NPS	Form	10-900
(Oct.	1990)	

National Register. removed from the National

Register. other, (explain:) \_

### National Register of Historic Places **Registration** Form

TAT. REGISTER OF HISTORIC F NATIONAL PARK SERVICE This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and parrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

OMB No. 10024-00

ENSO 2280

1991

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HISTORIC PRESERVATION OFFICE

entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete an items.
1. Name of Property
historic name <u>Hangar No. 1, United States Naval Air Station Wildwood</u> other names/site number <u>Hangar No. 1, Cape May County Airport</u>
2. Location
street & number Intersection of Forrestal and Langley Roads $N/A$ $\Box$ not for publication
city or town <u>Lower Township</u> 🗍 vicinity
state <u>New Jersey</u> code <u>034</u> county <u>Cape May</u> code <u>009</u> zip code <u>08242</u>
3. State/Federal Agency Certification
As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this I nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property There is the statewide of the National Register criteria. I recommend that this property be considered significant anationally I statewide of the National Register criteria. I recommend that this property be considered significant hattoric Places and meets the National Register criteria. I recommend that this property be considered significant Assistant Commissioner for Natural & Historic Resources/DSHPO State of Federal agency and bureau In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)
Signature of certifying official/Title Date
State or Federal agency and bureau
4. National Park Service Certification
4. National Park Service Certification         I hereby certify that the property is:         I hereby certify that the property is:         I entered in the National Register.         I be continuation sheet.         I determined eligible for the         National Register         I be continuation sheet.         I determined eligible for the         National Register         I be continuation sheet.

Hangar No. 1 Name of Property

### Cape May County, New Jersey County and State

5. Classification				
Ownership of Property (Check as many boxes as apply)	Category of Property (Check only one box)	Number of Res (Do not include pre	sources within Property viously listed resources in the	<b>y</b> e count.)
private	🖾 building(s)	Contributing	Noncontributing	-
🖄 public-local	□ district	1	0	buildings
public-State public-Federal	☐ site ☐ structure ☐ object	0	0	sites
		0	0	structures
		0	0	objects
		1	0	Total
Name of related multiple po (Enter "N/A" if property is not part	roperty listing of a multiple property listing.)	Number of con in the National	tributing resources pre Register	eviously listed
N/A		0		
6. Function or Use				
Historic Functions (Enter categories from instructions)		Current Functions (Enter categories from		
Defense: Air facility	у	Vacant/not in	,	
		· · ·		
••••••••••••••••••••••••••••••••••••••		<b></b>	· · · · · · · · · · · · · · · · · · ·	
•••				
<u> </u>				
				·
7. Description	·····			
Architectural Classification (Enter categories from instructions)		Materials (Enter categories from i	nstructions)	
No style.		foundation	•	
		wallswood, asbestos, metal: steel		
		roof		<u></u>
		other		
		·		
Narrative Description				

.

(Describe the historic and current condition of the property on one or more continuation sheets.)

#### 8. Statement of Significance

#### **Applicable National Register Criteria**

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- **B** Property is associated with the lives of persons significant in our past.
- $\mathbf{Z}^{\mathbf{X}}\mathbf{C}$  Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

#### **Criteria Considerations**

(Mark "x" in all the boxes that apply N/A

#### Property is:

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- **C** a birthplace or grave.
- **D** a cemetery.
- **E** a reconstructed building, object, or structure.
- **F** a commemorative property.
- C G less than 50 years of age or achieved significance within the past 50 years.

#### Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

#### 9. Major Bibliographical References

#### Bibilography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

#### Previous documentation on file (NPS): N/A

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey
- recorded by Historic American Engineering Record # \_\_\_\_\_

## Cape May County, New Jersey County and State

Areas of Significance (Enter categories from instructions) Military

Architecture

Engineering

#### Period of Significance

1943-1945

Significant Dates

1943

Significant Person (Complete if Criterion B is marked above)

N/A

#### **Cultural Affiliation**

N/A

#### Architect/Builder

U.S. Department of the Navy

Sherman Sleeper Associates, Architects

#### Primary location of additional data:

- □ State Historic Preservation Office
- □ Other State agency
- Federal agency
- Local government
- University
- X Other

Name of repository:

Naval Air Station Wildwood Foundation

Hangar No. 1 Name of Property	<u>Cape May County, New Jer</u> sey County and State
10. Geographical Data	
Acreage of Property 4,55 acres	Rio Grande, NJ Quad
UTM References (Place additional UTM references on a continuation sheet.)	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	3          Zone   Easting   Northing     4       See continuation sheet
Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)	
Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)	
11. Form Prepared By	
name/title <u>Stacy E. Spies</u> , Architectural Hist Nancy L. Zerbe Historic Preservation	
organization <u>Consulting</u> , Inc.	
street & number81 Rector Street,	telephone (908) 906-8203
city or townMetuchen	stateNJ zip code 08840-1540
Additional Documentation	
Submit the following items with the completed form:	
Continuation Sheets	
Maps	
A USGS map (7.5 or 15 minute series) indicating the	e property's location.
A Sketch map for historic districts and properties ha	wing large acreage or numerous resources.
Photographs	
Representative black and white photographs of the	e property.
Additional items (Check with the SHPO or FPO for any additional items)	
Property Owner	
(Complete this item at the request of SHPO or FPO.)	
name Cape May County	
street & number <u>4 Moore Road</u>	telephone (609) 465-1065
city or town Cape May Court House	stateNJ zip code _08210-1601

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

## National Register of Historic Places Continuation Sheet

Section number \_\_\_7 Page \_\_\_1

Hangar No. 1 Cape May County, NJ

### DESCRIPTION

Hangar No. 1 is a 2 1/2 story, two bay, wood structure built during World War II at the Naval Air Station Wildwood, N.J., now the Cape May County Airport and Industrial Park. (Photograph No. 1). Placed upon a poured concrete pad foundation in 10' x 20' sections, the north and south "lean-to" elevations (Photograph No. 2) are placed atop approximately 4 feet of concrete block and are sheathed in asbestos board over mitre-cut wood boards (Photograph No. 3). Twelve full-height telescoping doors form the east and west elevations; these doors retract into door pockets at each corner of the hangar (Photograph No. 4). The structural supports and roof truss are constructed of bolted wood members and the roof is constructed of five layers of 5/8" gypsum board. Two clerestoried floors of offices along the north and south elevations are entered from the two 120' x 200' bays. A concrete taxiway and apron surround the east, west and north elevations of the structure and the adjacent terminal building to the northeast. North of the hangar, the land is open and reaches to Fulling Mill Road to the north. The 2,558,000 cu. ft. structure is located in the 900+ acre county airport property. Other World War II era and postwar structures are located to the south of the hangar. The surrounding World War II structures suffer from a loss of integrity. The hangar is in fair condition yet retains a high level of integrity as most alterations are largely reversible.

The 290'L x 219'W x 51'H full hangar is constructed of bolted wood Pratt trusses in 10' panels at the roof level (Photographs No. 5 & 6), bolted cross-braced vertical supports at the north and south interior elevations and bolted center supports, which forms the division between the two bays (Photograph No. 7). Larger truss members are constructed of smaller members bolted together (Photograph No. 8). The structure contains two 120'L x 200'W bays for airplane storage and maintenance and rows of offices and workrooms that form the north and south elevations. Two ribbon rows of clerestory, double-hung sash windows are located along the north and south exterior elevations, which are constructed of mitre-cut wood boards covered with 4'x8' vertical asbestos boards attached with nails (Photograph No. 9).

The east and west elevations have twelve telescoping, 29'6" high, top-hung metal-frame (Photograph No. 10) doors which are set in metal tracks in the concrete floor (Photograph No. 11). The doors slide open into pockets at each corner of the structure. These pockets are also constructed of mitre-cut wood boards covered with 4'x8' vertical asbestos boards. The top half of each door consists of three tiers of 16-light windows and the lower half consists of battened plywood panels. A narrow wood canopy shelters the manually-operated mechanism from which the doors are suspended. A small entry door is located at the north corner of the west elevation doors.

## National Register of Historic Places Continuation Sheet

Section number <u>7</u> Page <u>2</u>

Hangar No. 1 Cape May County, NJ

The two-story rows of offices on the north and south interior "lean-to" elevations -- so called because they are located outside of the truss system -- originally contained offices and work areas, including offices for the commanding officer, the flight officer and the engineering officer, equipment repair rooms, locker rooms and washrooms, and carpentry shops (Photograph No. 12). These rooms are separated from the bays by clerestoried, square, pivot windows set in plywood partition walls (Photograph No. 13). The second floor is reached by two staircases on each elevation. The second floor hallway is an unenclosed gallery open to the bays (Photograph No. 14). The original interior finish for the offices and stairwells -- visible in sections under later layers of paint -- was plywood stained a dark walnut color.

Two poured concrete propeller pits are located at the northwest and southwest interior corners of the structure behind the door pockets. Propellers were placed on concrete supports suspended over the pits which allowed the propellers to be spun while undergoing repair. Windows and doors retain original hardware. A mechanical pivoting mechanism opens and closes the truss-level windows; chains at the second floor galleries operate the mechanism. A deluge sprinkler system remains attached to the roof truss system and its original activation stations also remain.

Alterations have been minimal and are largely reversible. An attached three-story gableroof office area at the exterior northeast corner was added in 1946 (Photograph No. 15). Additional plywood-walled, single-story rooms were added to the interior of the hangar and are located along the center supports and alongside the rooms on the north wall. Interior finishes have been altered in some of the offices, including the application of adhesive paneling. In an attempt to lower heating costs in the large bay areas, canvas sheeting has been attached to the center supports and plastic sheeting attached to the roof truss system to retain heat. Some exterior and interior windows have been removed and covered with plywood. Many of these windows are stored on site. The north half of the hangar has not weathered well and its condition is poor. The gypsum board roof has failed in this section and water damage has resulted. The south half of the structure has not experienced roof failure and remains in good condition.

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United States Department of the Interior National Park Service

## National Register of Historic Places Continuation Sheet

Section number \_\_\_8 Page \_\_1\_\_\_

Hangar No. 1 Cape May County, NJ

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### STATEMENT OF SIGNIFICANCE

Hangar No. 1 is significant under Criterion A due to its role in training Navy fighter and dive-bomber pilots during World War II to fight in the Pacific arena. Considered to have been an "exclusive domain" for dive-bomber training during the war (Shettle: 227), United States Naval Air Station Wildwood (USNASW) was used nearly exclusively for dive-bombing squadrons from mid-1943-January 1945. The hangar is also significant under Criterion C as a representative example of World War II era Navy airplane hangars.

With the outbreak of World War II, the Civil Aeronautics Administration constructed the runways at the present-day airport in 1939. With the growing threat of the United States' involvement in the war, Congress granted an 80 percent increase in funding for construction of naval air combat structures in June 1940 (Johnson: 243). In April 1942, five months after the attack on Pearl Harbor, agreements were finalized to expand the airport and on 1 April 1943, it was commissioned as the United States Naval Air Station Rio Grande. (Because of the difficulty in obtaining adequate mail, telegram and telephone service due to the confusion with Rio Grande, Texas, the station was redesignated as USNAS Wildwood two months later.) At the time of commissioning, the station was directly under the command of the Commandant, Fourth Naval District, and assigned the mission of providing facilities and services for the operation of Fleet Units under Commander, Fleet Air, Quonset Point. Construction of Hangar No. 1 began in October, 1942, under Contract NOy-5814, as part of a project to support the initial group of 108 officers, 1,200 men and 72 planes. Hangar No. 1 is the only remaining intact structure from this original World War II construction campaign. At its peak in 1944, the station accommodated as many as 200 planes. Activity peaked in October of 1944, with 16,994 takeoffs and landings.

Naval Air Station Wildwood served as a training facility for dive bomber squadrons throughout World War II and was one of just six such facilities in the United States. Other sites were located in Florida, North Carolina, and Quonset, Rhode Island. While it was originally expected that Wildwood would be used for the training of complete air groups, it was decided early on to separate the fighting, bombing, and torpedo elements into groups at separate fields prior to joining up as a group. USNAS Wildwood was used nearly exclusively for dive bombing squadrons from mid-1943-January 1945. After that time, fighter bomber and dive bomber squadrons used the facility equally. ("History": II-8) Air crews were trained in combat tactics in naval aircraft such as the "Dauntless," "Helldiver," and "Corsair." With the field lighting system at an affiliated outlying field in Delaware, dive bomber squadrons stationed at Wildwood had the opportunity for night flying practice, particularly night field carrier landing practice which simulated their future duties in the Pacific. Practice dive-bomber targets were constructed in the

## National Register of Historic Places Continuation Sheet

Section number \_\_\_\_8 Page \_\_\_2

Hangar No. 1 Cape May County, NJ

nearby Delaware Bay and on the Atlantic Ocean coast. After training was completed, pilots would meet up with their air groups at the designated carrier and proceed to the Pacific.

The hangar is the "Standard Wood Hangar" designed by the Department of the Navy. The architect, Albert Kahn, a consultant to the military services beginning during World War I, produced many of the designs for Naval installations -- especially those for air hangars -- (Garner:48) and it is possible that he designed the Standard Wood Hangar. The siting, heating system design, and interior details were designed by Sherman Sleeper Associates Architects and Engineers of Camden, N.J. It is estimated that 20-30 hangars of this type were constructed during World War II, including USNAS Atlantic City, N.J. (demolished), USNAS Oceana, Va., and USNAS Corpus Christi, Texas. (Personal communication, James McGill). The design is typical of hangars built by the Navy in the 1930's and 1940's: large (approximately 200' x 200'), architecturally unembellished, wood frame to conserve steel during the war years, with side leantos and overhead sliding track doors.

While the hangar is in need of rehabilitation, its level of integrity is high. After the air station became the property of the War Assets Administration in 1946, station operations reverted to Cape May County. Subsequent airplane-related businesses have occupied the hangar and minimally altered the structure with interior partition walls and removal of windows for energy conservation. The structure has been empty since the early 1990s. The original form and feeling of the structure remains intact.

### National Register of Historic Places Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_1

Hangar No. 1 Cape May County, NJ

### BIBLIOGRAPHY

- Architectural Plans, "Standard Wood Hangar and Hangar No. 1, U.S. Naval Air Station Wildwood", U.S. Department of the Navy.
- Garner, John S. "World War II Temporary Military Buildings", U.S. Army Corps of Engineers CERL Technical Report CRC-93/01, March 1993, (copy received from the National Register office, Washington, D.C.).
- Johnson, Brian. <u>Fly Navy, A History of Naval Aviation</u>. New York: William Morrow and Company, 1981.
- Miller, Nathan. The Naval Air War, 1939-1945. 1980; Annapolis: Naval Institute Press, 1991.

Personal Communication with James McGill, former Sperry Air employee, November 1995.

- R. Christopher Goodwin and Associates, "National Historic Context for Department of Defense Installations, 1790-1940", Volume II. Prepared for U.S. Army Corps of Engineers, 1994, (copy received from the National Register office, Washington, D.C.).
- Shettle, Jr. M.C. <u>United States Naval Air Stations of World War II, Volume I: Eastern States.</u> (at Emil Buehler Naval Aviation Library, National Museum of Naval Aviation, Pensacola Naval Air Station.)
- "Technical Report and Project History Contract NOy-5814", Department of the Navy, Naval Construction Battalion Center, Port Hueneme, CA, (Naval Air Station Wildwood Foundation has microfilm copy).
- "The History of the Fourth Naval District, Part IV", Department of the Navy, Naval Historical Center, Washington (DC) Navy Yard, (Naval Air Station Wildwood Foundation has microfilm copy).
- Wildwood Naval Air Station History File, Department of the Navy, Naval Historical Center, Washington (DC) Navy Yard.

## National Register of Historic Places Continuation Sheet

Section number <u>10</u> Page <u>1</u>

Hangar No. 1 Cape May County, NJ

### **VERBAL BOUNDARY DESCRIPTION**

The hangar is located within Block 410.01, Lot 36 in Lower Township, Cape May County, New Jersey. The boundary of Hangar No. 1 is the same as the area to be leased by Cape May County to the Naval Air Station Wildwood Foundation, including all that portion of concrete apron and adjoining Hangar No. 1, being more particularly bounded and described as follows:

BEGINNING at a point in the southerly edge of the existing concrete apron; said point being located approximately one-hundred and thirty-six and fifty one-hundredths (136.50) feet more or less West of the Westerly side of the aforesaid Hangar No. 1 and sixty-five (65) feet North of the centerline of Forrestal Road as shown in plan entitled "Plan Of Premises To Be Leased At Cape May County Airport, Hangar No. 1 And Adjoining Concrete Apron, Erma, Lower Township, Cape May County, New Jersey" as prepared by the office of the Cape May County Engineer on 10/12/77 and revised to 10/24/1995, from said point of beginning:

1) in a Northerly direction, at right angles to the aforesaid Forrestal Road, three-hundred and sixty-eight (368) feet more or less to the Southerly line of a 100 feet wide taxiway as shown on the said plan, thence;

2) Easterly, at right angles to the previous course and along the southerly line of the said 100 feet wide taxiway, five-hundred and thirty-nine (539) feet more or less to a point, thence;

3) Southerly, at right angles to the previous course, parallel with the easterly side of the said Hangar No. 1 and along an existing chain link fence in part, three hundred (300) feet more or less to an angle point in said fence, thence,

4) Southwesterly, continuing along the said chain link fence line, seventy-four (74) feet more or less to an angle point in said fence, thence;

5) Westerly, continuing along the said fence line, parallel with and sixty-five feet distant from the aforesaid centerline of Forrestal Road when measured at right angles thereto, one-hundred and forty-five (145) feet more or less to the easterly edge of the aforementioned Hangar No. 1, thence;

6) In Southerly, Westerly and Northerly directions around the Southerly perimeter of the said Hangar No. 1 to a point on the Westerly side of the aforesaid hangar, approximately sixty-five (65) feet from the centerline of the aforementioned Forrestal Road, thence;

## National Register of Historic Places Continuation Sheet

Section number <u>10</u> Page <u>2</u>

Hangar No. 1 Cape May County, NJ

7) Westerly, parallel with and sixty-five feet distant from the aforesaid centerline of Forrestal Road, one-hundred and thirty-six and fifty one-hundredths (136.50) feet more or less to the point and place of beginning.

CONTAINING within the above described premises, 4.55 acres more or less.

### **VERBAL BOUNDARY JUSTIFICATION**

The nominated property is the same as the area to be leased by Cape May County to the Naval Air Station Wildwood Foundation. This area is bound by Forrestal Road to the south, the taxiway to the north, a chain link fence to the east, and the limits of the leased area to the west.

## National Register of Historic Places Continuation Sheet

Section numberPhotographPage \_\_\_\_\_

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Hangar No. 1 Cape May County, NJ

### **PHOTOGRAPHS**

For all photographs:

Property Name:	Hangar No. 1, U.S. Naval Air Station Wildwood
Property Location:	Lower Township, Cape May County, New Jersey
Photographer:	Stacy E. Spies
Date of Photographs:	October, 1995
Location of	
Original Negatives:	Offices of Nancy L. Zerbe Historic Preservation Consulting, Inc.
	81 Rector Street
	Metuchen, NJ 08840-1540

Photograph No. 1 of 15: North and west hangar elevations, looking southeast.

Photograph No. 2 of 15: North elevation lean-to. Door pockets at right and left, looking southeast.

Photograph No. 3 of 15: Asbestos board over mitre-cut boards, west elevation looking east.

Photograph No. 4 of 15: East elevation, showing doors and end door pockets, looking west.

Photograph No. 5 of 15: Roof truss, north section of hangar.

Photograph No. 6 of 15: Roof truss, center section of hangar.

Photograph No. 7 of 15: Interior view from second floor hallway, showing south interior elevation and center supports, looking southwest.

Photograph No. 8 of 15: Bolted structural member at south lean-to, looking northwest.

## National Register of Historic Places Continuation Sheet

Section number<sup>Photograph</sup>Page \_\_\_\_2

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Hangar No. 1 Cape May County, NJ

Photograph No. 9 of 15: South elevation, looking northeast.

Photograph No. 10 of 15: West elevation, telescoping doors, looking northeast.

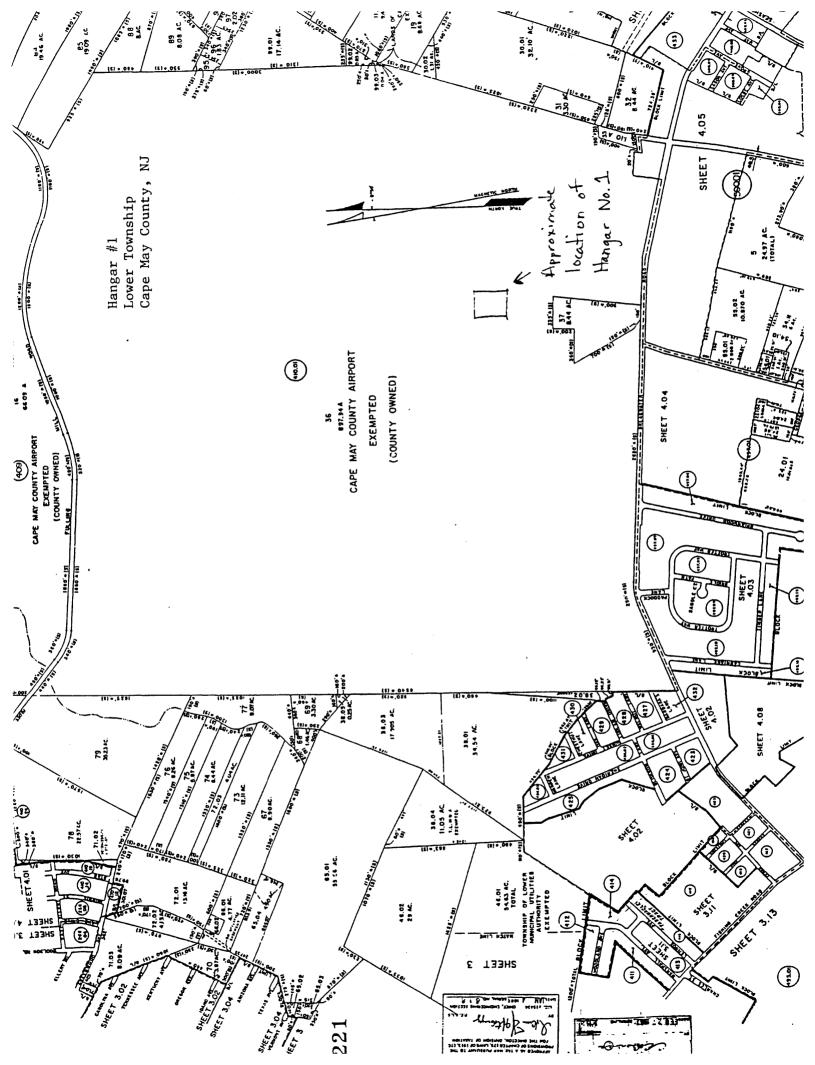
Photograph No. 11 of 15: Telescoping door tracks. West elevation, looking north.

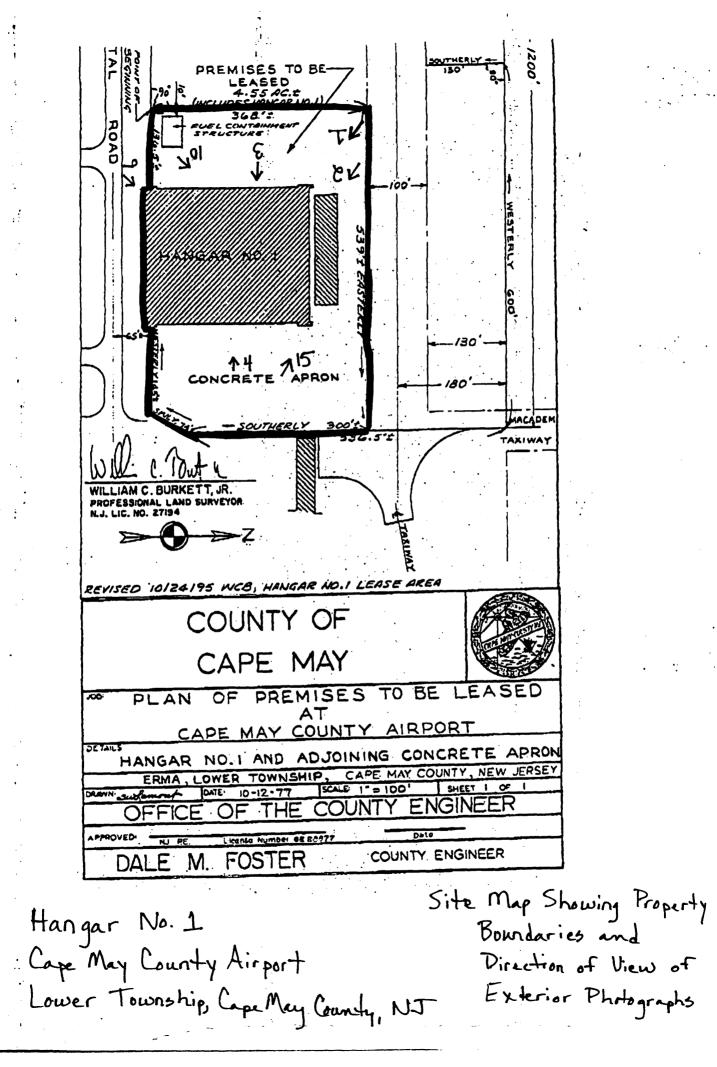
Photograph No. 12 of 15: Offices in north lean-to, looking north.

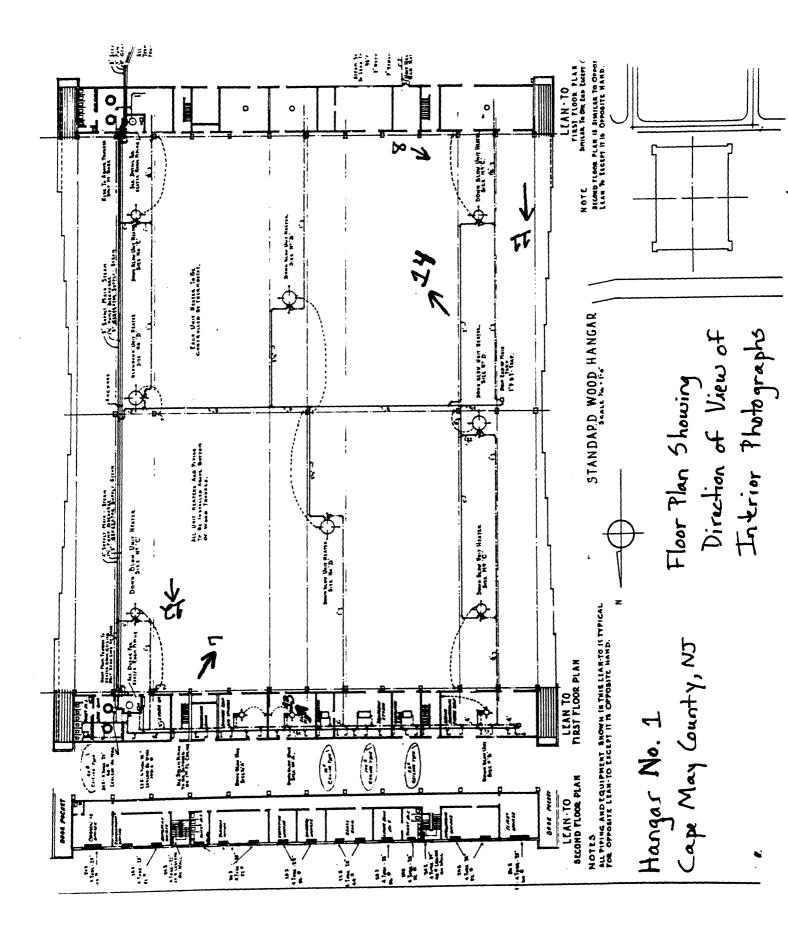
Photograph No. 13 of 15: Typical office enclosure, looking southeast.

Photograph No. 14 of 15: South interior elevation, showing offices and hallway, looking southeast.

Photograph No. 15 of 15: 1946 office addition, looking northwest.







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NPS Form 10-900 (Oct. 1990)	RECEIVED	OMB No. 10024-0018
United States Department of the Interior National Park Service	OCT 2 1 2005	
National Register of Historic Places Registration Form	HISTORIC PRESERVATION OFFICE	<b>6</b> 37
This form is for use in nominating or requesting determinations for individual prope <i>Register of Historic Places Registration Form</i> (National Register Bulletin 16A). Con information requested. If an item does not apply to the property being documented materials, and areas of significance, enter only categories and subcategories from continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or con	nplete each item by marking "x' in the approp , enter "N/A" for "not applicable." For function the instructions. Place additional entries and	riate box or by entering the s, architectural classification,
1. Name of Property		
historic name Hangar No. 1, United States Naval Air Station W	(ildwood (USNASW)	
other name/site number <u>Hangar No. 1, Cape May County Airport</u>		
2. Location		
street & no. Intersection of Forrestal and Langley Roads		not for publication
city or town Lower Township		vicinity
state New Jersey code 034 county Cape N	lay zip code 08	242
3. State/Federal Agency Certification		
As the designated authority under the National Historic Preservation request for determination of eligibility meets the documentation s of Historic Places and meets the procedural and professional require property imeets does not meet the National Register criteria. In an antionally statewide locally ( See continuation sheet for Signature of desirving difidial file Date John S. Watson Jr., Assistant Commissioner State or Federal agency and bureau	tandards for registering properties in the N ements set forth in 36 CFR Part 60. In my o recommend that this property be considere additional comments.)	ational Register pinion, the d significant
In my opinion, the property i meets does not meet the National comments.)	Register criteria. (	
comments.)	Register criteria. (	
comments.)		
comments.)         Signature of certifying official/Title         D         State or Federal agency and bureau         4. National Park Service Certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         See continuation sheet.         I determined eligible for the         National Register		
comments.)         Signature of certifying official/Title         D         State or Federal agency and bureau         4. National Park Service Certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         Signature of certification         I hereby certify that the property is:         See continuation sheet.         I determined eligible for the	ate	et for additional

### 5. Classification

Ownership of Property	
(check as many boxes as apply)	

🗌 private	🛛 building(s)
🛛 public-local	district
🗌 public-State	🔲 site
public-Federal	structure

**Category of Property** 

(check only one box)

object

### Number of Resources within Property

(Do not include previously listed resources in the count.)

buildings
sites
structures
objects
Total

### Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

N/A

### 6. Function or Use

Historic Function (Enter categories from instructions)

Defense: Air Facility

# Number of contributing resources previously listed in the National Register

0

Current Function (Enter categories from instructions)

Aircraft Museum

#### 7. Description Architectural Classification

(Enter categories from instructions)

mid-20<sup>th</sup> century

### Materials

(Enter categories from instructions)

foundation	Concrete		
walls	wood, asbestos, metal: steel		
roof			
other			

### **Narrative Description**

(Describe the historic and current condition of the property on one or more continuation sheets.)

See continuation sheet(s) for Section No. 7

### 8. Description

### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- **B** Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

### **Criteria Considerations**

(Mark "x" in all the boxes that apply.)

#### Property is:

- A owned by a religious institution or used for religious purposes.
- **B** removed from its original location.
- **C** a birthplace or grave.
- D a cemetery.
- **E** a reconstructed building, object, or structure.
- **F** a commemorative property.
- **G** less than 50 years of age or achieved significance within the past 50 years.

#### **Narrative Statement of Significance**

(Explain the significance of the property on one or more continuation sheets.)

#### 9. Major Bibliographical References

#### Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.

#### Previous documentation on file (NPS):

preliminary determination of individual listing (36
CFR 67) has been requested
previously listed in the National Register
previously determined eligible by the National
Register
designated a National Historic Landmark
recorded by Historic American Buildings Survey
#
recorded by Historic American Engineering
Record #

Lower Township, Cape May County, NJ City, County and State

Areas of Significance

(enter categories from instructions)

Military Architecture

Engineering

**Period of Significance** 1943-1945

Significant Dates 1943

Significant Persons (Complete if Criterion B is marked above)

#### **Cultural Affiliation**

Architect/Builder United States Department of the Navy

Sherman Sleeper Associates, Architects

See continuation sheet(s) for Section No. 8

#### Primary location of additional data:

State Historic Preservation Office

- Other State agency
- Federal agency
- Local government
- University
- Other Name of repository:
- Naval Air Station Wildwood

See continuation sheet(s) for Section No. 9

### 10. Geographical Data

Acreage of Property 4.55 acres

#### **UTM References**

(Place additional boundaries of the property on a continuation sheet.)

1 <u>1/8</u> Zone		4/3/1/7/1/2/0
	Easting	Northing
3 <u>/</u> Zone	Easting	Northing

#### **Verbal Boundary Description**

(Describe the boundaries of the property.)

Property Tax No.

#### **Boundary** Justification

11. Form Prepared By

(Explain why the boundaries were selected.)

Zone Easting Northing

See continuation sheet(s) for Section No. 10

name/title	Nancy L	. Zerbe,	Aleah Dacey	, Stacy I	E. Spies

organization ARCH <sup>2</sup> , Inc.	date September, 2003
street & number_16 Wernik Place	telephone (732) 906-8203
city or town Metuchen	state NJ zip code 08840

#### **Additional** Documentation

Submit the following items with the completed form:

#### **Continuation Sheets**

Maps A USGS map (7.5 or 15 minute series) indicating the property's location.

A Sketch map for historic districts and properties having large acreage or numerous resources.

Photographs: Representative black and white photographs of the property.

Additional items: (Check with the SHPO or FPO for any additional items)

#### **Property Owner**

name/title Naval Air Station Wildwood Foundation		-
street & number 731 Seashore Road	telephone (609) 886-8787	-
city or town Cape May	state <u>NJ</u> zip code <u>8204</u>	_

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

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Hanger No. 1, USNASW Cape May County New Jersey

### DESCRIPTION

Hangar No. 1 is a 2<sup>1</sup>/<sub>2</sub>-story, two-bay, wood structure built during World War II at the United States Naval Air Station Wildwood (USNASW), New Jersey, now the Cape May County Airport and Industrial Park. (Photograph No. 1). Placed upon a poured concrete pad foundation in 10' x 20' sections, the north and south "lean-to" elevations (Photograph No. 2) are placed atop approximately 4' of concrete block and are sheathed in asbestos board over mitre-cut wood boards (Photograph No. 3). Twelve full-height telescoping doors form the east and west elevations; these doors retract into door pockets at each corner of the hangar (Photograph No. 4). The structural supports and roof truss are constructed of bolted wood members and the roof is constructed of five layers of 5/8" gypsum board. Two clerestoried floors of offices along the north and south elevations are entered from the two 120' x 200' bays. A concrete taxiway and apron surround the east, west, and north elevations of the structure and the adjacent terminal building to the northeast. North of the hangar, the land is open and reaches to Fulling Mill Road to the north. The 2,558,000 cubic foot structure is located in the 900+ acre county airport property. Other World War II era and post-war structures are located to the south of the hangar. The surrounding World War II structures suffer from a loss of integrity. The hangar is in fair condition yet retains a high level of integrity as most alterations are largely reversible.

The 290'L x 219'W x 51'H full hangar is constructed of bolted wood Pratt trusses in 10' panels at the roof level (Photographs No. 5 & 6), bolted cross-braced vertical supports at the north and south interior elevations and bolted center supports, which forms the division between the two bays (Photograph No. 7). Larger truss members are constructed of smaller members bolted together (Photograph No. 8). The structure contains two 120'L x 200'W bays for airplane storage and maintenance and rows of offices and workrooms that form the north and south elevations. Two ribbon rows of clerestory, double-hung sash windows are located along the north and south exterior elevations, which are constructed of mitre-cut wood boards covered with 4' x 8' vertical asbestos boards attached with nails (Photograph No. 9).

The east and west elevations have twelve telescoping, 29'6" high, top-hung metal-frame (Photograph No. 10) doors which are set in metal tracks in the concrete floor (Photograph No. 11). The doors slide open into pockets at each corner of the structure. These pockets are also constructed of mitre-cut wood boards covered with 4' x 8' vertical asbestos boards. The top  $\frac{3}{4}$  of each door consists of three tiers of 16 light windows and the lower half consists of battened plywood panels. A narrow wood canopy shelters the manually operated mechanism from which the doors are suspended. A small entry door is located at the north corner of the west elevation doors.

The two-story rows of offices on the north and south interior "lean-to" elevations – so called because they are located outside of the truss system – originally contained offices and

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Hanger No. 1, USNASW Cape May County New Jersey

work areas, including offices for the commanding officer, the flight officer and the engineering officer, equipment repair rooms, locker rooms and washrooms, and carpentry shops (Photograph No. 12). These rooms are separated from the bays by clerestoried, square, pivot windows set in plywood partition walls (Photograph No. 13). The second floor is reached by two staircases on each elevation. The second floor hallway is an unenclosed gallery open to the bays (Photograph No. 14). The original interior finish for the offices and stairwells – visible in sections under later layers of paint – was plywood stained a dark walnut color.

Two poured concrete propeller pits are located at the northwest and southwest interior corners of the structure behind the door pockets. Propellers were placed on concrete supports suspended over the pits which allowed the propellers to be spun while undergoing repair. Windows and doors retain original hardware. A mechanical pivoting mechanism opens and closes the truss-level windows; chains at the second floor galleries operate the mechanism. A deluge sprinkler system remains attached to the roof truss system and its original activation stations also remain.

Alterations have been minimal and are largely reversible. An attached three-story, gableroof office area at the exterior northeast corner was added in 1946 (Photograph No. 15). Additional plywood-walled, single-story rooms were added to the interior of the hangar and are located along the center supports and alongside the rooms on the north wall. Interior finishes have been altered in some of the offices, including the application of adhesive paneling. In an attempt to lower heating costs in the large bay areas, canvas sheeting has been attached to the center supports and plastic sheeting attached to the roof truss system to retain heat. Some exterior and interior windows have been removed and covered with plywood. Many of these windows are stored on site. The north half of the hangar has not weathered well and its condition is poor. The gypsum board roof has failed in this section and water damage has resulted. The south half of the structure has not experienced roof failure and remains in good condition.

The hangar is the "Standard Wood Hangar" designed by the Department of the Navy. The architect, Albert Kahn, a consultant to the military services beginning during World War I, produced many of the designs for Naval installations – especially those for air hangars – and it is possible that he designed the Standard Wood Hangar.<sup>58</sup> The siting, heating system design, and interior details were designed by Sherman Sleeper Associates Architects and Engineers of Camden, New Jersey. It is estimated that 20-30 hangars of this type were constructed during World War II, including USNAS Atlantic City, New Jersey (demolished), USNAS Oceana, Virginia, and USNAS Corpus Christi, Texas.<sup>59</sup> The design is typical of hangars built by the

<sup>&</sup>lt;sup>58</sup> Garner, 48.

<sup>&</sup>lt;sup>59</sup> McGill, Personal Communication.

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Hanger No. 1, USNASW Cape May County New Jersey

Navy in the 1930s and 1940s: large (approximately 200' x 200'), architecturally unembellished, wood frame to conserve steel during the war years, with side lean-tos and overhead sliding track doors.

While the hangar is in need of rehabilitation, its level of integrity is high. After the air station became the property of the War Assets Administration in 1946, station operations reverted to Cape May County. Subsequent airplane-related businesses occupied the hangar and minimally altered the structure with interior partition walls and removal of windows for energy conservation, though the original form and feeling of the structure remains intact.

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Hanger No. 1, USNASW Cape May County New Jersey

### STATEMENT OF SIGNIFICANCE

### Introduction

Hangar No. 1 at the United States Naval Air Station Wildwood (USNASW) is significant at the state and national levels under Criterion A for its association with two important World War II developments: the United States military's rapid early-1940s build-up of facilities, described as "one of the largest construction projects the U.S. ever undertook,"<sup>1</sup> and the Navy's dive bomber program which played a decisive role in the war's outcome. In addition, Hangar No. 1 is architecturally significant at the state and national levels under Criterion C as a representative example of World War II era Navy airplane hangars.

Naval air stations were utilized for a variety of purposes; however, only seven of them on the east coast were utilized for training dive bombers: NAS Wildwood in New Jersey; NAAS (Naval Auxiliary Air Station) Manteo in North Carolina; NAS Quonset Point in Rhode Island; NAAS Cecil Field, NAS Miami, and NAS Vero Beach in Florida; and NAAS Oceana in Virginia. According to the United States Department of the Navy statistics, a total of twenty-eight bombing squadrons trained at NASW. The Navy statistics also indicate that eighteen of the twenty-eight bombing (VB) squadrons (VB-2, VB-3, VB-7, VB-10, VB-13, VB-14, VB-15, VB-16, VB-20, VB-80, VB-81, VB-82, VB-83, VB-85, VB-86, VB-87, VB-88, and VB-94) that trained at USNASW went on to serve in the Pacific arena.

A letter received by the Commandant of the Fourth Naval District on April 21, 1945 indicates the individual importance of USNASW:

Commander Fleet Air, Quonset, has recently been in receipt of complimentary expressions as regards the training received by CV [Carrier] Air Groups that have been sent to the Pacific. The heart of the CV training programs on the East Coast might very well be said to exist at three (3) type fields; namely, Wildwood, Atlantic City, and Quonset. The first two are in the Fourth Naval District, and Commander Fleet Air, Quonset, desires to state that these two fields have been exemplary in taking care of the Fleet Units based thereon.<sup>2</sup>

### History of USNASW

The Civil Aeronautics Act of 1938 set in motion a nationwide movement to develop the United States' airports for national defense purposes, wherein sites for military airfields were to be

<sup>&</sup>lt;sup>1</sup> Shettle, United States Naval Air Stations of World War II, Volume I: Eastern States, 7.

<sup>&</sup>lt;sup>2</sup> The History of the Fourth Naval District, II-9-II-10.

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selected with regard to future civilian aviation potential, cost, and efficiency.<sup>3</sup> By building on land offered by local governments or augmenting extant civil airports, the Civil Aeronautics Administration (CAA) also aided in the wartime economy of communities positioned near the bases. Of eighty-six facilities built in the eastern states, forty-three were constructed at existing municipal or civilian airfields.<sup>4</sup> Such was the case with the land appropriated for USNASW, which had been purchased by Cape May County with a \$25,000 bond issue raised for the establishment of a county airport four miles outside Wildwood<sup>5</sup>. Three 1000' runways were constructed in Wildwood, for use by the Army or Navy, by the CAA upon the outbreak of World War II in 1939. The Navy then leased the airport for \$1.00 per acre and acquired an additional 38 acres on which to build a base.<sup>6</sup> USNASW consisted of 942.751 acres of land situated in the center of the lower third of the Cape May peninsula, in Lower Township, with roughly one square mile per side.<sup>7</sup>

With the growing threat of the United States' involvement in the war, Congress granted an eighty percent increase in funding for construction of naval air combat structures in June 1940.<sup>8</sup> By April 1942, five months after the attack on Pearl Harbor, agreements were finalized to expand the Cape May County airport and on April 1, 1943, it was commissioned as the United States Naval Air Station Rio Grande. Due to difficulty in obtaining adequate mail, telegram, and telephone service resulting from confusion with Rio Grande, Texas, the station was redesignated as USNAS Wildwood two months later. At the time of commissioning, the station was directly under the authority of the Commandant, Fourth Naval District, and assigned the mission of providing facilities and services for the operation of Fleet Units under Commander, Fleet Air, Quonset Point. Construction of Hangar No. 1 began in October 1942, under Contract NOY-5814, as part of a project to support the initial group of 108 officers, 1,200 men, and 72 planes. Hangar No. 1 is the only intact structure at USNASW from the World War II construction campaign.

In August 1943, the CAA approved construction of three 2500' runways in a vacant field eighteen miles outside USNASW in Woodbine, New Jersey, to compensate for an increase in field traffic at both USNASW and NAS Atlantic City.<sup>9</sup> This outlying field (OLF) was utilized by planes from both stations and administered by USNASW until December 1943, when it was transferred to NAS Atlantic City. At that time, USNASW was granted permanent assignment of

<sup>&</sup>lt;sup>3</sup> Shettle, United States Naval Air Stations of World War II, Volume II: Western States, 9.

<sup>&</sup>lt;sup>4</sup> Shettle, United States Naval Air Stations of World War II, Volume I: Eastern States, 7.

<sup>&</sup>lt;sup>5</sup> The History of the Forth Naval District, 11-2.

<sup>&</sup>lt;sup>6</sup> Shettle, United States Naval Air Stations of World War II, Volume I: Eastern States, 227.

<sup>&</sup>lt;sup>7</sup> United States Army Corps of Engineers, n.p.

<sup>&</sup>lt;sup>\*</sup> Johnson, 243

<sup>&</sup>lt;sup>9</sup> The History of the Fourth Naval District, II-4.

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three existing 5000' runways in an OLF thirty-five (air) miles away in Georgetown, Delaware.<sup>10</sup> Improvements made by USNASW at the Georgetown OLF include additional increased fuel storage, catapult and arresting gear, a building, and runway lighting.<sup>11</sup> The Georgetown OLF was used throughout the active history of USNASW exclusively for day and night carrier landing practice.<sup>12</sup>

USNASW went through several phases of wartime operation. Upon its commission on April 1, 1943, USNASW was intended to serve as the training ground for the formation of complete air groups to operate from aircraft carriers. By June 1943, USNASW was being used only for the training of dive bombing squadrons, with the other common air carrier group constituents (fighting, bombing, and torpedo training) relegated to other stations.<sup>13</sup> With an expansion in late 1943, the number of aircraft assigned to the station rose to over 200.<sup>14</sup> Except for the inclusion of a single fighter squadron from September to November, 1944, USNASW trained only dive bombing squadrons until January, 1945. At that time, training of dive bombing squadrons relocated to NAS Manteo, with only fighter bomber (VBF) squadrons based at USNASW. The training of fighter-bomber squadrons was improved at USNASW with the installation of two rocket targets on the southwestern shore of the Delaware Bay.

Consideration for an appropriate dive bombing training base includes level, well-drained ground available from any approach, as well as suitable for takeoffs and landings under instrument.<sup>15</sup> Within four months, the dive bombing squadrons had returned to USNASW as the facilities at NAS Manteo proved insufficient for training.<sup>16</sup> From June to August 1945, "a perfected and concentrated program of training had been developed and was in full operation"<sup>17</sup> for both dive bomber and fighter bomber squadrons at USNASW. In July 1945, facilities at the station were further improved, and a 20MM School and CV Navigation Program were developed.<sup>18</sup>

Activity at USNASW peaked in October of 1944, with 16,994 takeoffs and landings and accommodation of as many as 200 planes. The station's enlisted personnel complement upon its opening was 122, and had grown to 362 by the time the station closed.<sup>19</sup> In April of 1946, the

<sup>&</sup>lt;sup>10</sup> Ibid.

<sup>&</sup>lt;sup>11</sup> Shettle, United States Naval Air Stations of World War II, Volume I: Eastern States, 227.

<sup>&</sup>lt;sup>12</sup> The History of the Fourth Naval District, Part IV, II-2.

<sup>&</sup>lt;sup>13</sup> *Ibid.*, II-8.

<sup>&</sup>lt;sup>14</sup> Shettle, United States Naval Air Station of World War II, Volume 1, 227.

<sup>&</sup>lt;sup>15</sup> Brown, n.p.

<sup>&</sup>lt;sup>16</sup> The History of the Fourth Naval District, Part IV, 11-9.

<sup>&</sup>lt;sup>17</sup> *Ibid.*, II-2.

<sup>&</sup>lt;sup>18</sup> *Ibid.*, II-1.

<sup>&</sup>lt;sup>19</sup> *Ibid.*, (b)-1.

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Navy turned the station over to the War Assets Administration (WAA) for disposition.<sup>20</sup> On December 1, 1947, the station property was returned to the County of Cape May for use as the Cape May County Airport.<sup>21</sup> The hangar was only partially utilized from 1980 to 1992, and was completely vacated from 1992 to 1995. The Naval Air Station Wildwood Foundation was formed in 1995 in an effort to preserve and repair the hangar. In May of 1997, Hangar No. 1 was purchased by the Naval Air Station Wildwood Foundation and developed into the Naval Air Station Wildwood Aviation Museum. The original form and feeling of the structure remains intact.

### Training at USNASW

### Dive Bombing

With key advantages of increased aim accuracy and a safer bomb release, dive bombing was integrated into United States Naval operatives as early as 1928.<sup>22</sup> By the 1930s, a typical air carrier group consisted of bombing (VB), fighting (VF), scouting (VS), and torpedo (VT) squadrons.<sup>23</sup> This arrangement continued into World War II, although the units did evolve as battle and circumstance necessitated.<sup>24</sup> While USNASW originally trained complete air groups, after two months it was designated for only dive bombing squadrons – possibly preferred for its coastal, inlet setting. The training of dive bomber pilots was particularly dangerous, and in its two years of operation, USNASW suffered 194 accidents, including forty deaths. Prior to arrival at USNASW, pilots spent three months in basic training and several other months in ground school, squadron, and pre-flight training. Training received at USNASW included night and instrument flying, take-off and landing from the deck of a carrier, and diving at a seventy degree angle within 200-300 yards of a target with bomb release and pull out. The seven elements of the dive bomb attack included in training at USNASW were approach, break, dive, drop (shot), pullout, withdraw, and rendezvous.<sup>25</sup>

Dive bomber aircraft differed from other [military] aircraft in two distinct ways: dive brakes were used to slow diving speed to allow the pilot more time to accurately position the bomb, and the aircraft had a hinged bomb rack under the fuselage so the released bomb would clear the arc of the propeller.<sup>26</sup> Initial dive bombing planes utilized at USNASW were the Douglass SBDs, also known as "Dauntless." Known to be durable and reliable, the SBD was tested for use by the Navy by May of 1940. By the spring of 1942, Douglass increased its

<sup>&</sup>lt;sup>20</sup> United States Army Corps of Engineers, n.p.

<sup>&</sup>lt;sup>21</sup>Ibid.

<sup>&</sup>lt;sup>22</sup> Guttman, 2.

<sup>&</sup>lt;sup>23</sup> Guttman, 1 and Reilly, 26.

<sup>&</sup>lt;sup>24</sup> Reilly, 27.

<sup>&</sup>lt;sup>25</sup> Tillman, n.p.

<sup>&</sup>lt;sup>26</sup> Guttman, 1.

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production of the SBD for the Navy after the plane proved to be successful in the new carrierversus-carrier battles of the war.<sup>27</sup> Though integral to the carrier-based bombing force for the first two years of the war, by late 1942 the SBD was already being phased out in favor of the Curtiss SB2C, also known as "Helldiver."<sup>28</sup> It would be the last line of aircraft developed by the Navy specifically for the role of dive bombing, and it went through many difficulties in development and production.<sup>29</sup> Its comparative success versus the SBD remains contested, although the SB2C was "responsible for the destruction of more Japanese targets than any other dive-bomber."<sup>30</sup> SB2Cs were used in combat for the first time in the Second Rabaul Strike on November 11, 1943.<sup>31</sup>

### Fighter Bombing

In January of 1945, fighter bombing (VFB) squadrons began to be established and trained at USNASW using the Vought F4U Corsair. While joint bomber/fighter missions were particularly vulnerable to Japanese fighters due to typically deficient training in glide-bombing tactics by fighter pilots, the Corsair offered many advantages in battle.<sup>32</sup> It could carry the same load as the SB2C, but over a shorter range and faster.<sup>33</sup> Performance was typically very high, and the plane could be used with or without bombs and rockets.<sup>34</sup> Unique features of this lowwing monoplane include a propeller of unusually large diameter and inverted gull wings, which kept the main landing gear short and retractable straight back, with fuselage high enough to compensate for the large blades.<sup>35</sup> The Corsair was first used in combat in Guadalcanal on February 11, 1943,<sup>36</sup> and became integral to success in the Pacific arena by 1944. It stayed in production longer than any other United States fighter of the period, and was credited with an 11:1 ratio of kills/losses against the Japanese.<sup>37</sup>

### Dive Bombers and the Pacific Arena

The submarine and aircraft, in taking navies into depths of the ocean and into the heavens...by wise integration...brought the United States Navy incredible new power [in World War II.] Incorporating aircraft as part of total fleet strength, the

<sup>&</sup>lt;sup>27</sup> Andrews, 24.

<sup>&</sup>lt;sup>28</sup> "Naval Aircraft: Dauntless," 24.

<sup>&</sup>lt;sup>29</sup> Guttman, n.p.

<sup>&</sup>lt;sup>30</sup> Tillman, back cover.

<sup>&</sup>lt;sup>31</sup> Naval Aviation Chronology in World War II: World War II 1940-1945, n.p.

<sup>&</sup>lt;sup>32</sup> Thomas, n.p.

<sup>&</sup>lt;sup>33</sup> SB2C Specifications, n.p.

<sup>&</sup>lt;sup>34</sup> Andrews, n.p.

<sup>&</sup>lt;sup>35</sup> Ibid. and Grossnick, 474.

<sup>&</sup>lt;sup>36</sup> Grossnick, 123.

<sup>&</sup>lt;sup>37</sup> WWII Vought F4U Corsair, n.p.

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Navy developed the aircraft carrier, with its embarked dive bombers, torpedo planes, and fighters, into one of the most powerful champions of freedom all history records – powerful in World War II, even more powerful today.<sup>38</sup>

This power felt by the Navy in World War II, then, was a cumulation of total fleet aptitude – strength of the air carrier group as defined by all its components. USNASW played an essential role in this new naval strength through the training of dive bomber squadrons, a particularly important and innovative component throughout World War II. The significance of dive bombers in battle was illustrated early in the war, particularly in the Battle of the Coral Sea and the Battle of Midway. While these battles took place before the inception of USNASW, they establish the historic context and development of the position diver bombers held in the war.

The Battle of the Coral Sea, fought May 1-8, 1942 southwest of the Solomon Islands and east of New Guinea, introduced a new method of sea combat with the first carrier-versus-carrier battle of the Pacific arena. Opposing fleets were not in view of each other for the first time in any naval confrontation.<sup>39</sup> Japanese forces attempted to capture Port Moresby, on New Guinea's southeastern coast, to threaten Australia out of the war and support further expansion of the empire into the South Pacific.<sup>40</sup> The United States Navy, enlightened by communications intelligence, countered Japanese forces with two carriers, plus cruisers, destroyers, submarines, land-based bombers, and patrol seaplanes. Dive bomber squadrons VB-5 (aboard *Yorktown*) and VB-2 (aboard *Lexington*) helped to sink the *Shoho* as well as damage the *Shokaku* and *Zuikaku*. The United States suffered the loss of the carrier *Lexington*, a destroyer, and a fleet oiler, as well as damage to the *Yorktown* carrier. Ultimately the Japanese were forced to abandon their Port Moresby invasion.<sup>41</sup> While the battle was a tactical Japanese victory, it was also an operational and strategic success for the United States as the first major impingement on the offensive begun at Pearl Harbor. The diversion of Japanese resources at this battle also had important consequences for the Battle of Midway only a month later.<sup>42</sup>

The Battle of Midway on June 4-6, 1942 was also a carrier-versus-carrier battle, and it is considered the decisive battle of the war in the Pacific.<sup>43</sup> Prior to this battle, the Japanese were offensively acquiring territory throughout Asia and the Pacific. They had planned to attack and capture Midway for use as an advance base to destroy the United States Pacific Fleet.<sup>44</sup> Assumption of victory was so inflated that the Japanese high command had renamed Midway

<sup>&</sup>lt;sup>38</sup> Smith, xxi.

<sup>&</sup>lt;sup>39</sup> "Naval Aircraft: Dauntless," 24.

<sup>&</sup>lt;sup>40</sup> Battle of the Coral Sea, 7-8 May 1942: Overview and Special Image Selection, n.p.

<sup>&</sup>lt;sup>41</sup> Ibid.

<sup>&</sup>lt;sup>42</sup> Ibid.

<sup>&</sup>lt;sup>43</sup> Buell, xvi.

<sup>44 &</sup>lt;http://history.navy.mil>.

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Atoll "Glorious Month of June" before the battle even began.<sup>45</sup> Successful communication intelligence, however, led the United States Pacific Fleet to surprise the Japanese forces.<sup>46</sup> In what has been called "the six minutes that changed the world," forty-six Douglas SBD dive bombers sank the four Japanese carriers that had attacked Pearl Harbor only six months prior.<sup>47</sup> VB-6 and VS-6 from the *Enterprise* destroyed carriers *Kaga* and *Akagi*, while VB-3 from the *Yorktown* destroyed the carrier *Soryu*.<sup>48</sup> The fourth carrier, the *Hiryu*, was sunk later in the day by twenty-four members of VB-6, VS-6, and VB-6.<sup>49</sup> The United States and the Allies forces were able to take the offensive in the Pacific arena after the Battle of Midway.<sup>50</sup>

### Condensed Genealogy of the Fleet Activity at Wildwood

Accurately tracing the lineage of a squadron can be nearly impossible. While some information is certain, the "United State Navy has not been...concerned with logic in designating squadrons."<sup>51</sup> Throughout World War II, the designation system went through repeated changes – all with no consistent policy in "selecting the alphanumeric designations for squadrons; constantly reusing the same letter and numeric designations; and the many establishments, redesignations, and disestablishments of aviation squadrons."<sup>52</sup> Often air carrier groups were identified according to the carrier on which they were stationed, as can be found with Air Carrier 30's squadrons VC-30 and VF-30. For security purposes, squadron numbers were also assigned at random.<sup>53</sup> The lineage begins with a squadron's establishment, includes any redesignations, and ends with disestablishment. If a squadron is redesignated with a previous squadron's name, it cannot claim the history of the previous unit.<sup>54</sup> Official lineage includes only "the period during which a unit is officially declared active…has personnel assigned to it, and is listed in the Naval Aeronautical Organization."<sup>55</sup>

Of the units located at USNASW, varying levels of information are available. The following condensed genealogy is principally complied from "The History of the Fourth Naval District, Part VI." Acronyms used include: VS=Scouting Squadron, VB=Bombing Squadron, VF=Fighter Squadron, VT=Torpedo Squadron, VC= Composite Aircraft Squadron, CAG

<sup>&</sup>lt;sup>45</sup> Smith, 264.

<sup>&</sup>lt;sup>46</sup> <http://www.cv6.org>.

<sup>&</sup>lt;sup>47</sup> Buell, 82.

<sup>&</sup>lt;sup>48</sup> <http://history.navy.mil>.

<sup>&</sup>lt;sup>49</sup> Buell, 83.

<sup>&</sup>lt;sup>50</sup> <http://history.navy.mil>.

<sup>&</sup>lt;sup>51</sup> Tillman, *The Name*'s the Same, n.p.

<sup>&</sup>lt;sup>52</sup> Grossnick, Dictionary of American Naval Aviation Squadrons: Volume 1, 541.

<sup>&</sup>lt;sup>53</sup> <http://www.cv6.org>.

<sup>&</sup>lt;sup>54</sup> Grossnick, Dictionary of American Naval Aviation Squadrons: Volume 1, 541.

<sup>&</sup>lt;sup>55</sup> Ibid., 542.

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=Carrier Air Group, CASU= Carrier Aircraft Service Unit, and VBF= Bombing-Fighting Squadron.

Carrier Air Groups at USNASW:

CAG 16: Reformed at Wildwood 8/25/1944, consisted of VF-16 and VB-16, commander CAG-16 departed with VF-16 and VB-16 for NAAS Oceana 11/5/1944, involved in First Battle of the Philippine Sea

CAG 30: Established at USNASW 4/1/1943, consisted of VC-30 and VF-30, departed for NAS Norfolk 7/20/43

CAG 81: Reported aboard at USNASW 8/3/1945

Carrier Aircraft Service Units at USNASW:

CASU-23 DETACHMENT: Assigned to support fleet air detachments 4/1/1943, transferred to NASAC 8/23/1943

CASU-24: Arrives USNASW 8/16/1943, radar training transferred to NAS Cape May 4/21/1944, base radio established for guarding training frequencies in fifteen mile radius 3/27/1945

Squadrons at USNASW:

VB-2: VB-14 arrives at USNASW 6/2/1943, merges with VB-15 6/15/1943, designation changed to VB-2 7/16/1943, NAS Quonset 7/1943 on the *Hornet* carrier, sent to the Pacific 3/9/1944, broke into combat 3/30/1944 in attack on Peleiu Islands in the Palaus, supported the Hollandia, New Guinea landings prior to the Mariana campaign in 6/1944 – played a major role in 6/20/1944 attack on Vica Adm Ozawa's northern carrier group, departed *Hornet* 9/29/1944, relieved by Air Group 11 early in the Philippines campaign

VB-3: Established at USNASW 5/7/1945, departed for NAAS Oceana 7/15/1945, stationed on the *Yorktown* carrier, sent to the Pacific 10/1944-3/1945, *Yorktown*-VB-3 involved in the Tokyo and Iwo Jima operations 2/1945

VBF-3: Established at USNASW 5/7/1945, departed for NAAS Oceana 7/15/1945

VB-4: Reported aboard at USNASW 7/17/1945, then assigned to Tarawa (CV-40) in the Western Pacific in 1946, *Essex*-VB-4 involved in the Tokyo and Iwo Jima operations 2/1945

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VBF-4: Reported aboard at USNASW 7/17/1945

VB-7: Established at USNASW 1/3/1944, departed for NAAS Oceana 3/16/1944, on the *Hancock* carrier, sent to the Pacific 9/1944-1/1945, *Hancock*-VB-7 involved in the Second Battle of the Philippine Sea in 9/1944, in battle of 10/25/1944

VB-10: Reformed at USNASW 9/15/1944, departed for NAAF Groton 12/1/1944, on the *Intrepid* carrier (Carrier embarked 3 helldiver squadrons as air groups cycled through scheduled deployment), sent to the Pacific 3-4, 8/1945, *Intrepid*-VB-10 involved in the Okinawa campaign 4-6/1945, *Intrepid*-VB-10 involved in last major attack on Japanese warships maneuvering in the open sea 4/2/1945

VB-13: Established at USNASW 11/1/1943, departed for NAAS Oceana 1/15/1944, on the *Franklin* carrier, sent to the Pacific 7-10/1945, *Franklin*-VB-13 involved in 2<sup>nd</sup> Battle of the Philippine Sea in 9/1944, in battle of 10/15/1944 was the heaviest hit with 2 crews killed in action

VB-14: Arrives at USNASW 6/2/1943, merged with VB-15 6/15/1943, designation changed to VB-2 7/16/1943

VB-15: Arrives at USNASW 6/2/1943, merged with VB-14 6/15/1943

VB-20: Reformed at USNASW 4/16/1945, departs for NAS Edenton 6/22/1945

VBF-20: Established at USNASW 4/16/1945, departs for NAS Edenton 6/22/1945

VC-52: Established at USNASW 9/1/1943, transferred to NAS Quonset Point

VBF-75: VBF-75A reported aboard at USNASW 6/1/1945, redesignated VBF-75 8/1/1945, departed for NAAS Chincoteague 8/9/1945

VBF-75A: Reported aboard at USNASW 6/1/1945, redesignated VBF-75 8/1/1945

VBF-75B: Decommissioned 8/1/1945

VB-80: Established at USNASW 2/1/1944, departed for NAAS Oceana 3/28/1944, on the *Ticonderoga* carrier, sent to the Pacific 11/1944-1/1945, in strikes against Manila Harbour on 11/5/1944 shared with VB-19 in sinking 13,000 ton cruiser *Nachi*, *Hancock*-VB-80 involved in the Tokyo and Iwo Jima operations 2/1945

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VB-81: Established at USNASW 3/1/1944, departed for NAAF Otis 5/13/1944, on the *Wasp* carrier, sent to the Pacific 11/1944-1/1945, reported aboard at USNASW 8/3/1945

VBF-81: Reported aboard at USNASW 8/3/1945

VB-82: Established at USNASW 4/1/1944, departed for NAAS Oceana 6/16/1944, departed for NAS Norfolk 9/17/1944, reported to the *Bennington* carrier 9/29/1944, sent to the Pacific 2/6/1945, *Bennington*-VB-82 involved in the Tokyo and Iwo Jima operations 2/1945, *Bennington*-VB-82 involved in the Okinawa campaign 4/6/1945

VB-83: Established at USNASW 5/1/1944, departed for NAAF Otis 7/1/1944, on the *Essex* (carrier embarked 3 helldiver squadrons as air groups cycled through scheduled deployment) carrier, sent to the Pacific 3/9/45, *Essex*-VB-83 involved in the Okinawa campaign 4/6/1945, *Essex*-VB-83 involved in last major attack on Japanese warships maneuvering in the open sea 4/2/1945, attacked Yamato battleship, was in combat on VJ-Day 8/15/1945

VB-85: Established at USNASW 5/15/1944, departed for NASS Otis 8/5/1944, on the *Shangri-La* carrier, sent to the Pacific 4/9/45, *Shangri-La*-VB-85 involved in the Okinawa campaign 4/6/1945, was in combat on VJ-Day 8/15/1945

VB-86: Established at USNASW 6/15/1944, departed for NAAF Otis 10/2/1944, on the *Wasp* carrier, sent to the Pacific 3/9/1945, *Wasp*-VB-86 Involved in the Okinawa campaign 4/6/1945, was in combat on VJ-Day 8/15/1945

VB-87: Established at USNASW 7/1/1944, departed for NAAS Oceana 9/1/1944, on the *Ticonderoga* carrier, sent to the Pacific 5/9/1945, *Ticonderoga*-VB-87 involved in the Okinawa campaign 4/6/1945, was in combat on VJ-Day 8/15/1945

VB-88: Established at USNASW 8/15/1944, departed for NAAS Otis 11/29/1944, on the *Yorktown* carrier (carrier embarked 3 helldiver squadrons as air groups cycled through scheduled deployment), sent to the Pacific 7/9/1945, was in combat on VJ-Day 8/15/1945

VB-89: Established at USNASW 10/2/1944, departed for NAAS Oceana 1/2/1945

VB-92: Established at USNASW 12/1/1944, departed for NAAF Groton 2/2/1945

VB-93: Established at USNASW 12/15/1944, departed for NAAF Otis 2/12/1945

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VB-94: Established at USNASW 11/15/1944, departed for NAAS Oceana 1/22/1945, on the *Lexington* carrier sent to the Pacific 8/45, was in combat on VJ-Day 8/15/1945

VB-95: Established at USNASW 1/3/45, departed for NAAS Oceana 3/2/1945

VF-95: Departed for NAAS Oceana 1/26/1945

VBF-95: Departed for NAAS Oceana 3/6/1945

VB-97: Established at USNASW 11/1/1944

VB-150: Established at USNASW 1/22/1945, departed for NAAS Edenton 3/16/1945

VBF-150: Reported at USNASW 1/28/1945, departed for NAAS Edenton 3/23/1945

VB-151: Established at USNASW 2/12/1945, departed for NAAS Manteo 2/18/1945

VBF-151: Established at USNASW 2/12/1945

VBF-152: Established 3/4/1945, departs for NAAF Groton 5/2/1945

VB-153: Departed for NAAS Oceana 6/1/1945

VBF-153: Established 3/4/1945, departed for NAAS Oceana 6/1/1945

VB-306: Reported at USNASW 11/17/1943, departed for San Diego 12/15/1943

### Criterion C

The hangar is the "Standard Wood Hangar" designed by the Department of the Navy. The architect, Albert Kahn, a consultant to the military services beginning during World War I, produced many of the designs for Naval installations – especially though for air hangars<sup>56</sup> – and it is possible that he designed the Standard Wood Hangar. The siting, heating design system, and interior details were designed by Sherman Sleeper Associates Architects and Engineers of Camden, New Jersey. It is estimated that 20-30 hangars of this type were constructed during World War II, including USNAS Atlantic City, New Jersey (demolished); USNAS Oceana, Virginia; and USNAS Corpus Christi, Texas.<sup>57</sup> The design is typical of hangars built by the Navy in the 1930's and 1940's: large (approximately 200' x 200'), architecturally

<sup>&</sup>lt;sup>56</sup> Garner, 48.

<sup>&</sup>lt;sup>57</sup> McGill, n.p.

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unembellished, wood frame to conserve steel during the war years, with side lean-tos and overhead sliding track doors.

Conclusion

Hangar No. 1 is therefore significant at the state and national levels, under Criterion A for its association with the construction campaign and dive bomber contingent during World War II, and under Criterion C as a representative example of World War II era Navy airplane hangars.

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Hanger No. 1, USNASW Cape May County New Jersey

### **VERBAL BOUNDARY DESCRIPTION**

The hangar is located within Block 410.01, Lot 36 in Lower Township, Cape May County, New Jersey. The boundary of Hangar No. 1 is the same as the area leased by Cape May County to the Naval Air Station Wildwood Foundation, including all that portion of concrete apron and adjoining Hangar No. 1, being more particularly bounded and described as follows:

BEGINNING at a point in the southerly edge of the existing concrete apron; said point being located approximately one-hundred and thirty-six and fifty one-hundredths (136.50) feet more or less West of the Westerly side of the aforesaid Hangar No. 1 and sixty-five (65) feet North of the centerline of Forrestal Road as shown in plan entitled "Plan Of Premises To Be Leased At Cape May County Airport, Hangar No. 1 and Adjoining Concrete Apron, Erma, Lower Township, Cape May County, New Jersey" as prepared by the office of the Cape May County Engineer on October 12, 1977 and revised on October 24, 1995, from said point of beginning:

1) In a Northerly direction, at right angles to the aforesaid Forrestal Road, three-hundred and sixty-eight (368) feet more or less to the Southerly line of a 100 feet wide taxiway as shown on the said plan, thence;

2) Easterly, at right angles to the previous course and along the southerly line of the said 100 feet wide taxiway, five-hundred and thirty-nine (539) feet more or less to a point, thence;

3) Southerly, at right angles to the previous course, parallel with the easterly side of the said Hangar No. 1 and along an existing chain link fence in part, three hundred (300) feet more or less to an angle point in said fence, thence;

4) Southwesterly, continuing along the said chain link fence line, seventy-four (74) feet more or less to an angle point in said fence, thence;

5) Westerly, continuing along the said fence line, parallel with and sixty-five feet distant from the aforesaid centerline of Forrestal Road when measured at right angles thereto, one-hundred and forty-five (145) feet more or less to the easterly edge of the aforementioned Hangar No. 1, thence;

6) In Southerly, Westerly, and Northerly directions around the Southerly perimeter of the said Hangar No. 1 to a point on the Westerly side of the aforesaid hangar, approximately sixty-five (65) feet from the centerline of the aforementioned Forrestal Road, thence;

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7) Westerly, parallel with and sixty-five feet distant from the aforesaid centerline of Forrestal Road, one-hundred and thirty-six and fifty one-hundredths (136.50) feet more or less to the point and place of beginning.

CONTAINING within the above described premises, 4.55 acres more or less.

### **VERBAL BOUNDARY JUSTIFICATION**

The nominated property is the same as the area leased by Cape May County to the Naval Air Station Wildwood Foundation. This area is bound by Forrestal Road to the south, the taxiway to the north, a chain link fence to the east, and the limits of the leased area to the west.

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Section number Photographs Page 1

### **PHOTOGRAPHS**

For all photographs:

Property Name:	Hangar No. 1, United States Naval Air Station Wildwood
Property Location:	Lower Township, Cape May County, New Jersey
Photographer:	Stacy E. Spies
Date of Photographs:	October, 1995
Location of Original Negatives:	ARCH <sup>2</sup> , Inc. 16 Wernik Place Metuchen, NJ 08840

Photograph No. 1 of 15: North and west hangar elevations, looking southeast.

Photograph No. 2 of 15: North elevation lean-to. Door pockets at right and left, looking southeast.

Photograph No. 3 of 15: Asbestos board over mitre-cut boards, west elevation looking east.

Photograph No. 4 of 15: East elevation, showing doors and end door pockets, looking west.

Photograph No. 5 of 15: Roof truss, north section of hangar.

Photograph No. 6 of 15: Roof truss, center section of hangar.

Photograph No. 7 of 15: Interior view from second floor hallway, showing south interior elevation and center supports, looking southwest.

Photograph No. 8 of 15: Bolted structural member at south lean-to, looking northwest.

Photograph No. 9 of 15: South elevation, looking northeast.

Photograph No. 10 of 15: West elevation, telescoping doors, looking northeast.

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Photograph No. 11 of 15: Telescoping door tracks. West elevation, looking north.

Photograph No. 12 of 15: Offices in north lean-to, looking north.

Photograph No. 13 of 15: Typical office enclosure, looking southeast.

Photograph No. 14 of 15: South interior elevation, showing offices and hallway, looking southeast.

Photograph No. 15 of 15: 1946 office addition, looking northwest.