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United States Department of the Interior
National Park Service

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National Register of Historic Places
Registration Form

NATIONAL
REGISTER

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 any 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 narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Second-Generation Norden Bombsight Vault

other names/site number NeHBS # RW00-001.002

2. Location

street & number N/A not for publication [N\A]

city or town McCook vicinity [X]

state Nebraska code NE county Red Willow code 145 zip code 69001

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this [] 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 [] meets [] does not meet the National Register Criteria. I recommend that this property be considered significant [] nationally [] statewide [] locally. ([] See continuation sheet for additional comments.)

Lawrence Sommer May 10, 1993
Signature of certifying official Date

Director, Nebraska State Historical Society
State or 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

I, hereby certify that this property is:

entered in the National Register.
[] See continuation sheet.

determined eligible for the
National Register
[] See continuation sheet.

determined not eligible for the
National Register.

removed from the National Register.

other, (explain): _____

Beth Boland 6/17/93

Signature of Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

Category of Property
(Check only one box)

Number of Resources within Property
(Do not include previously listed resources in the count.)

- private
- public-local
- public-State
- public-Federal

- building(s)
- district
- site
- structure
- object

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

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

Number of contributing resources previously listed in the National Register

Significant Relic Components of U.S. Army Air Fields in Nebraska

N/A

6. Function or Use

Historic Functions
(Enter categories from instructions)

Current Functions
(Enter categories from instructions)

Air Facility

Recreation and Culture

7. Description

Architectural Classification
(Enter categories from instructions)

Materials
(Enter categories from instructions)

No Style

foundation Concrete
walls Concrete
roof Concrete
other N\A

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.
- 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 a 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.

Areas of Significance

(Enter categories from instructions)

Military

Period of Significance

c1943

Significant Dates

1943

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

unknown

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 # _____

Primary Location of Additional Data:

- State Historic Preservation Office
 - Other State agency
 - Federal agency
 - Local government
 - University
 - Other
- Name of repository: _____

10. Geographical Data

Acreage of Property Less than one acre.

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing		Zone	Easting	Northing
1.	14	355240	4463130	3.			
2.				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 Greg Miller, Preservation Historian

organization Nebraska State Historical Society date January 1993

street & number 1500 R Street telephone (402) 471-4775

city or town Lincoln state NE zip code 68501

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

(Complete this item at the request of the SHPO or FPO.)

name McCook Army Air Base Historical Society

street & number P.O. Box B-29 telephone (308) 345-4234

city or town McCook state NE zip code 69001

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 the 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 Project (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Second-Generation Norden Bombsight Vault
Name of Property
Red Willow, Nebraska
County and State

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Description

The second-generation Norden bombsight vault at the former McCook Army Air Field is a small rectangular structure, one-story in height. It has a very slightly sloping shed-roof and one door on the main facade. An ell-shaped wing is located on the southeast facade. It also has a shed-roof and a door on the main facade. The entire structure is constructed of poured reinforced concrete. Surrounding the vault is a combination two strand barbed wire and six-by-six woven-wire mesh fence supported by wood posts. This nomination includes two contributing structures; the fence and the vault.

The second-generation Norden bombsight vault is located on the access road that runs parallel to the northwest-southeast runway, and is set in about the middle of the row of hangars at the former McCook Army Air Field. It is a one-story shed-roofed structure that measures 11 feet wide and 13 feet deep. Constructed c1943 of poured reinforced concrete with walls that are 8 inches thick, the roof is also of reinforced concrete with a tar membrane. An ell-shaped wing that measures 5 five feet 10 inches by 6 feet 8 inches is located on the southeast facade. Its construction is integral with the vault. It is of identical construction, and also has a shed-roof and a door on the main facade. Its function is unknown, though it may have housed electrical equipment.

Vents to the inside are located above each door and at the top of the rear wall, venting to the "attic", and at the bottom of the rear wall venting from behind a curb at the floor into the main space. A small opening in the ceiling vents from this space to the attic. Original vault doors are of the bank-vault type. A second set of exterior doors (not extant) of wooden board-and-batten construction originally sheltered both vault doors.

The interior of the vault storage space is finished concrete at the walls and floor, with a wooden ceiling that has an attic crawl space access. Originally the space contained metal shelves for storage purposes. The interior of the ell-shaped wing cannot be determined because of inaccessibility.

Surrounding the bombsight vault is a combination two-strand barbed wire and six-by-six woven-wire fence, supported by wooden posts. Divided into 10-foot sections, the fence extends 50 feet on each side except in the front where a 10-foot gap provides an entryway. This fence is original to the property.

Statement of Significance

The second-generation Norden bombsight vault at the former McCook Army Air Base is eligible at the local level under Criterion A. It is a good representative example of this air base associated property type which was used by the military to help ensure the secrecy of an advanced technology device during World War II. The use of Norden bombsights was an integral part of World War II army airfields, and is significant under Criterion A as an important relic and feature of a significant event (air war) associated with the war. The period of significance is c1943 when the vault was constructed.

After the United States became involved in World War II, the military quickly decided that strategic bombing would play a crucial role. Initially, the military leaders determined that high-altitude, daylight bombing would be the most accurate and effective way of using strategic bombers. To help ensure that this theory would work in practice the Army Air Force needed a bombsight that could deliver the bomb load on

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Second-Generation Norden Bombsight Vault

Name of Property

Red Willow, Nebraska

County and State

Section 8 Page 2

Statement of Significance (continued)

target. The Norden bombsight, at the time of its development, was thought to be the device of choice by the military.

The Norden was a critical element in conducting high-altitude precision strategic operations by the USAAF in World War II and was made a most secret device. The sight was a highly accurate precision instrument developed by Carl L. Norden, a civilian consultant, and Captain Frederick I. Entwistle, assistant research chief of the U.S. Navy's Bureau of Ordnance. In 1932, following extensive testing the previous year using outdated warships, the United States Army Air Corps ordered its own Norden bombsight.

Precision bombing required meticulous control; to accomplish this, the Norden incorporated a gyro-stabilized automatic pilot. The mechanism was modified in 1941 by the Minneapolis Honeywell Company and designated the Army Type C-1 autopilot. This modification enabled a bomber to be flown on a straight, level course, giving the bombardier a steady platform on which to operate the bombsight during the bombing run. Also known as the "Blue Ox" the Norden could quickly calculate and correct directional changes due to wind drift. Flying at a preset altitude, it could rapidly compute the correct bomb release angle for a constant speed of closure to the aiming point. Adjustments could be made in a fraction of a second based on data entered into the sight. Under optimal condition on an undisturbed run, the accuracy of the device was excellent. However, any last second changes in the altitude of the bomber at the instant of release, such as those encountered during battle, could markedly influence the accuracy of the sight.¹

When the Norden bombsight was not in use at a training facility it was stored in a vault because of its secret classification. Originally, a building of wood construction contained five or six concrete vaults inside. In addition to being used as a security storage area, the building also had room to test and repair the sights. This type of building is designated as a first-generation bombsight vault.

After the Norden bombsight was reclassified from secret to restricted (probably in 1943), the second-generation bombsight vault came into use. Rather than being contained in a wooden building the vault stood in the open and was used solely for storage purposes. The nominated structure is a second-generation vault.

The Norden bombsight was an essential factor in defining air war strategy. Because of its importance and the sensitive nature of the technology it employed, the bombsight was a closely guarded secret. But for bomber crews to effectively use this new instrument they had to train with it. This meant that when not in use the bombsight needed to be stored in a secure area. The second-generation vault filled this need. Even though the second-generation vault did not contain testing and repair facilities, and the security measures were not as strict (since the classification was downgraded), the structure is still significant at the local level under Criterion A. The McCook Army Air Base could not have performed its mission of training bomber crews if the second-generation vault was not present.

¹ Charles D. Bright, ed., Historical Dictionary of the U.S. Air Force (New York: Greenwood Press, 1992), p. 408.

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**National Register of Historic Places
Continuation Sheet**

Second-Generation Norden Bombsight Vault

Name of Property

Red Willow, Nebraska

County and State

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Bibliography

Bright, Charles D., ed. Historical Dictionary of the U.S. Air Force. New York: Greenwood Press, 1992.

Fine, Lenore and Jesse Remington. The Corps of Engineers: Construction in the United States. Washington D.C.: Office of the Chief of Military History, United States Army, 1972.

McFarland, Stephen L. and Wesley Phillips Newton. To Command the Sky. Washington D.C.: The Smithsonian Institution Press, 1991.

Overy, R.J. The Air War 1939-1945. London: Europa Publications Limited, 1980.

Verbal Boundary Description

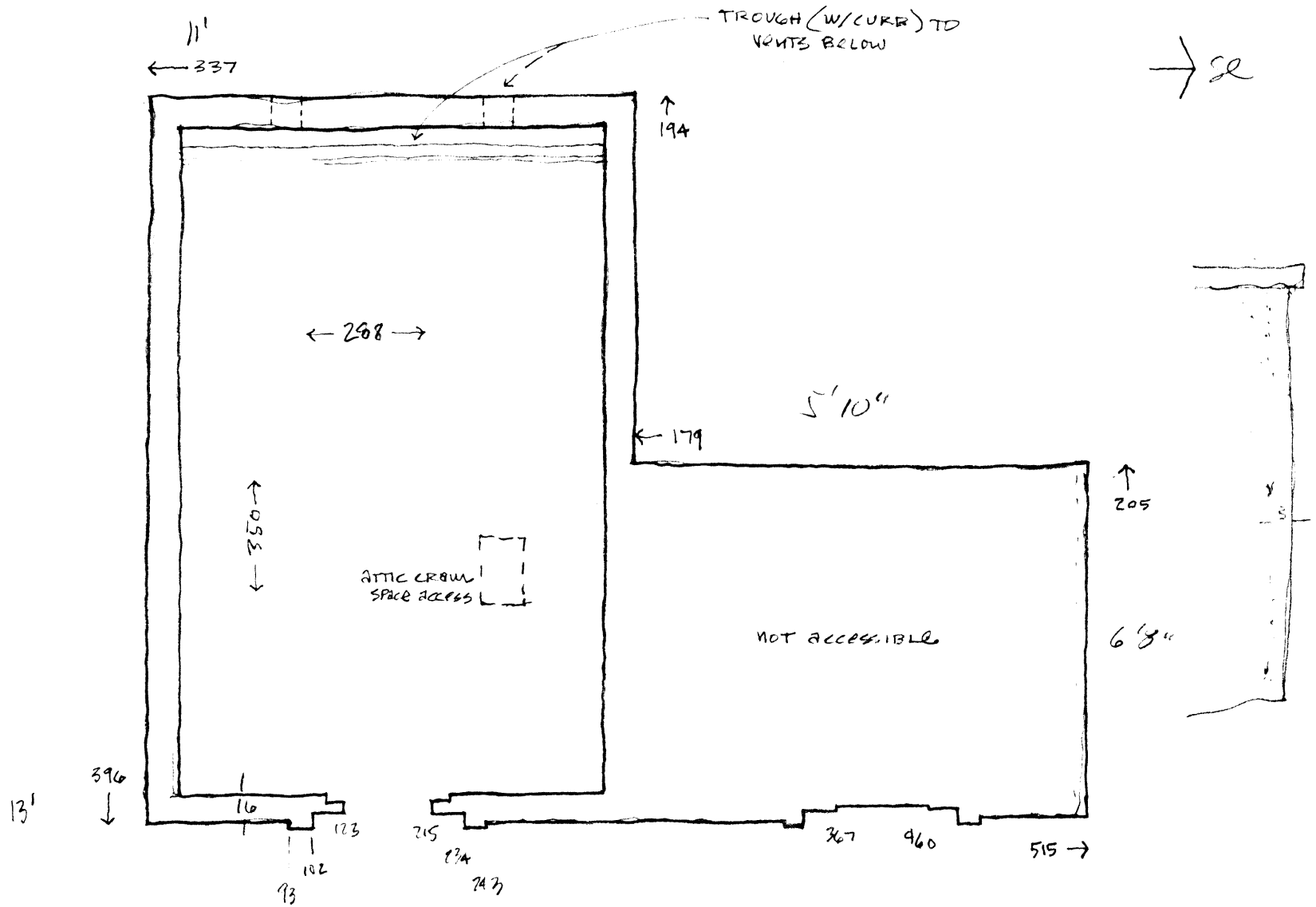
The nominated property is a square tract of land measuring 50 feet by 50 feet, with the northeast corner commencing 85 feet north-northwest and 40 feet south-southwest of the northeast corner of Lot 2, thence 50 feet south-southwest, thence 50 feet north-northwest, thence 50 feet north-northeast, thence 50 feet north-northeast to the point of beginning, located on Part of M-11, Lot 2, Airfield Subdivision in the Northwest Quarter of Section 22 in Township 4 North, Range 30 West, Red Willow County, Nebraska.

Boundary Justification

The Boundary encompasses that tract of land which has historically been associated with the property and which contains the bombsight vault and fence.

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SECOND-GENERATION BOMB-SITE VAULT



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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 93000534

Date Listed: 6/17/93

Second-Generation Norden Bombsight Vault, Red Willow County, NE
Property Name **County** **State**

Significant Relic Components of US Army Airfields in Nebraska MPS

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Beth Boland
Signature of the Keeper

10/16/93
Date of Action

=====
Amended Items in Nomination:

Section 8: Statement of Significance

Section 8, p.2, next-to-last paragraph: the parenthetical phrase "probably in 1943" is a typographical error. It should read "probably in 1944"--the correct date is 1944.

This information was provided by Greg Miller on the NE SHPO staff.

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)