

WHITE SANDS SPACE HARBOR AREA 1, HAER No. NM-28-K
NAVIGATIONAL AID (NAVAIDS) STORAGE BUILDING
(Space Shuttle Landing Facility Area 1, NAVAIDS Storage Building)
White Sands Missile Range
Approximately 2 feet north of Tool Storage Building, between Fire
Station No. 4 and navigational Aid Control Building
White Sands vicinity
Doña Ana County
New Mexico

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
U.S. Department of the Interior
Intermountain Regional Office
12795 Alameda Parkway
Denver, CO 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

WHITE SANDS SPACE HARBOR AREA 1, NAVIGATIONAL AID (NAVAIDS) STORAGE
BUILDING

(Space Shuttle Landing Facility Area 1, NAVAIDS Storage Building)

HAER No. NM-28-K

Location: White Sands Missile Range
Approximately 2' north of HUB Tool Storage Building,
between Fire Station No. 4 and Navigational Aid
Control Building
White Sands vicinity
Doña Ana County
New Mexico

U.S.G.S. 7.5 Minute Las Cruces, New Mexico,
Quadrangle, Universal Transverse Mercator Coordinates
(center of runways): E 32.944408 N 106.41993 Zone 13S,
NAD 1983

Construction: ca.1992

Architect: Not known

Builder: Not known

Present Owner: Commander, U.S. Army White Sands Missile Range,
New Mexico 88002-5018

Present Use: Vacant

Significance: The Navigational Aid (NAVAIDS) Storage Building played
was a component of the White Sands Space Harbor (WSSH)
from 1984-2011. Playing a minor support role at WSSH,
this building is a non-contributing resource within
the WSSH Shuttle Landing Facility District, which is
eligible for listing in the National Register of
Historic Places (NRHP) under Criterion A for its
association with the NASA Space Shuttle Program (SSP)
with a period of significance of 1976-2011. Because
the district achieved significance within the past
fifty years, Criterion Consideration G also applies.

Report

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New South Associates
118 South 11th Street
Nashville, TN 37206

Date: September 2013

LIST OF ACRONYMS

ABGR	Alamogordo Bombing and Gunnery Range
ABS	Anti-lock Braking System
ACHP	Advisory Council on Historic Preservation
ACI	Archaeological Consultants, Inc.
AIAA	American Institute of Aeronautics and Astronautics
APE	Area of Potential Effects
ATC	Air Traffic Control
BTT	Basic Training Target
CCC	Civilian Conservation Corps
CIT	California Institute of Technology
CONEX	Container Express
DC-X	Delta Clipper, Experimental
DoD	Department of Defense
GPS	Global Positioning System
HAFB	Holloman Air Force Base
HPO	Historic Preservation Officer
HPWG	Historic Preservation Working Group
HUB	Harbor Utility Building
IGS	Inter Glide Slope
IHA	InoMedic Health Applications, LLC
JSC	Johnson Space Center
KSC	Kennedy Space Center
LC	Launch Complex
MD	McDonnell Douglas
MSBLS	Microwave Scanning Beam Landing System
MSFC	Marshall Space Flight Center
NASA	National Aeronautics and Space Administration
NAVAIDS	Navigational Aids
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act

NPS	National Park Service
NRHP	National Register of Historic Places
NSA	New South Associates
OCC	Operations Control Center
ORD	Army Ordinance Department
PAPI	Precision Approach Path Indicator
RFP	Request for Proposal
SCAPE	Self Contained Atmospheric Protective Ensemble
SHPO	State Historic Preservation Officer
SSP	Space Shuttle Program
SSRT	Single Stage Rocket Technology
STA	Shuttle Training Aircraft
STS	Space Transportation System
TACAN	Tactical Air Navigation
TAL	Transoceanic Abort Landing
UHF	Ultrahigh Frequency
USAAF	United States Army Air Force
USAF	United States Air Force
VITT	Vehicle Integration Test Team
WPA	Works Progress Administration
WSMR	White Sands Missile Range
WSNM	White Sands National Monument
WSPG	White Sands Proving Ground
WSSH	White Sands Space Harbor
WSTF	White Sands Test Facility

PART I. HISTORICAL INFORMATION

A. PHYSICAL HISTORY

1. DATE OF CONSTRUCTION

The Navigational Aid (NAVAIDS) Storage Building was relocated to WSSH around 1992.

2. ENGINEER

Not known.

3. BUILDER/CONTRACTOR/SUPPLIER

Not known.

4. ORIGINAL PLANS

Not available.

5. ALTERATIONS AND ADDITIONS

All electronic equipment, machinery, and furnishings were removed once the facility was vacated in 2011. The U.S. Army initiated occupation and reuse of the facility in the summer of 2012.

PART II. STRUCTURAL/DESIGN INFORMATION

A. GENERAL DESCRIPTION

1. CHARACTER

The Navigational Aid (NAVAIDS) Storage Building (NASA Inventory #52) is a synthetic rectangular unit located approximately 2' north of the HUB Tool Storage Building. The storage building rests on metal piers on the ground and is accessed by double metal doors on the north elevation. The building is currently vacant.

2. CONDITION OF FABRIC

When documented in March 2012, the Navigational Aid (NAVAIDS) Storage Building had been abandoned for over six months, but was in fair condition. The interior equipment had been removed and the exterior was showing signs of neglect due to the harsh desert environment, which requires that facilities are constantly maintained and repaired due to shifting sands, flash floods, and extreme temperature variations.

B. CONSTRUCTION

The Navigational Aid (NAVAIDS) Storage Building is a prefabricated synthetic and metal building on metal piers.

C. MECHANICAL/OPERATION

The Navigational Aid (NAVAIDS) Storage Building featured electricity to power interior lights and wall-mounted ventilation fans.

PART III. SOURCES OF INFORMATION

A. ENGINEERING PLANS AND DRAWINGS

There are no original engineering plans or drawings for the Navigational Aid (NAVAIDS) Storage Building. NASA staff created an as-built, not-to-scale site plan, which was used as a base map for this report (Figure 2).

B. INTERVIEWS

The following NASA and WSMR employees were interviewed for this documentation.

Robert E. Mitchell, WSTF Manager, September 2011.

Frank Offutt, WSSH Manager, September 2011.

Timothy Davis, WSTF Historic Preservation Officer, September 2011 and March 2012.

Bill Godby, WSMR Historic Preservation Officer, September 2011.

Doyle Piland, WSMR Museum Archivist, September 2011.

Dennis G. Perrin, NASA Johnson Space Center, Houston, Texas, and WSTF Facility Manager (1975-1989), June 2013.

C. BIBLIOGRAPHY

Andreoli, R.J. "White Sands Missile Range, Range-Wide Environmental Impact Statement," 1998. Unpublished report on file at WSMR, White Sands, New Mexico.

Bennett, Jeffrey, and Douglas Wilder. "Physical Resources Foundation Report: White Sands National Monument. Natural Resources Report," 2009. National Park Service, Fort Collins, Colorado.

Bergenson, Paul. "Jack (John Knudson) Northrop." Published online in 2003 at website <http://www.bergen.org/AAST/Projects/Engineering Graphics/EG2000/flyingwing/history/jack.htm>, accessed November 19, 2011.

Buchanan, David G., John P. Johnson and William A. Brenner. "White Sands Missile Range: Doña Anna, Sierra, Socorro, & Lincoln Counties, New Mexico." Historic American Engineering Record, 1984. National Park Service, Washington, DC.

Butowsky, Harry A. "White Sands Blockhouse and Gantry Crane." National Register of Historic Places Nomination, 1984. On file, National Park Service, Washington, DC.

Deming, Joan, and Patricia Slovinac. "Survey and Evaluation of NASA-owned Historic Facilities and Properties in the Context of the U.S. Space Shuttle Program: White Sands Test Facility, Las Cruces, New Mexico," 2007. Archaeological Consultants, Inc., Sarasota, Florida. Unpublished report on file at NASA, Kennedy Space Center, Florida.

_____. "NASA-Wide Survey and Evaluation of Historic Facilities in the Context of the U.S. Space Shuttle Program: Roll-Up Report," 2008. Archaeological Consultants, Inc., Sarasota, Florida. Unpublished report on file at NASA, Kennedy Space Center, Florida.

Freeman, Paul. "Abandoned & Little-Known Airfields: Northrup Strip/White Sands Space Harbor, White Sands, New Mexico." Published online, 2008. Website <http://www.airfields-freeman.com/NM/Airfields NM Alamagordo.html>, accessed September 23, 2011.

Goebel, Greg. "Unmanned Aerial Vehicles." Published online, 2011. Website <http://vectorsite.net/twuav.html>, accessed November 29, 2011.

Greenwood, Richard. "Trinity Site." National Register of Historic Places Nomination Form, 1975. On file, National Park Service.

Guttman, John. "John Northrop's XP-79B Jet Fighter." Aviation History. Published online, 1996. Website <http://www.historynet.com/jack-northrops-xp-79b-jet-fighter-jan-96-aviation-history-feature.htm>, accessed November 19, 2011.

Hanson, Chris "Xenon." "Delta Clipper DC-X Test Launch, White Sands Missile Range." Published online, 1993. Website <http://xenon.arcticus.com/delta-clipper-dc-x-test-launch-white-sands-missile-range-september-1993>, accessed November 19, 2011.

Heumann, A. *Comprehensive View of the Transporter*. Unpublished Manuscript. August 15, 2002, pp. 1-9. On file, Canister Rotation Facility.

Lerner, Preston. "Black Day at White Sands." *Air & Space Smithsonian Magazine*, August 2010.

McDonnell Douglas. "Delta Clipper Test Program Off to Flying Start." Press Release issued June 20, 1994.

Mitchell, Robert E. "NASA Johnson Space Center Facilities Oral History Project: Robert E. Mitchell, Interviewed by Jennifer Ross-Nazzal." Las Cruces, New Mexico, August 10, 2009.

NASA. "Space Shuttle Transoceanic Abort Landing (TAL) Sites." Information booklet published online, 2006. Website http://www.nasa.gov/centers/kennedy/pdf/167472main_TALsites-06.pdf, accessed November 19, 2011.

NASA White Sands Test Facility. "White Sands Space Harbor: 25th Anniversary Celebration, August 11, 2001." Unpublished brochure, on file at WSTF, White Sands, New Mexico.

- _____. "White Sands Test Facility Visitors Guide." Information booklet published online, n.d. Website http://www.nasa.gov/centers/wstf/pdf/216491main_wstfVisGuide031008.pdf, accessed November 19, 2011.
- Offutt, Frank. "WSSH Background." Unpublished response to questionnaire, 1994, submitted by Victoria Bradley, on file at WSTF, White Sands, New Mexico.
- Paczynski, Alex S. "NASA Johnson Space Center Facilities Oral History Project: Alex S. Paczynski, Interviewed by Jennifer Ross-Nazzal." Las Cruces, New Mexico, August 10, 2009.
- Stevens, Paul. "Desert Missile Range Prepared for Possible Space-Shuttle Landing: New Mexico strip chosen by NASA as alternate site." Associated Press News Release, March 26, 1981.
- United States Air Force. "Holloman Air Force Base History." Holloman Air Force Base, New Mexico, Public Affairs Office. Published online, 2008. Website <http://www.holloman.af.mil/library/factsheets/factsheet.asp?id=4361>, accessed November 17, 2011.
- United States Army. "Final Environmental Impact Statement for Development and Implementation of Range-Wide Mission and Major Capabilities at White Sands Missile Range, New Mexico: Volume 1, 2009. On file at WSMR, White Sands, New Mexico.
- _____. "WSMR: Fact Sheet." Unpublished brochure, n.d. On file at WSMR, White Sands, New Mexico.
- Welsh, Michael. "Dunes and Dreams: A History of White Sands National Monument. Administrative History: White Sands National Monument." National Park Service, Division of History, Intermountain Cultural Resources Center, Santa Fe, New Mexico, Professional Paper No. 55, 1995.
- White Sands Missile Range. "White Sands Hall of Fame: Alex Paczynski." Published online, 2000. Website

<http://www.army.mil/PAO/WSHist/HallFame/Pages/PaczynskiAlexMr.aspx>, accessed September 19, 2011.

D. LIKELY SOURCES NOT YET INVESTIGATED

Research was conducted at WSSH and WSTF using primary and secondary sources. Sources that were not investigated that may contain secondary information are archived at NASA's Lyndon B. Johnson Space Center in Houston, Texas.

Additional oral history interviews with other engineers and technicians could also prove useful.

PART IV. PROJECT INFORMATION

In 2011-2012, New South Associates (NSA), under contract with InoMedic Health Applications, LLC (IHA) of Kennedy Space Center, Florida, and in coordination with NASA and the U.S. Army, conducted background research and a historic architecture survey of resources at the NASA WSSH. The survey included the documentation and evaluation for NRHP eligibility for seventy-two resources located in four distinct areas. Based on this research, NSA determined that no properties remain at WSSH from the period prior to NASA acquisition in 1963 except for the footprint of the packed gypsum Runway 17/35.¹

NSA recommended that the three NASA WSSH Runways and the Control Tower in Area 1 were individually eligible for listing in the NRHP and eligible as contributing resources to the "WSSH Shuttle Landing Facility District" under Criterion A and Criterion Consideration G for their association with the NASA SSP. None of the other sixty-eight inventoried properties were recommended individually eligible for listing in the NRHP due to lack of historical association with the NASA SSP or other historic contexts, lack of unique design or construction features, or insufficient integrity; however, nineteen of these properties, all of which lie within Area 1, were recommended as contributing resources to "WSSH Shuttle Landing Facility District," even though they were not recommended individually eligible for the NRHP. The historic district contains a total of twenty-eight resources: twenty-three are contributing and five are non-contributing.

After formally ending the SSP on August 31, 2011, NASA disposed of the WSSH and released use of the property to the U.S. Army WSMR. The property transfer was a federal undertaking on federally-owned property and subject to compliance with Section 106 of the NRHP Act of 1966, as amended. The undertaking resulted in an Adverse Effect to the NRHP-eligible WSSH Shuttle

¹ Reed, Mary Beth, and Robbie D. Jones. "Historic Architecture Survey and National Register of Historic Places Evaluation of the NASA White Sands Space Harbor on the U.S. Army Whites Sands Missile Range, Doña Ana County, New Mexico." New South Associates, Stone Mountain, Georgia, 1998: 44-62. Unpublished report on file at NASA WSTF, Las Cruces, New Mexico.

Landing Facility District. To mitigate the adverse effects, NASA completed HAER Level II documentation of the historic district and relocated the Control Tower to the WSMR Museum for conservation, exhibition, and public interpretation.

The mitigation plan was defined in a Memorandum of Agreement (MOA), executed between NASA, the U.S. Army, and the NM-SHPO in August 2012. The properties within the historic district were documented with large format photography in March 2012.

APPENDIX- LOCATION MAPS

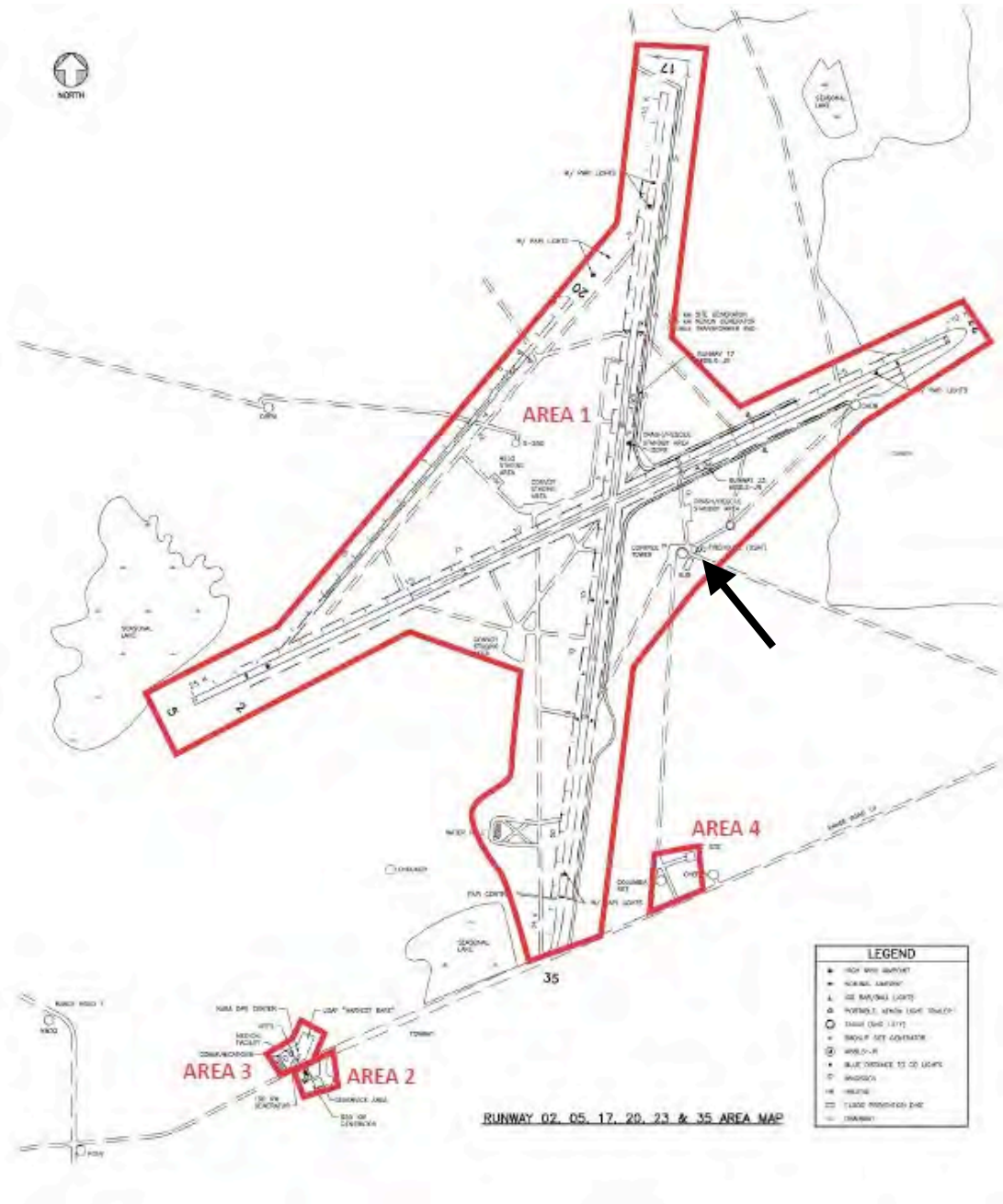


Figure 2. Map of WSSH showing location of Navigational Aid (NAVAIDS) Storage Building in Area 1, which delineates the NRHP boundaries of the WSSH Shuttle Landing Facility District (Base Map Source: NASA WSTF).



Figure 3. Map of the WSSH HUB complex showing Navigational Aid (NAVAIDS) Storage Building (#8). (Site Plan Source: NASA WSTF).

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David Diener, Photographer

March 27-29, 2012

NM-28-K-1 VIEW OF NAVAIDS STORAGE BUILDING, CENTER, LOOKING
SOUTHWEST.

NM-28-K-2 VIEW OF NAVAIDS STORAGE BUILDING, CENTER, LOOKING
NORTH.

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