a commemorative installation along the southeast façade featuring former entry steps to the building.



STAFF MEMO APPENDIX A

CRITERIA FOR DESIGNATION

Per Section 24A-3b of the Historic Preservation Ordinance (Montgomery County Code Chapter 24A. Historic Resources Preservation), the following criteria shall be applied when considering historic resources for designation as historic sites or historic districts on the *Master Plan for Historic Preservation*:

(1) *Historical and cultural significance.* The historic resource:

a. Has character, interest or value as part of the development, heritage or cultural characteristics of the county, state or nation;

b. Is the site of a significant historic event;

c. Is identified with a person or a group of persons who influenced society; or

d. Exemplifies the cultural economic, social, political or historic heritage of the county and its communities.

(2) *Architectural and design significance.* The historic resource:

a. Embodies the distinctive characteristics of a type, period or method of construction;

b. Represents the work of a master;

c. Possesses high artistic values;

d. Represents a significant and distinguishable entity whose components may lack individual distinction; or

e. Represents an established and familiar visual feature of the neighborhood, community or county due to its singular physical characteristic or landscape.

STAFF MEMO APPENDIX B

Excerpt: MIHP RESEARCH FORM M: 33-25 NAVAL ORDINANCE LABORATORY HISTORIC DISTRICT, Significance

(from Christopher Martin and David Berg, *Maryland Historic Trust State Historic Sites Inventory Form M: 33-25 – Naval Ordnance Laboratory Historic District* (February 1997) at http://www.mdihp.net/dsp_search.cfm?search=property&id=17973&viewer=true&requestTimeout=6000)

Elaboration of History and Significance

Land for the Naval Ordnance Laboratory complex at the White Oak site was acquired by the U.S. Navy in 1944 to supplement the tremendous wartime expansion of research and weapons development needs at the original Ordnance Laboratory located at the Washington Navy Yard in southeast Washington, D.C. According to the published administrative history of the White Oak facility, during World War II the Washington Navy Yard's Naval Ordnance Laboratory became the world's largest military research and development center of its kind (Smaldone 1977). The Washington Navy Yard, where the NOL's parent facility is located, was listed as both a National Register site and National Historic Landmark in 1973, with significance under National Register criteria A (association with events contributing to the broad patterns of our history) and C (for architectural significance).

Despite the end of the war, there were several reasons for pursuing plans to expand Navy Yard facilities and relocate the Ordnance Laboratory functions to a new, separate site. During war time, lack of space made it increasingly difficult for growing ordnance testing laboratories and production facilities (the Naval Gun Factory) to coexist on the same site. In searching for a new site, the Bureau of Ordnance required several characteristics for a new ordnance laboratory site, including: a suburban site within 30 minutes driving distance from the main Navy Yard buildings; a location near a developed residential community commensurate with the income of NOL personnel; a low-density location where security could be enforced relatively easily; an area isolated from residential and commercial buildings to minimize radio and communications interference; a large site with sufficient open space to allow the isolated locations for electromagnetic testing facilities; a site with little "magnetic noise", or with ground having uniform magnetic fields to accommodate magnetic testing; and the potential for a campus-like atmosphere to attract civilian scientific and research personnel (Rosenzweig 1995). At the time, the idea of having a facility solely for the purpose of Navy research and development was somewhat revolutionary.

A new ordnance laboratory accommodated an expanded post-war research and development program which included a new partnership between military officers and civilian scientists. This cooperative approach, quickly accepted throughout the Navy, was forwarded by Dr. Ralph D. Bennett, a Massachusetts Institute of Technology professor who became associated with the NOL in 1940. Bennett eventually became its Director by 1945, and remained in that position until 1954 (Alexis 1988). Laboratory and testing facilities were built at the White Oak site during an initial building campaign lasting between 1945 and 1954, with the transfer of Naval Ordnance Laboratory operations from the Navy Yard completed in mid-June 1948 (Greenhorne & O'Mara, Inc. 1992a; Rosenzweig 1995). A resulting housing boom transformed the White Oak area in the decade following World War II, immediately felt in the Burnt Mills Knolls neighborhood, where it is estimated that 60% of the houses around Schindler Drive, named in honor of the Lab's former chief Admiral, Walter Schindler, were purchased by Laboratory employees (Maryland-National Capital Parks and Planning Commission 1995).

The Administration and Laboratory complex (in the 100 Area), Magnetic Research buildings (in the 200 Area), and several buildings in the 400 Area were designed by the architectural firm of Eggers & Higgins, New York, with Taylor & Fisher, Baltimore, as associates. The consulting engineer was Edward A. Sears, also of New York City. Otto Eggers and Daniel Paul Higgins were partners in, and successors to, the firm of John Russell Pope, the internationally renowned architect. In 1937, after Pope's death, they formed their own firm, completing such projects as the National Gallery of Art, and the Jefferson Memorial (Rosenzweig 1995). By the 1950s the firm of Eggers & Higgins was one of the largest in the country, designing a large number of government buildings, hospitals, military facilities, commercial buildings, and university buildings (Greenhorne & O'Mara, Inc. 1992a, 1992b). According to *Historic Resources of the Eastern Montgomery County Master Plan Areas*, the buildings at the facility "were highly representative of the firm's nationally renowned modern Neo-classical design" (Maryland-National Capital Park & Planning Commission 1995).

The three-story administration/laboratory complex is articulated in a Late Art Deco style with restrained Neoclassical inspiration, with an institutional appearance used in other government buildings of the period in Montgomery County and the metropolitan area (Alexis 1988). The Front Area, with its original circular drive, maintains the rigid symmetry of its original campus design. Its focal point is the facade of the main building, visible from New Hampshire Avenue. The facade has slightly projecting angular columns faced with granite contrasting with the red brick construction. The style and appearance of the main building recalls the Bethesda Naval Hospital (1942) and Erskine Hall of the Army Mapping Service (1945) (Alexis 1988).

One aspect of the NOL landscape that holds particular significance for NOL employees is the nine-hole golf course, which was conceived, built, and maintained entirely by the employees. By 1952 the NOL Employees Association formed a special Naval Ordnance Laboratory Golf Association (NOLGA) to explore the construction of an employee golf course.

The golf course is personally important to many former and current employees as a major achievement because all costs associated with the venture were borne by the members, with no Navy-appropriated funds used for its construction and maintenance. This also included the purchase and maintenance of all equipment required to service the golf course. Because of a close working relationship with the University of Maryland, the NOL golf course was the first to use the then new hybrid of Zoysia which was developed by the University's agricultural labs. In 1964, the NOLGA contracted with Edmund Ault, a registered golf course architect, to provide a long range renovation plan to improve the course's safety and character. Over the next thirty years several of these suggestions were implemented, again using association members to provide not only the funding but the physical labor. Initially, membership was restricted to military and civilian employees of NOL, the Army's Harry Diamond Laboratory, and employees of tenant activities at NOL. For community relations, membership was opened to residents in the surrounding communities by the 1960s. The vast majority of current members are retired employees (Marion 1996b).

The mission of the NOL at White Oak upon its creation in 1945 was to:

> Carry out the mission of research and development establishments as related generally but not exclusively to fire control, demolitions, guns and accessories, explosives, including nuclear, projectiles, propellants, ammunition and components, guided missiles, mines, depth charges, torpedoes, nets, degaussing, and such other weapons or devices as may from time to time be assigned (Smaldone 1977).

By 1956, when many aspects of the facility were in full operation, the general mission statement became more focused: "conduct research, design, development, test, and technical evaluation of ordnance materials, components, assemblies and systems, principally in the fields of fuzes, explosives, warheads, mines, depth charges, torpedoes, bombs and missiles." The statement concluded with an added emphasis, to "conduct research and evaluation in the fields of aerodynamics" (Smaldone 1977). By 1972, the initial, broad mission of the NOL became more restricted, due to both the growth of other Navy facilities and the impending consolidation with the Navy's Dahlgren facility. By that time, the NOL's mission was to be the principal, although no longer the exclusive, in-house research and development facility for ordnance technology, concepts, and systems (Smaldone 1977).

Since its founding, the White Oak facility has developed numerous unique and highly significant research facilities, including wind tunnels, a hydroacoustic facility, hydroballistics tank, electromagnetically shielded laboratories, and several environmental and nuclear effects simulation facilities (Greenhorne & O'Mara, Inc. 1992a). An interesting aspect of weapons development at the NOL involved war prizes after 1945 and interaction with German scientists after the war. The sphere on top of 402 (Supersonic Wind Tunnel, 1947) is a German war prize that became important in the testing of V-2 rocket projectiles (DeSavage 1996). According to architect Joseph Miller, who was the project manager for Eggers & Higgins associated with the design and construction of the Supersonic Wind Tunnel, German engineers were brought to White Oak and provided valuable information, because they were the designers of the original rocket system that caused much damage in London during World War II (Miller 1996).

Among the most notable scientists brought from Germany after the war was Dr. Rudolf Hermann. Dr. Hermann was Director of the German wind tunnel developments at Peenemunde, Germany beginning in 1936, and after November of 1944, at Kochel, Germany. The experiments and equipment used at Kochel included supersonic wind tunnels, and the beginning of the design and construction of a hypersonic wind tunnel for Mach 10 wind experiments.

Following the war, two German supersonic wind tunnels (Supersonic Tunnels 1 and 2), along with the designs, reports and experiment data were sent to the NOL in White Oak. One tunnel, Wind Tunnel No. 1, is still on site, and the historic documents brought from Germany are still extant today in the NOL archives. Dr. Hermann and approximately 35 of his associates and engineers were also brought to the NOL to continue the work. Dr. Hermann Kurzweg, who had been Dr. Rudolph Hermann's Assistant Director in Germany, also came to NOL, and became the Director of the NOL Wind Tunnel Laboratories. Other German scientists who worked at NOL after the war were, Dr. Richard Lehnert (now retired from NASA), Dr. Gerhard Eber, Dr. Ernest Winkler (now retired from NSWC), Dr. Edmund Stollenwerk (now retired from Lockheed), Max Peucker, Dr. Peter Wegener (now a professor at Yale University), and Dr. Willi Heybey (now retired from NASA). Under project "Paperclip", Dr. Karl H. Grunewald, Dr. Eva Winkler, and Mr. Florian Geineder joined the NOL team during the years 1947 and 1948 (Hastings 1979; Sherman 1988).

Although the United States had a few other wind tunnels in operation or under construction after the war, such as the Lone-Star tunnel in Daingerfield, Texas, and one tunnel at the Aberdeen Proving Ground in Maryland, these tunnels were extremely limited in their capacity, leaving NOL as the primary research facility for flow experiments throughout the Cold War Era (Hastings 1979).

Since its creation the NOL's research and development mission has depended on a cooperative approach between military officers and many of the top scientists in the United States. Scientists of note whose research at NOL has resulted directly in the development of major scientific advances include Dr. John Bardeen, whose research resulted in the invention of transistors. Dr. Bardeen has been awarded two Nobel Prizes in Physics, one for the invention of the transistor in 1956, and one for the development of a theoretical explanation for superconductivity in terms of quantum theory (Hamlin 1985). Dr. Bardeen is the only one to have received two Nobel Prizes in the same subject.

The basic operating principles for all modern computers were invented in the early 1940s by Dr. John Vincent Atanasoff, who worked at NOL until moving on to establish his own business in 1952. Although Dr. Atanasoff has not always been recognized for his great contribution to our society due to others who originally took credit for his work, in 1973, the courts ruled that the invention of the electronic digital computer was the work of Dr. John Vincent Atanasoff. Today, Atanasoff is recognized worldwide for his achievement (Hamlin, 1984). Experience with early computers at the NOL reportedly inspired the term "de-bugging" for fixing computer problems; the term originated because moths frequently got into computers causing faulty circuitry.

Other well known scientists at the NOL include Dr. Donna Price, whose work in 310A (Chemical Laboratory) resulted in major advances in the field of plastic explosives (Caudle 1996; DeSavage 1996). Dr. Price is revered as a national expert in the field of plastic explosives. Dr. Kathryn Shipp, who worked at NOL during the 1950s and 1960s, discovered several complex organic compounds, the best known of which is HNS, which was developed at NOL and used on the moon by the Apollo 14 astronauts in active seismic experiments upon the request of NASA. HNS was also used to deploy the landing gear of the lunar module, and to effect the separation of different stages. Dr. Shipp received a Presidential award for her work on this project. Other chemists involved with the Apollo program at NOL were Dr. Jerome Rosen, Harry Heller, and Eugene Kilmer (NOL 1971).

Ceramics research and development was undertaken by former Soviet scientist Dr. Talmy Inna at the NOL. A widely used application of this research is the production of ceramic tiles and brick from fly-ash generated by coal fired electric plants [this technology is currently being used by Montgomery County, Maryland] (Caudle, et al. 1997).

The research and weapons development which took place at the NOL are of exceptional importance in our Nation's waging of the Cold War. Most of our most innovative weapons systems were developed in their entirety at this site, and many other NOL research products have become essential to American commercial products. In addition, many of the Nation's top scientists worked on these studies at NOL. Some specific achievements include:[1]

AERODYNAMICS

Eventually, seven wind tunnels were built at NOL between 1946 and 1972, many of which are still operational. Most of these tunnels were also designed at NOL. Early work on the tunnels was performed at a frenetic pace, with three shifts working through the night. Tests performed in the original German Tunnels 1 and 2 included those on, guided missiles, mines, depth bombs, sonobouys, aircraft and reentry bodies. Hardware produced as a result of these experiments included 20mm and 40mm antiaircraft projectiles, the MK-80 series bombs, Sidewinder and Bumblebee missiles, SUBROC, the F-102 Fighter aircraft, Jupiter and the MK-1 and MK-2 Polaris (Hastings 1979).

Tunnel 3, built in 1949, was used primarily for supersonic diffuser research, which became the basis for future diffuser research at Tullahoma, Tennessee. In 1955, this tunnel was given to the Aerospace Engineering Department of the University of Maryland. Tunnel 4 was built in 1950. In this tunnel was demonstrated the first air-liquification-free hypersonic tunnel flows at Mach speeds up to 10. This tunnel made the first Mach 10 static force tests on the Polaris MK-1, the Jupiter, Pershing, and Minuteman missiles. Tunnel 6, also completed in 1950, was used to research supersonic turbulence and shock wave phenomena. The first Schlieren photographs of jet aircraft creating a shock wave (sonic boom) were taken at NOL during wind tunnel experiments. Important new measurement techniques such as color Schlieren and Laser Holographic Interferometry were developed as well. Tunnels 5 and 7, although designed and partially constructed, were never completed. Hypervelocity Research Tunnel 8A, was installed in 1974. It has been used for high altitude testing of various re-entry bodies and the space shuttle orbiter (Hastings 1979).

Hypervelocity Tunnel 9 was authorized by Congress in 1966, and essentially completed in 1972. This tunnel is the only one of its kind in the United States, and is unique for having the highest speed, longest flow time, and largest object capacity of any such tunnel in the Unites States. It has a significantly greater productivity per run than other tunnels,

[1] The information on NOL research and development was obtained from unpublished information available at the NSWC in White Oak unless otherwise noted.

thus reducing the cost of data. While other hypervelocity tunnels were limited to run times on the order of tens of milliseconds, Tunnel 9 provided, and still provides, one second run times. Furthermore, this tunnel can accommodate full size models. This tunnel has been invaluable for research and development for all three armed services, and the National Aeronautics and Space Administration (NASA), and it is expected that this tunnel will remain in use at its current site by the U.S. Air Force (Hastings 1979).

Parachutes (Retardation Devices) have been designed, tested, and produced at NOL for dozens of applications including those used on the Space Shuttle, and the Mars Pathfinder.

NUCLEAR WEAPONS

Scientists at the NOL designed and developed many of the Navy's first nuclear weapons. Among these were:

ELSIE I: the Navy's first nuclear weapon for use against land targets, and ELSIE II.
BETTY (Bomb M90): the Navy's first nuclear depth bomb.
LULU: the Navy's second nuclear depth bomb.
HOTPOINT (Mk105): a parachute retarded design similar to LULU.
SUBROC: the Navy's first submarine launched anti-submarine nuclear weapon.

NOL employees also designed and developed arming and fuzing devices for the POLARIS, MINUTEMAN, and TERRIER nuclear weapons. NOL also designed and installed the test equipment to collect shock pressure information on the BIKINI underwater shock and air blast nuclear test conducted in 1947, as well as those of the SANDSTONE tests started in 1948, WIGWAM, WAHOO, & UMBRELLA underwater tests in 1955, and the development of nuclear test simulators.

EXPLOSIVES

NOL scientists invented 9 of the 10 new energetic molecules (explosives) developed since World War II that are now used by the Department of Defense (DOD) for practical use in explosive and propellant devices. For example, the substance labeled PBXW-100 which was developed at NOL, has come into use in all underwater explosives used in defense.

DEGAUSSING

NOL scientists developed the technology and system designs for all the degaussing (demagnetizing) systems for all Navy ships and all magnetic calibration facilities in the United States.

ALTERNATING MAGNETIC (AM) FIELDS

In the 1960s and 1970s, the NOL ran experiments to determine the cause of AM signatures on large naval targets. As a result, the NOL developed AM signature reduction systems which reduced the vulnerability of U.S. and NATO ships and submarines.

METAL ALLOYS

The NOL was the nation's leading research facility in non-magnetic and soft-magnetic alloys after World War II. All of these alloys are easily identified as having been developed at the NOL by the last three letters of their names, "NOL". The products developed included, most significantly, NITINOL, a corrosion resistant, high electrical resistance, strong, "metal with a memory." It has found widespread applications in weapons systems, but is also used commercially in thousands of products, including: eyeglass frames, dentistry products, blood vessel stent, bra underwiring, anti-scald devices for showers, flow regulators in autos, catheter guidewires, ligament and bone attachments, etc. Also developed were NITINOL-60, PYRONOL, WAGONOL, which are all used mainly for defense purposes.

The NOL has also developed a number of soft magnetic metal alloys which have laid the foundation for the soft magnetic materials industry in the United States. Many of these developments were made for use in the Vietnam War, for such devices as magnetic sensors to detect mines, but this research, which began as military research, has spawned many industries in the Unites States. Some of these applications include magnetic traffic light/highway sensors and weapons detectors at airline gates (developed by agreement with American Airlines). These alloys are also used in transformers, motors, signal processors, memories, recorders (including video tape recorder heads), actuators, etc. Among the alloys

developed were: PARABANOL, ORTHONOL, ALFENOL, APHONOL, and TERFENOL. One of the NOL scientists, Dr. Arthur Clark, worked on magnetic materials which are currently being used by Ikea corporation for use in the manufacture of a new cashier and inventory control system (Caudle, et al. 1997).

BATTERY MATERIALS

The NOL developed many of the battery systems which are widely used today, including improvements to Lithium thermal batteries, and a thermally stable form of silver oxide for use in high-rate silver oxide batteries.

More recent facilities related to nuclear and environmental testing were added to the site during the 1970s and 1980s, including refinements to systems for detection of low observable targets. Reflecting this expanded mission, in 1974 the Naval Ordnance Laboratory was consolidated with the Naval Weapons Laboratory at Dahlgren, Virginia, to become the Naval Surface Weapons Center. The White Oak facility's name was changed to Naval Surface Warfare Center in 1987. Since 1974 (until recent preparations for base closure begun in 1995), the Center's programs have changed in focus from individual weapons design and testing to broader weapons systems, demonstrating "leadership in all aspects of surface ship combat systems engineering and integration analysis" (Greenhorne & O'Mara, Inc. 1992a; Rosenzweig 1995).

There were two major changes in the size of the NOL White Oak land parcel since its creation in the mid-1940s. In 1969, 137 acres at the south-central edge of site were transferred to the Department of the Army for construction of the Harry Diamond Laboratories; there were no buildings related to the NOL on this site when it was transferred (Building Technology Incorporated 1984). The other reduction occurred in 1995, when 22 acres of vacant land in the southeastern corner were transferred to the U.S. Army (Whiteford 1996).