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REGISTER

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Registration Form

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 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 U.S. Naval Ordnance Testing Facility Observation Tower #2

other names/site number Queen's Grant Tower

2. Location

street & number 1000 block South Anderson Blvd.(NC 50), on Topsail Sound,  
4.9 mi. s. jct. NC 50 and NC 210  Not for publication

city or town Topsail Beach N/A  vicinity

state North Carolina code NC county Pender code 141 zip code 28445

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, 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.)

William S. King, Jr. 7-14-93  
Signature of certifying official/Title Date

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

I hereby certify that the 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:)

Signature of the Keeper

Date of Action

Coral D. Shell 9-14-93

U.S. Naval Ordnance Testing Facility  
Name of Property Observation Tower #2

Pender, N.C.  
County and State

**5. Classification**

**Ownership of Property**  
(Check as many boxes as apply)

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

**Category of Property**  
(Check only one box)

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

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

Contributing	Noncontributing	
1	0	buildings
		sites
		structures
		objects
1	0	Total

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

U.S. Naval Ordnance Testing Facility, Topsail Island, N.C.

**Number of contributing resources previously listed in the National Register**

0

**6. Function or Use**

**Historic Functions**  
(Enter categories from instructions)

Defense/naval facility

**Current Functions**  
(Enter categories from instructions)

Vacant/not in use

**7. Description**

**Architectural Classification**  
(Enter categories from instructions)

No style

**Materials**  
(Enter categories from instructions)

foundation concrete

walls concrete

roof concrete

other steel

**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 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**

1946-1948

**Significant Dates**

1946

1948

**Significant Person**

(Complete if Criterion B is marked above)

N/A

**Cultural Affiliation**

N/A

**Architect/Builder**

Kellex Corporation/George & Lynch

**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:

\_\_\_\_\_

U.S. Naval Ordnance Testing Facility  
Name of Property Observation Tower #2

Pender, N.C.  
County and State

**10. Geographical Data**

**Acreage of Property** Less than an acre

**UTM References**

(Place additional UTM references on a continuation sheet.)

1	1 8	2 5 9 7 5 0	3 8 0 7 3 8 0
	Zone	Easting	Northing
2			

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 Edward F. Turberg, Architectural Historian  
organization Historical Society of Topsail Island, Inc. date May 26, 1993  
street & number 307 North 15th Street telephone 919-762-6301  
city or town Wilmington state NC zip code 28401

**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 SHPO or FPO.)

name  
street & number telephone  
city or town state zip code

**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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National Park Service**

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U.S. Naval Ordnance Testing Facility Observation  
Tower #2, Topsail Island, Pender County, NC

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7. Description

Observation Tower #2, like the other seven instrument towers erected on Topsail Island, was built with reinforced concrete foundations, frames and floors placed on the centers of thirty by thirty foot concrete slabs supported on concrete piles driven to a minimum depth of twenty feet and fifteen tons bearing.(1) The tower is almost unaltered. The tract on which it is located was developed as a condominium project, Queen's Grant, in the 1980s. The doors and windows are open and the upper stories of the building are inaccessible because of the removal of the interior stairs.

**United States Department of the Interior  
National Park Service****National Register of Historic Places  
Continuation Sheet**Section number 8 Page 2U.S. Naval Ordnance Testing Facility Observation  
Tower #2, Topsail Island, Pender County, NC**8. Significance.****Summary.**

The U.S. Naval Ordnance Testing Facility, Observation Tower #2 was constructed to house carefully calibrated monitoring equipment used to record data from "Operation Bumblebee", the intensive testing of ramjet missiles from 1946 to 1948. Observation Tower #2 was one of six four-story concrete towers that formed part of an extensive complex of buildings and proving grounds that are discussed in the multiple property documentation form "U.S. Naval Ordnance Testing Facility, Topsail Island." The architectural resources associated with the Topsail Island Testing Facility are the only such resources of three contemporaneous Atlantic coast facilities known to survive the conclusion of World War II. Although Observation Tower #2 is less than fifty years old, it is eligible to be listed in the National Register of Historic Places under Criterion A for its association with the massive, secret effort that began at the close of World War II to apply the theory of jet propulsion to the practical development of missile technology. "Operation Bumblebee" at Topsail Island was a forerunner of the current United States missile program and its surviving resources are essential to understanding the progress of America's missile program from its inception to the present time. Following the Navy's abandonment of Topsail Island in 1948, the town of Topsail Beach began to develop around the testing facility and the associated acreage was subdivided into building tracts. In January 1982, the Island Development Corporation purchased Observation Tower #2 as a part of their Queen's Grant subdivision.(2)

**Historical Background.**

The U.S. Naval Ordnance Testing Facility, comprising the first permanent buildings erected for the assembly, control, and monitoring of ramjet missiles, is unique in the history of America's missile program because it was here, at Topsail Island, North Carolina, that the ramjet grew from its incubation phase to full maturity over the short time of eighteen months, from 1946 to 1948. In addition, Observation Tower #2 and its associated structures are the only buildings relating to this program that survive nearly intact. The project, operated by the U.S. Navy and the Applied Physics Laboratory of Johns Hopkins University in Maryland, developed secret missile launching and testing experiments on the remote North Carolina beach. Here missiles were assembled in an explosion-proof building along Banks Channel, and were transported to a launch site on the oceanfront. Military and scientific observers set up stations in the control tower between the Assembly Building and the launching platform, and trained personnel operated technical equipment mounted in a series of eight observation towers placed at precise locations along the beach. The equipment was calibrated to measure the speed, angularity and distance of travel of the missiles after detonation. Tagged "Operation Bumblebee", the program was a sweeping success that grew to have a tremendous impact on all subsequent rocket technology. In addition, the tests accomplished at Topsail Island made possible the development of all modern jet aircraft engines, especially supersonic craft, which are based on the original ramjet design developed here. The facility was the precursor of widespread bases at Inyokern, California, White Sands, New Mexico, and Cape Canaveral,

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Florida. Long hidden in secrecy, the Topsail Island site is now perceived as being a pioneer in the history of missile development which preserves its compliment of related buildings. These visible reminders of history are of inestimable value in understanding and interpreting the progress of America's missile program from its formative years to the present.(3)

In 1948 the site was sold by the government for private use, but the property was left undeveloped for several years. In 1970 a plat was drawn showing Observation Tower #2 standing alone on a strip of land bounded on the north and south by manmade canals, and on the west by Banks Channel.(4) On January 27, 1982, the Island Development Corporation of Warsaw, North Carolina, purchased the property from Topsail Village, Inc. and commenced the construction of condominiums on the south side of a manmade canal that separates them from Observation Tower #2.(5) The tower, standing apart and away from the new construction, preserves the sense of its original, isolated appearance and feeling.

Endnotes

1. Naval Ordnance Test Facility press release, January 1948.
  2. "U.S. Naval Ordnance Testing Facility, Topsail Island" multiple property documentation form.
  3. ibid.
  4. Pender County Register of Deeds Office, Map Book 19, p. 83.
  5. Pender County Register of Deeds Office, Deed Book 602, p. 193.
9. Major Bibliographical References.
- "All Hands" newsletter, 1948.
- Applied Physics Laboratory News, March 1947 and July 1963.
- Bennett, Don. "Bumblebees flew at Island Beach", and "War effects felt in town by the sea." Toms River Observer, 5, 1991.
- Brown, Dick. "Topsail Island Seedbed Of Missile Program." Fayetteville Observer and Fayetteville Times, September 24, 1978, page D-1.
- Brown, Dick. "The Topsail Island Secret: Operation 'Bumblebee'." Tidewater, March 1985, pages 6-8.
- "Historical Society Vote To Preserve Arsenal." Pender Sounds, June 1989, pp. 19-21.

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Military press release, May 14, 1947.

Specifications drawn by The Kellex Corporation, 1946.

Stallman, David A. "A History of Camp Davis." Privately printed, 1990.

Stallman, David A. Operation Bumblebee, 1946-1948, Topsail Island, N.C. (Privately printed, 1992). pp. 1-32.

Stallman, David A. "Tad Stanwick." Privately printed, 1989.

Stallman, David A. "Topsail Beach Historical Tour." Privately printed, 1990.

Unger, Steve. "Is the Arsenal Worth Saving?" Pender Sounds, June 1989, p. 5.

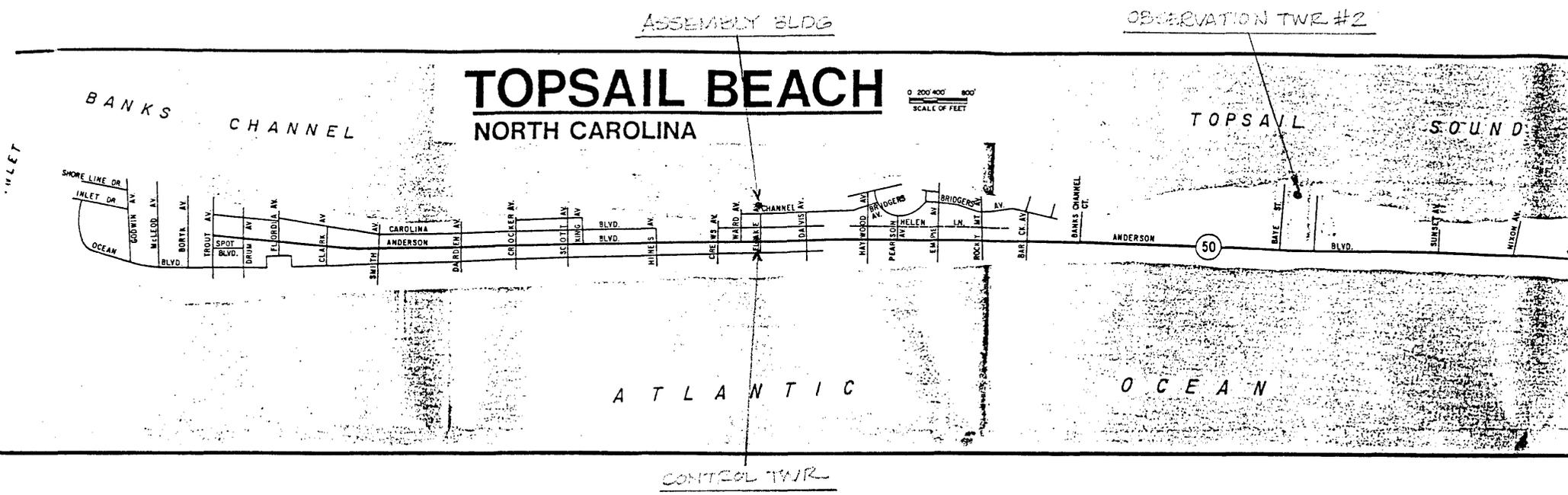
10. Geographical Data - Verbal Boundary Description and Justification

The boundaries of the nominated property encompass only the land occupied by the building, historically and currently associated with the built resource, and located within the Queen's Grant residential development in Topsail Beach, North Carolina, as described on the accompanying plat drawn August 1969 and December 1970 to a scale of 1" = 100'.



U.S. Naval Ordnance Testing Facility, Topsail Island, Pender County, NC

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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 93000910

Date Listed: 9/14/93

US Naval Ordnance Testing Facility

Observation Tower #2

Property Name

Pender

County

NC

State

US Naval Ordnance Testing Facilities, Topsail Island MPS

Multiple Name

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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.

Patrick Andrus  
Signature of the Keeper

9/14/93  
Date of Action

=====  
Amended Items in Nomination:

Historic Function:

Add Defense/Air Facility to historic functions to note the facility's use as a missile launching site. [NR Bulletin 16A p. 22]  
This item is not considered an error by the SHPO, but reflects a NPS recommendation to aid in later resource identification and classification.

DISTRIBUTION:

- National Register property file
- Nominating Authority (without nomination attachment)