Building 187 (Pump House)
NSWCCD
MIHP # M:29-57
Montgomery County
West Bethesda
1954
Public

Building 187 is located in the western-half of the 183.6 acre Naval Surface Warfare Center Carderock Division (NSWCCD). The installation is composed of 116 buildings and structures that function as research laboratories, administration facilities, and operations and utility structures. At the center of the installation is the David Taylor Model Basin (Buildings 1-4), a group of interconnected buildings that include a model basin, administration building, a shop building and laboratory. The David Taylor Model Basin was listed on the NRHP in 1985. In 1996 the NSWCCD Historic District was determined eligible for the NRHP, and forty-four of the 116 structures were recognized as contributing resources in the NSWCCD Historic District. Building 187 is a contributing resource in the NSWCCD Historic District.

Built in 1954, Building 187 (Pump House) is situated on the west side of Forrestal Avenue. The one-story structure is constructed of poured-concrete with a rectangular ground plan. The interior space is two levels with metal stairs leading to the lower level.

Building 187 was constructed during the early development of testing facilities at the NSWCCD. As part of the construction of the Transonic Wind Tunnel Complex, a Cooling Tower and the Pump House were built in 1954. The Pump House was designed to circulate cooling water between the Transonic Wind Tunnel and the Cooling Tower. In 1997 the Cooling Tower was demolished and the Transonic Wind Complex was converted into a lab by the Base Realignment and Closure Construction project in 2001. Since the demolition of the Cooling Tower, the pumps and piping in Building 187 have been abandoned in place, and the structure is currently used as a mini-substation.

Maryland Historical Trust
Maryland Inventory of
Historic Properties Form

Inventory No. M:29-57

1. Name of Property (indicate preferred name)

historic Building 187 (Pump House)

other

2. Location

street and number Naval Surface Warfare Center Carderock District, 9500 MacArthur Boulevard __ not for publication

city, town West Bethesda __ vicinity

county Montgomery

3. Owner of Property (give names and mailing addresses of all owners)

name United States Navy

street and number 9500 MacArthur Boulevard telephone

city, town West Bethesda state MD zip code 20817-5700

4. Location of Legal Description

courthouse, registry of deeds, etc. Montgomery County Courthouse liber folio

city, town Rockville tax map tax parcel tax ID number

5. Primary Location of Additional Data

_____ Contributing Resource in National Register District
_____ Contributing Resource in Local Historic District
_____ Determined Eligible for the National Register/Maryland Register
_____ Determined Ineligible for the National Register/Maryland Register
_____ Recorded by HABS/HAER
_____ Historic Structure Report or Research Report at MHT
_____ Other:_____

6. Classification

Category
_____district
_____building(s)
__X__structure
_____site
_____object

Ownership
__X__public
_____private
_____both

Current Function
_____agriculture
_____commerce/trade
__X__defense
_____domestic
_____education
_____funerary
_____government
_____health care
_____industry
_____landscape
_____recreation/culture
_____religion
_____social
_____transportation
_____work in progress
_____unknown
_____vacant/not in use
_____other:

Resource Count

Contributing	Noncontributing	
1	_____	buildings
_____	_____	sites
_____	_____	structures
_____	_____	objects
1	_____	Total

Number of Contributing Resources previously listed in the Inventory
1

7. Description

Inventory No. M:29-57

Condition

___ excellent ___ deteriorated
___ good ___ ruins
X fair ___ altered

Prepare both a one paragraph summary and a comprehensive description of the resource and its various elements as it exists today.

Building 187 is located in the western-half of the 183.6 acre Naval Surface Warfare Center Carderock Division (NSWCCD). Located approximately 12 miles northwest of Washington, DC near Bethesda, Maryland, NSWCCD is situated north of the Potomac River and is bordered by the Clara Barton Parkway to the south and MacArthur Boulevard to the north and east. The installation is composed of 116 buildings and structures that function as research laboratories, administration facilities, and operations and utility structures. At the center of the installation is the David Taylor Model Basin (Buildings 1-4), a group of interconnected buildings that include a model basin, administration building, a shop building and laboratory. The David Taylor Model Basin was listed on the NRHP in 1985. In 1996 the NSWCCD Historic District was determined eligible for the NRHP, and forty-four of the 116 buildings were recognized as contributing resources in the NSWCCD Historic District. Building 187 is a contributing resource in the NSWCCD Historic District.

Built in 1954, Building 187 (Pump House) is situated on the west side of Forrestal Avenue. The one-story structure is constructed of poured-concrete with a rectangular ground plan. The poured-concrete walls terminate in a flat roof. The entrance is a pair of metal doors located on the north façade. Seven-light industrial sash windows are located on the east and west elevations. The interior space is two levels with metal stairs leading to the lower level. Mechanical equipment is located on both levels.

8. Significance

Inventory No. M:29-57

Period	Areas of Significance	Check and justify below		
__ 1600-1699	__ agriculture	__ economics	__ health/medicine	__ performing arts
__ 1700-1799	__ archeology	__ education	__ industry	__ philosophy
__ 1800-1899	__ architecture	__ engineering	__ invention	__ politics/government
X 1900-1999	__ art	__ entertainment/ recreation	__ landscape architecture	__ religion
__ 2000-	__ commerce	__ ethnic heritage	__ law	__ science
	__ communications	__ exploration/ settlement	__ literature	__ social history
	__ community planning		__ maritime history	__ transportation
	__ conservation		X military	__ other: _____

Specific dates 1954-1958 **Architect/Builder** U. S. Navy, Bureau of Yards and Docks

Construction dates 1954

Evaluation for:

_____ National Register _____Maryland Register ___X___not evaluated

Prepare a one-paragraph summary statement of significance addressing applicable criteria, followed by a narrative discussion of the history of the resource and its context. (For compliance projects, complete evaluation on a DOE Form – see manual.)

Summary

The Pump House is considered a contributing element in the National Register eligible NSWCCD Historic District. In 1996 the NSWCCD Historic District was found to possess the qualities of exceptional importance defined under National Register Criterion Consideration G with the historic context of Military research, design, testing, and evaluation. NSWCCD also meets eligibility criteria A and C. NSWCCD is associated with events that have made a significant contribution to the broad patterns of military technology (Criterion A) and retains an intact collection of research, design, testing, and evaluation buildings and facilities (Criterion C).

Historic Context

The U. S. Navy's first laboratory for studying ship behavior was the United States Experimental Basin (EMB). Constructed in 1898 under the leadership of Rear Admiral David Watson Taylor, the EMB was located at the Washington Navy Yard. Designed for the testing of ship hulls, propeller studies, and rudder developments, the basin contained a carriage that towed wooden ship models and carried cameras to allow engineers to study how eddy and wave making resistance were generated (Melhuish 1996). In 1912, due to advancements in aviation, the Navy expanded its laboratory facilities to include a wind tunnel. Designed by aeronautical engineers, Holden C. Richardson and William W. McEntree, the Navy's first wind tunnel was completed in 1913 and was used to test the resistance of shapes in air to improve the aerodynamics of airfoils, body shapes, and windshield design (Carlise 1998: 78).

The facilities at the Washington Navy Yard soon proved inadequate. The basin was resting on an unsteady foundation undermined by springs, and it had become technically insufficient to meet the demands of both commercial users and the rapidly modernizing Navy (Carlise 1998: 132). In 1936 Congress authorized funding for the construction of a new basin, and in 1937, 107 acres in Carderock, Maryland was chosen for the new installation due to the presence of bedrock, level terrain, nearby water supply, and accessibility to downtown Washington (Carlise 1998: 144).

Commander Ben Moreell is credited with the design of the new basin. His architectural plans called for a long rectangular basin building running east and west, covered by a barrel arch roof with a 110-foot span and a three-story combination office-laboratory that would connect with the basin structure (Carlise 1998: 143-44). Designed in the Art Moderne style of architecture, the office-laboratory won Moreell an Association of Federal Architects' award. Construction at Carderock began in 1937, and the official dedication was held on November 4, 1939 for the David Taylor Model Basin, named in honor of David W. Taylor. In 1985 the David Taylor Model Basin (DTMB) and associated buildings were listed on the National Register of Historic Places.

The primary mission of the DTMB, as defined by Congress, was to investigate and determine the most suitable and desirable shapes and forms for naval vessels and aircraft (Melhuish 1996). During its first year of operation, the DTMB was mostly involved in design work, but at the outset of World War II, activities at the DTMB were focused on war-related topics. Research became a major

directive, and new facilities and staff were added to support research activities. New facilities added to the installation included a research pit for explosion testing (1941), wind tunnels and associated buildings (1942), a pentagonal test pond to test underwater explosives (1943), Circulating Water Channel to test the angles and drag of submerged towed devices (1944), and two supersonic wind tunnels that had been dismantled in Germany and installed at Carderock (1946) (Melhuish 1996).

During this rapid expansion, careful consideration was given to the overall physical planning and growth of the installation. Under the direction of Captain H. S. Howard, the installation grew with the addition of 47 acres in 1943 and 55 acres in 1946. Howard wrote in 1945, "Having in mind the architecture of the main building, I visualize something in the nature of a college campus or graduate school grown up around and in front of the main building. A row of buildings might well grow to the east and to the west of the main building toward the south but the central area should be kept free of building so that eventually a U-shaped group is formed with the open end toward the Highway," (Carlise 1998: 192). The campus of buildings created at Carderock during this period was determined eligible for the National Register as the Naval Surface Warfare Center Carderock Division Historic District in 1996.

During the second half of the twentieth century, NSWCCD research grew to incorporate the use of computers. The Applied Mathematics Laboratory was established in 1952, and the first computer used at the facility was the Universal Automatic Computer. A second addition was the Livermore Atomic Research computer acquired in 1960. Research in calculation, forming solutions on specific engineering research problems, and handling operation, maintenance and design improvements for naval vehicles was conducted on the computers (Melhuish 1996). Today, both the experimental and computer facilities play a key role in the operations taking place at NSWCCD, and the installation has retained its campus-like setting, with a mixture of old and new structures.

Building 187 was constructed during the early development of testing facilities at the NSWCCD. As part of the construction of the Transonic Wind Tunnel Complex, a Cooling Tower and the Pump House were built in 1954. The Pump House was designed to circulate cooling water between the Transonic Wind Tunnel and the Cooling Tower. In 1997 the Cooling Tower was demolished and the Transonic Wind Complex was converted into a lab by the Base Realignment and Closure Construction project in 2001. Since the demolition of the Cooling Tower, the pumps and piping in Building 187 have been abandoned in place, and the structure is currently used as a mini-substation.

9. Major Bibliographical References

Inventory No. M:29-57

See Continuation Sheet.

10. Geographical Data

Acreage of surveyed property	less than 0.5 acres		
Acreage of historical setting	less than 0.5 acres		
Quadrangle name	Falls Church	Quadrangle scale:	1:24000

Verbal boundary description and justification

The boundary of the property occupies the footprint of the building within the Naval Surface Warfare Center, Carderock Division near Bethesda, Maryland.

11. Form Prepared by

name/title	Megan Rupnik, Architectural Historian		
organization	The Louis Berger Group	date	October 2003
street & number	2300 N Street, NW	telephone	(202) 912-0200
city or town	Washington	state	DC

The Maryland Inventory of Historic Properties was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust
DHCD/DHCP
100 Community Place
Crownsville, MD 21032-2023
410-514-7600

Allison, David K
1984 David W. Taylor Model Basin, National Register of Historic Places Inventory, Nomination Form. Ms. On file at the Maryland Historical Trust, Crownsville.

Allison, David K, Ben G. Keppel, and C. Elizabeth Nowicke
1988 *David W. Taylor.* U. S. Government Printing Press, Washington DC.

Carlise, Rodney
1998 *Where the Fleet Begins: A History of the David Taylor Research Center.* U. S. Government Printing Office, Washington, DC.

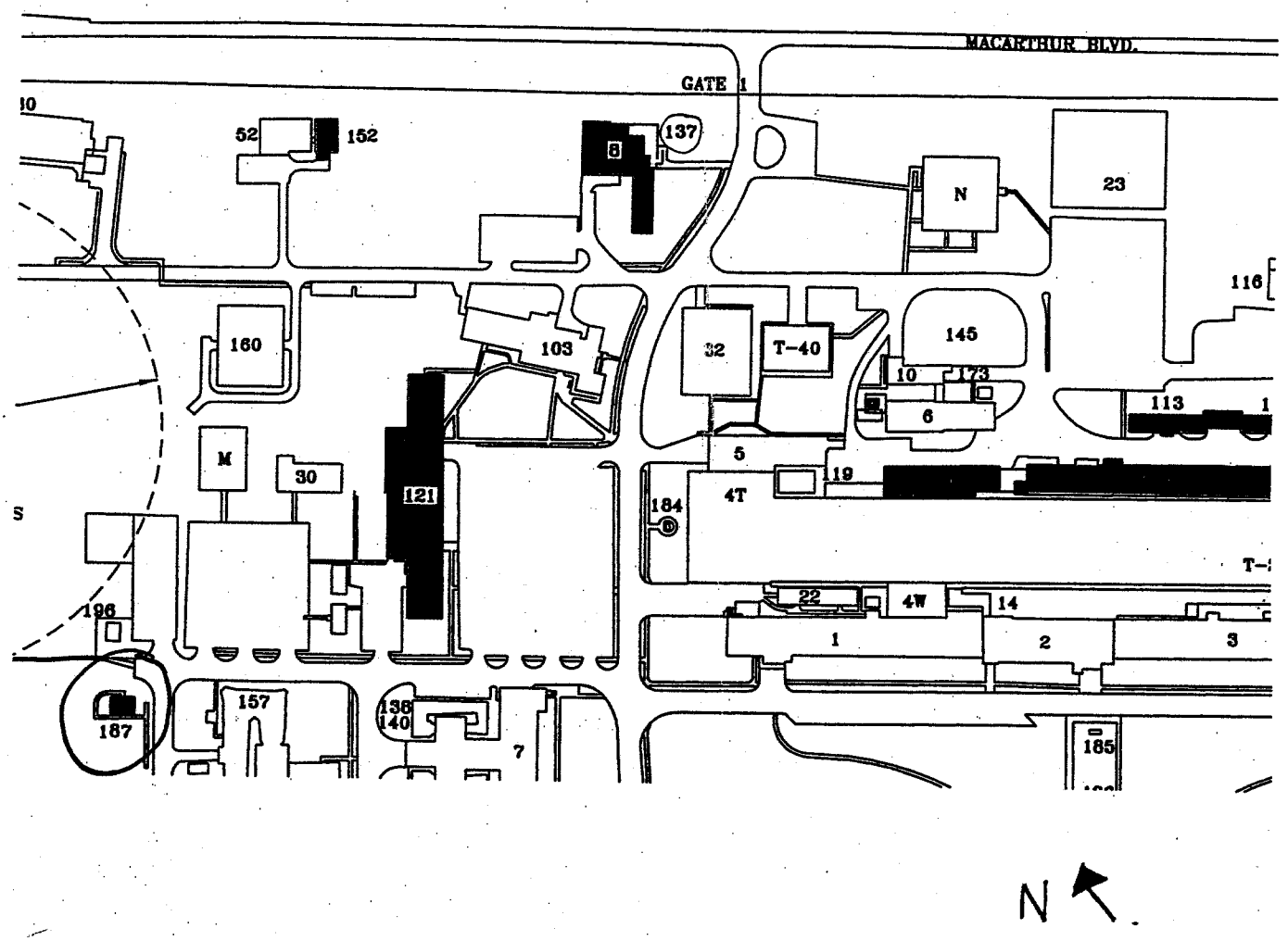
Giglio, W. Patrick
1999 Subsonic Wind Tunnel Complex at NSWCCD, Maryland Historical Trust State Historic Site Inventory From. On file at the Maryland Historical Trust, Crownsville.

Kuranda, Katherin M., April L. Fehr, and Brook V. Best
2000 Integrated Cultural Resource Management Plan: Naval Surface Warfare Center, Carderock Division. On file at the Naval Surface Warfare Center, Carderock Division, West Bethesda, MD.

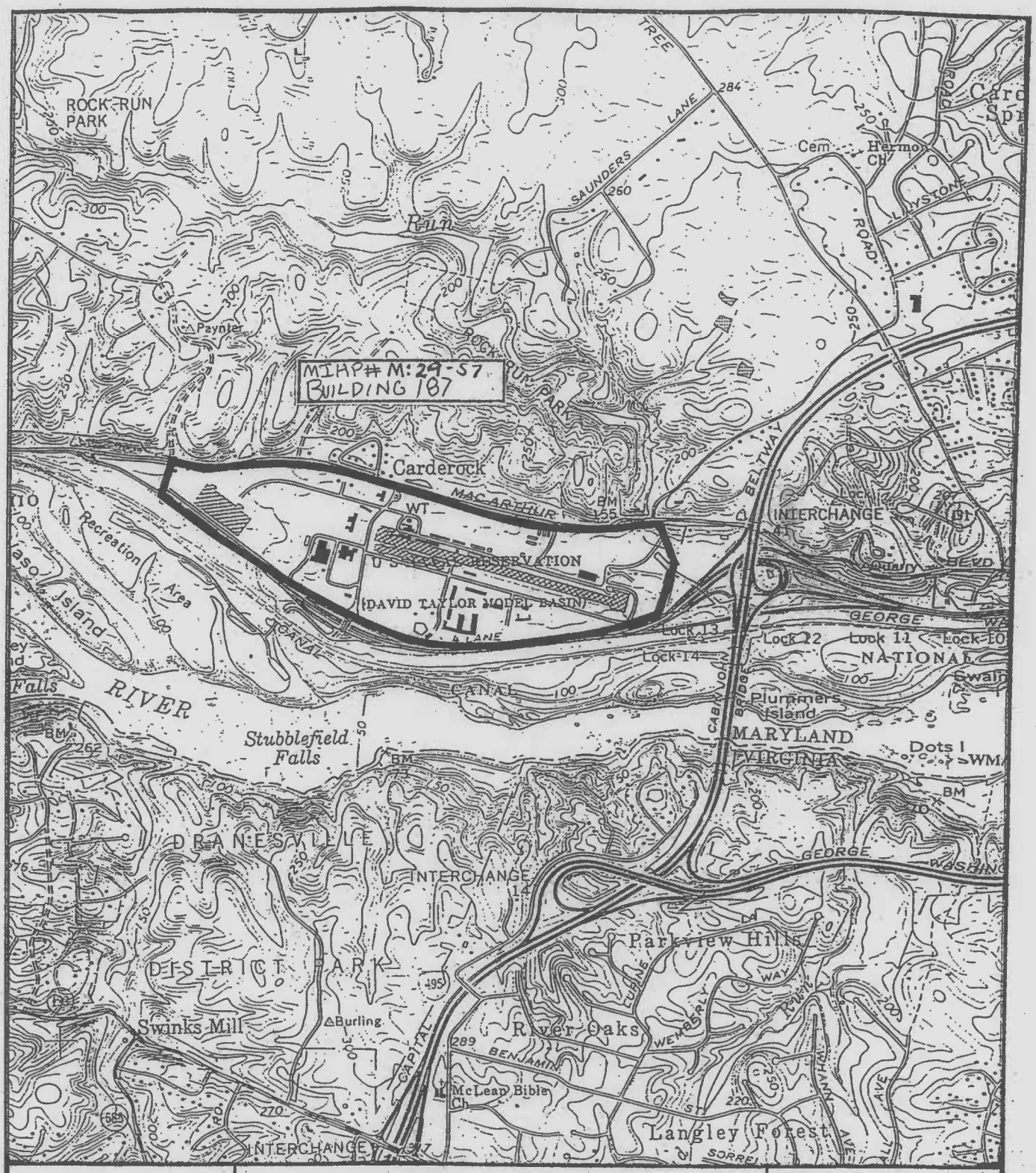
Melhuish, Geoffrey E.
1996 Naval Surface Warfare Center Carderock District, Maryland Historical Trust State Historic Sites Inventory Form. On file at the Maryland Historical Trust, Crownsville.

Unpublished Materials

Naval Surface Warfare Center, Carderock Division, Public Works Office. West Bethesda, Md. Floor plans.



Resource Sketch Map
MIHP# M:29-57
Building 187
NSWCCD, Carderock
Montgomery County



MIHP# M:29-57
BUILDING 187
NSWCCD,
CARDEROCK
MONTGOMERY
COUNTY

SCALE 1:24000

0 ½ 1 MILE

0 2000 4000 FEET

0 ½ 1 KILOMETER

N

VIRGINIA
QUADRANGLE LOCATION

Resource Location Map
Source: USGS 7.5' Falls Church, VA (1965, revised 1984)

MIHP# M:29-57
BUILDING 187, NSWCCD HISTORIC DISTRICT (M:29-52)
MONTGOMERY COUNTY, MD
M. RUPNIK
9-5-02
NEG. LOCATION: MD SHPO
NORTHEAST CORNER

1/4

MIHP# M:29-57
BUILDING 187, NSWCCD HISTORIC DISTRICT (M:29-52)
MONTGOMERY COUNTY, MD
M. RUPNIK
9-5-02
NEG. LOCATION: MD SHPO
SOUTHWEST CORNER

2/4

DANGER
HIGH VOLTAGE

MIHP # M:29-57
BUILDING 187, NSWCCD HISTORIC DISTRICT (M:29-52)
MONTGOMERY COUNTY, MD
M. RUPNIK
9-5-02
NEG. LOCATION: MD SHPO
INTERIOR
3/4

MIHT # M:29-57
BUILDING 187, NSWCCD HISTORIC DISTRICT (M:29-52)
MONTGOMERY COUNTY, MD
M RUPNIK
9-5-02
NEG LOCATION: MD SHPO
INTERIOR
4/4