

**INDIVIDUAL PROPERTY/DISTRICT
MARYLAND HISTORICAL TRUST
INTERNAL NR-ELIGIBILITY REVIEW FORM**

Property/District Name: NIH Memorial Laboratory Bldg. 7 Survey No. :M- 35-9-5

Project: Expansion of Building 10 Agency: F/NIH

Site visit by MHT Staff: no yes Name _____ Date _____

Eligibility recommended Eligibility not recommended _____

Criteria: A B C D Considerations: A B C D E F G None

Justification for decision: (Use continuation sheet if necessary and attach map)

Building 7 at NIH is the Memorial Laboratory located on the west side of Memorial Drive. Completed in 1947, the building provided research space for infectious diseases. The laboratory space was specifically designed to limited the inherent risks associated with infectious disease research. This innovative design focused on the air flow between spaces and floors and included decontamination locks between clean and dirty areas. The 3 1/2 story brick building complements the massing and materials of the other Georgian Revival buildings on campus from the same time period. However, Building 7 displays a unique fenestration pattern and cantilevered canopies. Recognized by the press for its technological advancements, Memorial Laboratory was the focus of articles in *Architectural Record* and *LIFE* magazines. The Trust concurred that Building 7 was eligible for the National Register under Criteria A and C.

Documentation on the property/district is presented in: NIH Historic Resources Inventory Form

Prepared by: Robinson and Associates

Lauren Bowlin 2/16/00
Reviewer, Office of Preservation Services Date

NR program concurrence: yes no not applicable
Bkenty 8/23/00
Reviewer, NR program Date

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MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

Geographic Region:

- Eastern Shore (all Eastern Shore counties, and Cecil)
- Western Shore (Anne Arundel, Calvert, Charles, Prince George's and St. Mary's)
- Piedmont (Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery)
- Western Maryland (Allegany, Garrett and Washington)

Chronological/Developmental Periods:

- Paleo-Indian 10000-7500 B.C.
- Early Archaic 7500-6000 B.C.
- Middle Archaic 6000-4000 B.C.
- Late Archaic 4000-2000 B.C.
- Early Woodland 2000-500 B.C.
- Middle Woodland 500 B.C. - A.D. 900
- Late Woodland/Archaic A.D. 900-1600
- Contact and Settlement A.D. 1570-1750
- Rural Agrarian Intensification A.D. 1680-1815
- Agricultural-Industrial Transition A.D. 1815-1870
- Industrial/Urban Dominance A.D. 1870-1930
- Modern Period A.D. 1930-Present
- Unknown Period (prehistoric historic)

Prehistoric Period Themes:

- Subsistence
- Settlement
- Political
- Demographic
- Religion
- Technology
- Environmental Adaptation

IV. Historic Period Themes:

- Agriculture
- Architecture, Landscape Architecture, and Community Planning
- Economic (Commercial and Industrial)
- Government/Law
- Military
- Religion
- Social/Educational/Cultural
- Transportation

Resource Type:

Category: building

Historic Environment: suburban

Historic Function(s) and Use(s): medical laboratory

Known Design Source: Gilbert S. Underwood Architect of the Treasury

**NIH Historic Resources
Inventory Form**

M: 35-9-5

1. Name

Historic Name Memorial Laboratory

Common Name and Building Number Building 7

2. Location

Street and Number 9000 Rockville Pike

City, Town Bethesda

Congressional District 8

State and Zip Code Maryland 20892

County Montgomery

3. Classification

Category	Ownership	Status	Present use (Government)
<input type="checkbox"/> District	<input checked="" type="checkbox"/> Public	<input checked="" type="checkbox"/> Occupied	<input checked="" type="checkbox"/> Laboratory
<input checked="" type="checkbox"/> Building(s)	<input type="checkbox"/> Private	<input type="checkbox"/> Unoccupied	<input type="checkbox"/> Animal Research
<input type="checkbox"/> Structure	<input type="checkbox"/> Both	<input type="checkbox"/> Work in Progress	<input type="checkbox"/> Hospital
<input type="checkbox"/> Site	Accessible		<input type="checkbox"/> Administrative
<input type="checkbox"/> Object	<input checked="" type="checkbox"/> Yes: Restricted		<input type="checkbox"/> Support
	<input type="checkbox"/> Yes: Unrestricted		<input type="checkbox"/> Other
	<input type="checkbox"/> No		

4. Owner of Property

Name National Institutes of Health

Street & Number 9000 Rockville Pike

Telephone No. : 301/496-5037

City, Town Bethesda

State and Zip Code Maryland 20892

5. Location of Legal Description

Courthouse, Registry of Deeds, etc. Montgomery County Courthouse Liber# _____ Folio# _____

Street & Number

City, Town Bethesda

State and Zip Code Maryland 20850

6. Representation in Existing Historic Survey

Yes No

Title NIH Master Plan, Phase 1; Task 5, Part II: Cultural Asset Inventory

Date September 17, 1985

Federal State County Local

Depository for Survey Records

City, Town

State and Zip

M.35-9-5

7. Description

Condition

Excellent
 Good
 Fair

Deteriorated
 Ruins
 Unexposed

Unaltered
 Altered

Original Site
 Moved

SEE CONTINUATION SHEETS

Overview

Building 7, Memorial Laboratory, is located on the west side of Memorial Drive, across from the main administrative quadrangle at NIH. It was built in 1947 to house a new laboratory which was to be in the forefront of research on infectious diseases. This building is characterized by many innovative engineering features and equipment, due to the nature of research conducted there.

Building 7 represents a break from the traditional Georgian Revival style which dominated the early NIH campus. In its massing and form, Building 7 is similar to the Georgian Revival buildings that surround it. While Building 7 does retain some of the Georgian Revival elements of earlier NIH structures of the administration complex, it is distinguished by a number of architectural and engineering details related to its mission of providing a safe working environment for highly dangerous research.

Building Description

Exterior

The building is three-and-one-half-stories in height and sits on a raised basement. It measures 194'8" x 46'6". It is oriented on a north-south axis facing Memorial Drive. The exterior walls are covered with red face brick laid in Flemish bond, and the exterior trim composing the window lintels and sills is cut stone. The side-gable roof is covered with slate and finished with a wooden box cornice with a denticulated soffit. The main entrance to the building is contained within a projecting, central cross-gable section; this projecting gable section is replicated on the rear or west facade. Like the other Georgian Revival buildings constructed at NIH during this period, Building 7 has connected, double-end chimneys, which give it an oversized domestic appearance. However, the fenestration of this building differs significantly from the other buildings on the NIH campus, since it was dictated by the specific function of the building. The horizontal, end-to-end windows are composed of three, hermetically sealed panes of glass as an anti-contamination measure. The structure is a beam and column system composed of reinforced concrete resting on concrete footings. The floors are concrete slabs and the roof is framed in steel.

The principal or east facade, facing Memorial Drive, is dominated by the long, continuous bands of single-light windows, which illuminate the laboratory spaces on each of the three main floors. The windows are shaded by reinforced concrete solar canopies, which were cast at the same time and cantilevered from the floor slabs above, to simplify construction. These canopies were created to eliminate the need for interior blinds. As potential dust collectors, interior shades would have compromised efforts to create a germ-free environment in the laboratories. The upper three stories, characterized by the continuous fenestration and canopies, are separated from the raised basement level by a thick stone belt course. Four square-shaped casement windows, with vents or horizontal muntins, punctuate the basement-level of the facade on either side of the central projecting entrance block. The entrance is contained in this basement level, approached by a small flight of stairs with railing. The wooden double doors, with six lights in the upper half of each door, are set in a panelled recessed niche. Above the doors is a large diamond-pane transom window. On either side of the entrance is a

small circular window. Above the belt course, each of the three upper floors is articulated by a band of ribbon window, four windows wide. These windows are similar to those of the basement level: square in shape and divided horizontally into four lights. In the apex of the prominent cross gable is a small circular window, now infilled around a vent.

The west facade is similar in its composition to the east facade. The horizontal emphasis of the upper floors is retained through the continuous cantilevered canopies. The windows underneath the canopies, however, are not continuous across the entire facade. Whereas on the front of the building the windows illuminated the laboratory space, on the rear of the building they gave onto the animal rooms and functional spaces, such as the dumbwaiter shaft and sterilizing rooms. The dumbwaiter shafts do not have windows and thus serve to break up the exterior line of windows on each floor. Because of the topography, the basement of the building is not as exposed on the rear facade; the building is set into a slight hill. The attic story on the rear facade is illuminated by a series of gabled dormers, four on either side of the central projecting cross-gable block. The cross-gable block on the west facade, which encloses a stairwell and a storage area, projects farther from the building than the central block on the main or east facade.

The north and south facades, which comprise the gable ends, are very similar in form. The gables are finished in a chimney end with a blind semicircular brick window at the apex. The attic story, located in the middle of each pediment, is articulated by three vented windows. At the level of the three main floors, on the east side of each end facade, is a band of three windows with the cantilevered canopies, identical to those of the main (east) facade. These windows illuminate the laboratories that run along the front of the building. In 1985, stairwell additions were added to the west side of the north and south facades. The resulting brick tower-like projections are ornamented minimally with the stone belt course that separates the raised basement from the main three floors of the building, with a course that continues from the bottom of the third-story windows, and with a cornice that continues from the cantilevered canopy that shelters the third-story windows.

Interior

In plan, the building is essentially rectangular in its footprint, with a central section that projects out from the main block. The central section was considered "clean," and the laboratory wings "dirty," as regarded the control of air within the building. The spaces were thus segregated according to function. The central section housed the main entrance to the building at its east end, the internal circulation systems of the structure in the center, including a foyer, service lobby, central elevator bank, and, in the rear (west facade) projecting block, a stairwell. The rest of the ground floor was devoted mainly to machinery rooms and storage space. On the three main floors, the central section contained a library or conference room in the east projecting block and storage area in the west projecting block. The two principal wings of the building are identical in their layout, and, as "dirty" spaces, they housed activities related to research. Accessed by a central decontamination lock, divided in half to provide separate facilities for men and women, the laboratory wings contained three animal rooms, one general laboratory, one private laboratory, and a cage washing and sterilizing room. The laboratories are arranged along the perimeter of the building on the east facade. They are separated from the animal rooms, which are located along the west wall of the building, by a central corridor.

As originally designed, special features of this building included an air-conditioning system that prevented the contamination of one lab by another. Fresh air was provided by numerous ceiling fixtures, equipped with diffusers to spread the air throughout the room; the exhaust system removing the air to the outside of the building exceeded the supply, to minimize the escape of contaminated air into other sections of the building. Laboratory equipment was designed to contain and destroy all airborne germs. To assure maximum safety for the laboratory workers, each of the lab units was entered through a decontamination lock, a special room with heavy metal doors and a negative air pressure, leading from the changing area to the laboratory.

Many of the original interior elements of Building 7 are extant. This includes the decontamination locks, elements of the airhandling system (most of which is no longer functional), and certain laboratory equipment. The recessed fluorescent lighting units, specially sealed for precaution against contamination, are still visible in some of the rooms. Currently, a typical laboratory in Building 7 includes an original cut granite basin, walls lined with original pale blue tile from floor to ceiling, original grey metal cabinets and counters, original air-handling diffuser units mounted to the ceiling, and the original hermetically sealed windows and exterior cantilevered canopies. Although these canopies were created to avoid the use of interior shades, venetian blinds have been installed in some of the laboratory windows. Other original elements extant within some of the laboratories include the shielded germicidal lamps enclosed in the metal cabinets that housed the infectious material. Upon completion of a test, the lab technician would close the door of these heavy metal cabinets and sterilize items placed within the unit. The decontamination locks, originally one for male employees and one for female employees, now appear to be mostly used for storage of laboratory supplies. Signage, such as the original rectangular room numbers framed in grey aluminum and the original warning signage, are still located outside most of the laboratories. The corridors are lined with the original pale blue tile, which made for ease of cleaning, throughout the building. Some laboratories have sustained minor alterations, including modification of the lighting fixtures and ceilings. The newer ceilings are composed of acoustical tile inset with modern fluorescent lights.

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8. Significance

Period	Areas of Significance			
<input type="checkbox"/> Prehistoric	<input type="checkbox"/> Archeology-Prehistoric	<input type="checkbox"/> Community Planning	<input type="checkbox"/> Landscape Architecture	<input type="checkbox"/> Religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> Archeology-Historic	<input type="checkbox"/> Conservation	<input type="checkbox"/> Law	<input checked="" type="checkbox"/> Science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> Agriculture	<input type="checkbox"/> Economics	<input type="checkbox"/> Literature	<input type="checkbox"/> Social/Humanit
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> Architecture	<input type="checkbox"/> Education	<input type="checkbox"/> Military	<input type="checkbox"/> Theater
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> Art	<input type="checkbox"/> Engineering	<input type="checkbox"/> Music	<input type="checkbox"/> Transportation
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> Commerce	<input type="checkbox"/> Exploration/Settlement	<input type="checkbox"/> Philosophy	<input checked="" type="checkbox"/> Other (Medicine)
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> Communications	<input type="checkbox"/> Industry	<input checked="" type="checkbox"/> Politics/Government	
		<input type="checkbox"/> Invention		

Specific Dates	Architect				Builder	Area
Applicable Criteria:	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D		
Applicable Exception	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E	<input type="checkbox"/> F <input type="checkbox"/> G
Level of Significance	<input checked="" type="checkbox"/> National		<input type="checkbox"/> State	<input type="checkbox"/> Local		

SEE CONTINUATION SHEETS

Overview

Dedicated in 1946 by Surgeon General Thomas Parran, Building 7 was originally named Memorial Laboratory, in honor of those who had lost their lives undertaking the research of highly infectious diseases. Building 7 was specifically designed to prevent or at least limit the spread of disease within the confines of the research environment. Its appearance, both on the exterior and in its internal arrangement, reflected the serious measures taken to provide a safe work environment for laboratory researchers. The building has served continually as research space for the National Institute of Allergy and Infectious Diseases, its first tenant. Additionally, the National Institute of Neurological Diseases and Stroke is now located in Building 7.

The Design of Memorial Laboratory

At the time in which it was built, Building 7 was lauded as the latest weapon against the war on diseases in the United States. In the old laboratory facility, a number of scientists had lost their lives and many others had contracted serious illnesses. In particular, pressure for a new safe laboratory had increased with the deaths of three workers within a few weeks of one another in the fall of 1944, compounded with the advent a few months later of "Q-fever," an infection that temporarily felled 47 research workers at NIH.¹ Great precautions were taken in the design of the new laboratory to prevent any future loss of life among the laboratory workers. The laboratory design was extensively covered in science and architectural journals. Headlines such as "Germ-Proof Lab" and "No Germ Ever Had a Home Like This" illustrated the positive response elicited by this new laboratory.

In 1947, Memorial Laboratory was highlighted in several articles in *Architectural Record*, *LIFE*, and *The Nation's Business*, which all discussed the architectural innovations it employed. Building 7 was most unique in its careful design to control the flow of air in the building. Memorial Laboratory was distinguished by its division of space into contaminated and uncontaminated areas; there was a "clean" central section of the building, which included the administrative areas, elevators, and the reading room and study quarters, and two "dirty" laboratory wings. The laboratory wings, which were identical, contained six research units. On any given floor, a typical laboratory housed three animal rooms, one general laboratory, one private laboratory, a cage washing and sterilizing room — all accessed by decontamination lock areas, one for men and another for women.

The decontamination locks were among the most distinctive features of the building. They separated the safe and dirty areas, to prevent the spread of germs. The decontamination locks were designed to maintain negative air pressure to prevent the air, possibly laden with airborne infections, from escaping into the "safe" areas. Arriving for a day of research, the scientist first removed street clothes in the "clean" airlock, which contained a vestibule with lockers for the street clothes. The scientist then

¹"A Laboratory Building for the Study of Highly Infectious Diseases," *Engineering News-Record Reprint*, n.d., ca. 1947. Article states that 11 scientists lost their lives and over 100 people had serious illnesses. "No Germ Ever Had a Home Like This," *Nation's Business*, May 1948, stated that 23 lives of Public Health Service employees were claimed and over 200 others were affected.

passed into a second "dirty" airlock located directly adjacent to the laboratory, where he donned a set of white coveralls. This lock contained a shower and a second locker room for the laboratory clothing. The process was reversed in leaving the labs. Blue coveralls were worn outside the laboratory in the non-contaminated or "clean" areas.²

The interiors of the laboratories illustrated the latest in disease-preventing innovations, where the airflow was carefully controlled. Glass-hooded tables were installed, into which researchers inserted their hands through openings, while air inside the hoods was forced away from the scientist and ultraviolet radiation killed the exposed germs. Each lab also had its own dumbwaiter carrying trash to the incinerator, separated from the other dumbwaiters to prevent cross-contamination between laboratories. The dumbwaiters were also used to remove all solid waste from the animal rooms, which was collected in stainless galvanized covered cans to the gas-fired incinerators on the ground floor.³ No air was recirculated in the building, but was instead exhausted from the building through a series of heated electric grills which killed all organisms passing through at a temperature of 500 to 650 degrees, so that the air discharged from the building was also disease-free.

The counters in the laboratories were provided with shielded germicidal lamps which killed the germs adhering to its surface. *Architectural Record* described the specially designed lighting fixtures, "recessed fluorescent units sealed in a frame, which were installed flush with the plaster ceiling. Edges of the lens frame were beveled to provide a minimum of crevices in which bacteria could lodge. This also facilitated wiping of a disinfectant before breaking seal between frames in relamping the units."⁴ Ease of cleaning was an important aspect of the design of the building. The labs and work areas were covered floor to ceiling with "asphaltic tile," and the hallways and animal rooms with "quarry tile" for easy cleaning. Cages in which animals were kept were supported on steel frames hung from overhead steel rails, which enabled the frames to be moved easily to simplify cleaning the floors.⁵

Construction of Memorial Laboratory, which cost over \$1,000,000, was overseen by the Supervising Architect of the Treasury at the time, Gilbert Stanley Underwood. William E. Kelley was the project engineer. The George A. Fuller Company of Washington was the general contractor, superintended by S.O. Kahout.

Research at Memorial Laboratory

The work that was conducted in the laboratories of Building 7 entailed experiments with numerous

²"No Germ Ever Had a Home Like This," *The Nation's Business*, October 1947.

³"A Laboratory Building for Study of Highly Infectious Diseases."

⁴"Designed for Germ Control," *Architectural Record*, October 1947.

⁵"A Laboratory Building for Study of Highly Infectious Diseases," *An Engineering News-Record Reprint*.

deadly diseases. Cultures of these microorganisms were fostered for study, in an environment that placed priority on the security of the researchers' health. When the building first was completed, diseases such as the tickborne Rocky Mountain spotted fever, parrotborne psittacosis, undulant fever, typhus fever, polio-myelitis, the common cold, and the relatively new Q-fever constituted the principal research efforts in the laboratories. (In 1944, an epidemic of the Q-fever infection had spread through the old NIH lab, temporarily taking out nearly 50 research workers and prompting calls for a new laboratory, which resulted in Memorial Laboratory.)⁶ Scientists conducting the research in Building 7 worked in highly controlled environments, with elaborate safeguards. As one article explained:

Workrooms with specially designed cabinet hoods to house high-speed blenders and centrifuges are also provided. In these rooms extremely dangerous work will be performed. Inside the cabinets the infected fluids and tissues will be ground and the materials separated by centrifuges operating at speeds as high as 75,000 rpm. An invisible spray may result, thereby contaminating the atmosphere. To prevent a worker from opening the cabinets while the centrifuges are operating, the doors are equipped with switches that automatically cut off the power to the centrifuges when the doors are opened. Also, a negative pressure is provided within the cabinets and the exhausted air passes out over grids of the type previously mentioned. As a further precaution, ultra-violet lights are provided to sterilize the interior of the cabinets.⁷

Studies were frequently conducted on these diseases in mice, rats, rabbits, guinea pigs, monkeys and other small animals. The animals were kept in the laboratory wings in rooms along the rear (or west wall) of the building.

The Designation of the Building as Memorial Laboratory

Recent research by NIH staff revealed that the designation of the building as "Memorial Laboratory" was abandoned sometime in the early 1960s. In the 1963 edition of the *NIH Almanac*, the building was referred to simply by its number (Building 7). The road servicing the building, Memorial Road, today retains its name referencing the laboratory's original name. The road had been named for the laboratory on January 24, 1955; it had previously been referred to as "Road C." (The designation of the campus roads by letters of the alphabet was halted in 1955 to end the confusion for visitors and mail routing.)⁸

⁶"No Germ Ever Had a Home Like This," *Nation's Business*, May 1948.

⁷"A Laboratory Building for Study of Highly Infectious Diseases."

⁸NIH unpublished memorandum, "Historic Research on Memorial Road and Fatalities due to Laboratory Infections," dated 10/3/90.

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9. Major Bibliographical References

SEE CONTINUATION SHEETS

10. Geographical Data

Verbal Boundary Description

The proposed boundaries of the site are defined by Memorial Road to the east, the service road to the south, the service road serving Building 10 to the west, and the parking garage entrance road to the north.

11. Determination of Eligibility to be Included into the National Register

Eligible

Not Eligible

SEE CONTINUATION SHEETS

12. Form Prepared by

Name/Title Regina L. Arlotto and Judith Robinson, Architectural Historians

Organization Robinson & Associates, Inc.

Date February 22, 1997

Street & Number 1909 Q Street, NW Suite 300

Telephone 202/234-2333

City or Town Washington

State District of Columbia, 20009

Approved by the NIH Federal Preservation Officer

Concurrence of State Preservation Officer

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Individual Determination of Eligibility

Building 7, Memorial Laboratory, designed for the study of infectious diseases, was conceived in response to the very nature of the research which was undertaken at NIH. Due to the extremely contagious nature of the diseases, measures were taken which would protect the scientists from contracting the sicknesses which they were trying to cure. Building 7 was specifically designed to keep the levels of contamination at a minimum and to provide scientists with a protected research environment.

Memorial Laboratory has significant architectural and historical associations as outlined below and justified in the discussion that follows. The building **appears to be eligible for listing in the National Register of Historic Places, under Criteria A and C at the National level of significance.**

The relevant National Register criteria, from the *National Register Bulletin 16* (U.S. Department of the Interior, National Park Service, Interagency Resources Division), read as follows:

The quality of **significance** in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or . . .
- C. That embody the distinctive characteristics of a type, period or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; . . .

Criterion A - Historical Association

Memorial Laboratory (Building 7) was built in 1947 to house one of the most volatile research functions on the NIH campus. Encouraging the growth of deadly germs in order to study, and hopefully, wipe out dangerous diseases, an NIH laboratory always harbored the possibility that the disease would find its way into the scientist's own biological system. In fact, a number of scientists lost their lives during the course of their research; Memorial Laboratory was named in honor of those NIH scientists. With the erection of Building 7, the risk inherent in handling deadly diseases was greatly reduced, and Building 7 was used exclusively for research on infectious organisms. Ultra-modern and sophisticated technologically at the time of its construction, this facility fostered renewed efforts to stop the spread of diseases and cure deadly fevers such as Q-Fever and typhus.¹ Building 7 is inextricably tied to the mission of the National Institutes of Health and its continuing efforts to eradicate and study the most deadly organisms of the time.

¹Efforts to find oral history candidates or written documentation about the research that was conducted in Building 7 did not produce very much information.

The extensive press coverage that Building 7 received at the time of its dedication is indicative of the importance this laboratory had. One of the first of its kind, Building 7 instituted many features which scientists hoped would make research into infectious diseases less life-threatening for those conducting the research. Building 7 was looked upon as a model on which to base laboratory design in the future.

Criterion C - Design Significance

Memorial Laboratory, when completed in 1947, was considered a state-of-the-art laboratory for the study of infectious diseases. A complex structure in terms of its engineering, Building 7 was designed and built by the Public Buildings Administration, which highlighted their expertise in laboratory design. It elicited praise from highly regarded architectural journals and other nationally known magazines.

The design of Memorial Laboratory was strictly dictated by its function. Above all, in efforts to control germ contamination, the building exhibited a sophisticated system for handling air flow. Careful thought had been given also to methods of keeping the building sterilized. On the exterior of the building, the hermetically sealed windows, three panes of glass thick, kept infected air in while an intricate air system forced the air through the building, sterilizing it as it was vented to the outside. The concrete canopies over the windows were cantilevered from the floor slabs during the construction of the building to provide shade to the interior lab spaces, obviating the need for dust-collecting interior window shades. The interior of Building 7 was designed to contain infectious diseases within the laboratory spaces by the use of decontamination locks through which all researchers passed. These rooms, separate ones for male and female employees, maintained a negative air pressure. Additionally, special air-handling units were installed to prevent the spread of the infectious materials throughout the building. Other innovations included sealed lighting fixtures mounted into the ceiling and shielded germicidal lamps which effectively killed all infectious organisms when operational.

Integrity

The National Register defines seven "aspects of integrity" that have been considered in analyzing whether Building 7 (Memorial Laboratory) conveys its historical significance. "To retain historic integrity a property will always possess several, and usually most, of the aspects."² Building 7 appears to meet all of the aspects of integrity, as discussed below.

Location	The Memorial Laboratory is in its original location.
Design	The architects' original exterior design for the building has not been substantively altered. Key distinctive elements of the building evolved because of efforts to create a safe laboratory environment for workers conducting research into highly infectious diseases. These included on the exterior the cantilevered canopies and on the interior the differentiation of spaces into "clean" administrative areas and "dirty" laboratory areas -- separated by the decontamination locks. The laboratory wings contained the laboratory spaces on the main or east side of the building and

²"How to Evaluate the Integrity of a Property," *National Register Bulletin 15*, U.S. Department of the Interior, National Park Service, Interagency Resources Division, p. 45.

- on the rear or west side of the building. While the configuration of the wings remains the same as it did originally, the rooms along the west side of the building, no longer used as animal rooms, have been converted to other purposes.
- Setting** The original setting of Building 7 has not been substantially altered or compromised by the construction which has occurred around it. Building 9 and Building 10 are adjacent to Building 7.
- Materials** All of the original exterior materials and many of the important interior elements from the property's period of significance survive. The exterior retains the red brick laid in Flemish bond, the cut stone sills, and the use of slate for the roof, as well as the distinctive cantilevered canopies over the windows, and the specially designed windows. Extant interior elements include the original decontamination locks, the stone sinks, the tiling of the walls from floor to ceiling, the original signage in the building, the metal cabinetry with their shielded germicidal lamps. In the laboratories, the original air-handling diffuser units are still mounted on the ceiling. Most of the air system is no longer operational; the exhaust fans are still working.
- Workmanship** The interior and exterior workmanship on this building is still evident. As discussed in the items under feeling and association, the majority of distinctive design features of this building are still intact and convey the workmanship of the period.
- Feeling** The "modern" feeling of the building is conveyed in the streamlined features of the building, as illustrated especially on the exterior by the continuous canopies and the small, end-to-end windows. The interior is particularly evocative of the era of construction, with the detailing of the laboratories, much of the equipment, and elements of the the air-handling system (though mostly not operational) still intact.
- Association** Building 7 evokes an image of a cutting-edge laboratory as envisioned in the late 1940s. All of the principal exterior and interior details are linked to the function of the building, based on what were then considered state-of-the-art principles in laboratory design.

Evaluation as Part of a Historic District

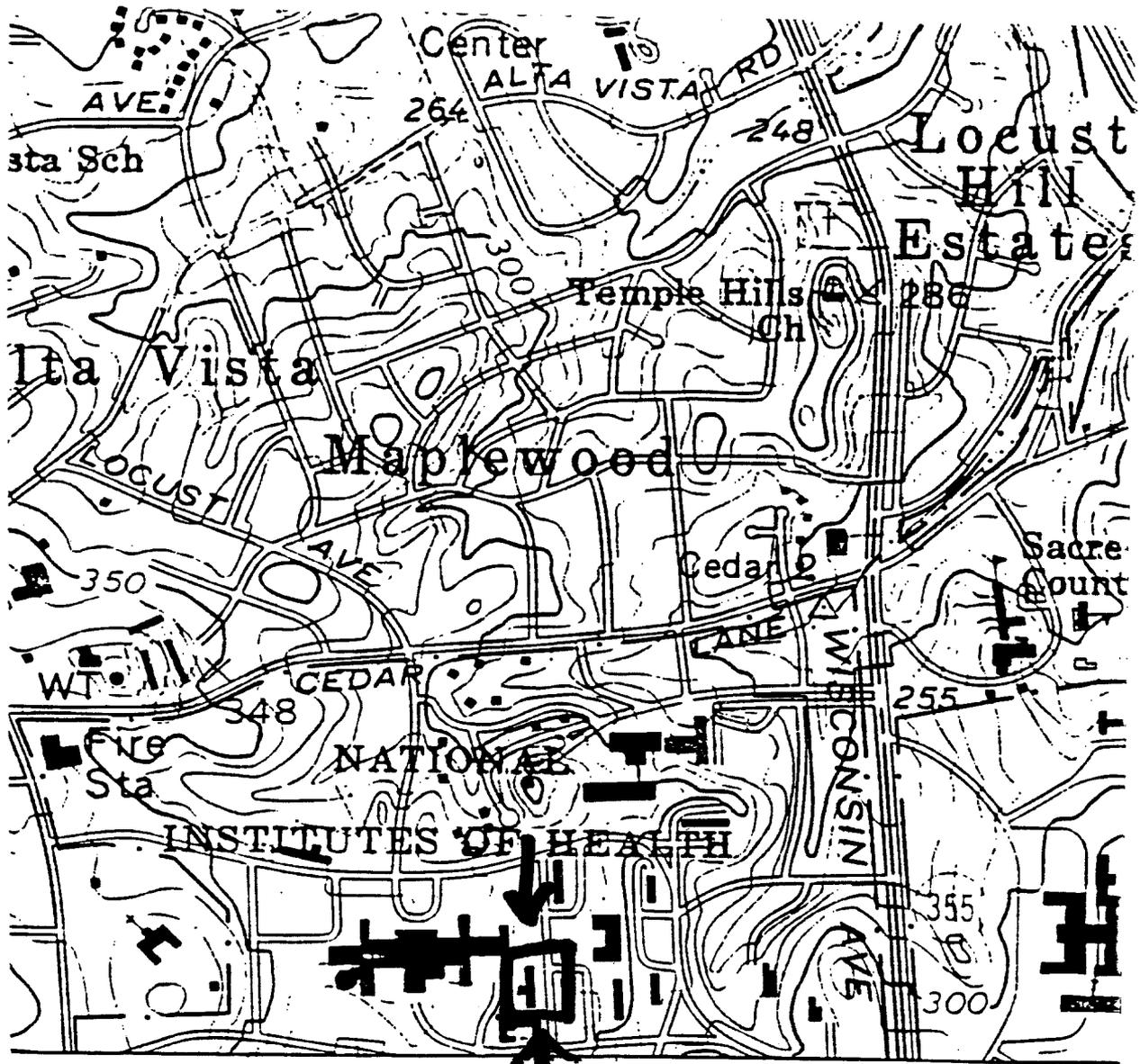
Building 7 was initially evaluated as part of a potential historic district, the NIH Administration Complex. It was decided not to include the building in the district boundaries for several reasons. The separate and distinct appropriation for the buildings included in the Historic Core did not include funds for the construction of Building 7. Later, separate funding enabled Memorial Laboratory to be built in 1947, nearly a full decade after the erection of Building 1.

Building 7 is also distinct stylistically from the conservative Georgian Revival style aesthetic that guided

the design of the buildings in the administrative core. Memorial Laboratory heralded a new era of laboratory design. At the time of its construction, it was one of the most sophisticated and modern facilities in the country. Its design, both on the exterior and the interior, reflected the modern character of its mission and the technologically sophisticated elements of its operation. It stands apart from the other buildings in its vicinity due to its unique architectural style, and thus was not considered as part of the cohesive administrative core district.

M: 35-9-5

National Institutes of Health
Historic Resources Inventory Form
Memorial Laboratory: Building 7
Robinson & Associates, Inc.



Site Plan
Memorial Laboratory
Building 7
National Institutes of Health
Montgomery County, MD
USGS Map Kensington Quadrangle
1:240000 Photorevised 1979



M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates



Figure 1.

Building 7
National Institutes of Health
Montgomery County, MD
National Library of Medicine Photo Collection, No Date (ca. 1947)
View of Main (East) Facade, Looking Northwest.

M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates

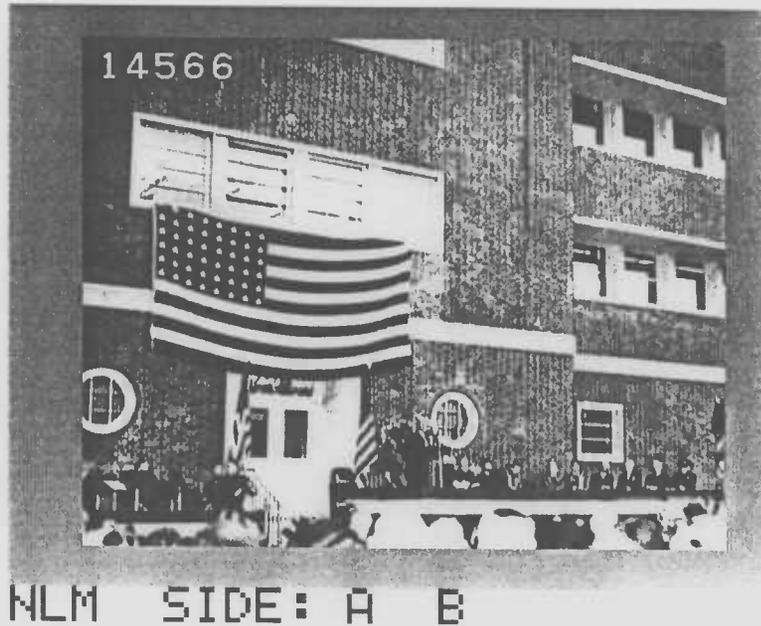


Figure 2.

Building 7
National Institutes of Health
Montgomery County, MD
National Library of Medicine Photo Collection, No Date (ca. 1947)
Dedication of Memorial Laboratory

M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates



Figure 3.

Building 7
National Institutes of Health
Montgomery County, Maryland
Regina L. Arlotto, November 1995
Negative at MD SHPO
Current View of Main (East) Facade, Looking Southwest.

M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates

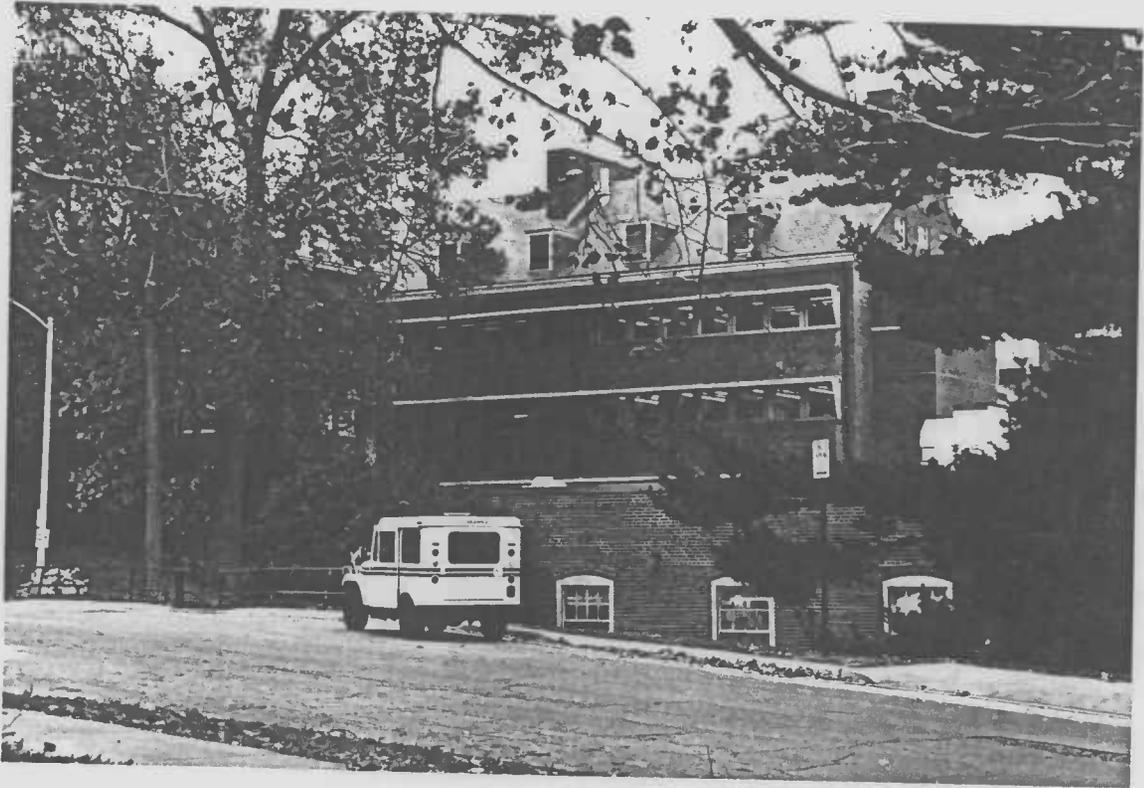


Figure 4.

Building 7
National Institutes of Health
Montgomery County, Maryland
Regina L. Arlotto, November 1995
Negative at MD SHPO
Partial View of West Facade, Looking Northeast.

M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates



Figure 5.

Building 7
National Institutes of Health
Montgomery County, Maryland
Regina L. Arlotto, November 1995
Negative at MD SHPO
View of North Facade, Looking Southwest.

M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates



Figure 6.

Building 7
National Institutes of Health
Montgomery County, Maryland
Regina L. Arlotto, November 1995
Negative at MD SHPO
View of Main Entrance.

M: 35-9-5

NIH Historic Resources Inventory Form
Memorial Laboratory
Robinson & Associates

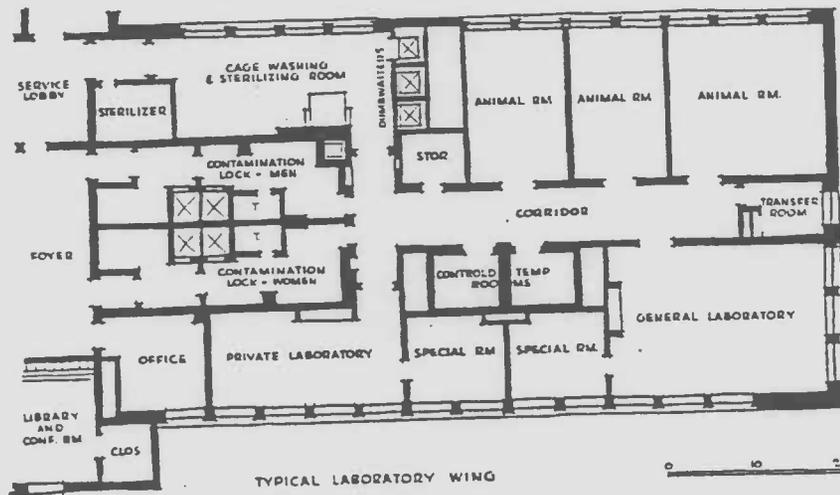


Figure 7.

Building 7
Typical Laboratory Wing
Illustration Taken From Architectural Record, October 1947