

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Name of Property

County and State

Section number _____ Page _____

Name of multiple property listing (if applicable)

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 15000833

Date Listed: 11/20/2015

Property Name: Kettlefoot Fire Lookout Tower (Tennessee Division of Forestry Lookout Towers,
1933-1975 MPS)

County: Johnson

State: TN

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.



Signature of the Keeper

11-20-2015
Date of Action

Amended Items in Nomination:

Section 3 and 8: Level of Significance

The Level of Significance is hereby amended to LOCAL. The program had a statewide impact, but the importance of this tower is local.

The Tennessee State Historic Preservation Office was notified of this amendment.

DISTRIBUTION:

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

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United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form *Nat. Register of Historic Places
National Park Service*

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. 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.

1. Name of Property

Historic name Kettlefoot Fire Lookout Tower
Other names/site number Doe Mountain Fire Lookout Tower
Name of related multiple property listing Tennessee Division of Forestry Fire Lookout Towers, 1933-ca. 1975
(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & Number: Fire Tower Road, Cherokee National Forest
City or town: Mountain City State: Tennessee County: Johnson (091)
Not For Publication: N/A Vicinity: N/A Zip Code: 37683

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 at the following level(s) of significance:

national statewide local

Applicable National Register Criteria: A B C D

Claudia J. Spivey 9/25/15
Signature of certifying official/Title: Deputy State Historic Preservation Officer, Tennessee Historical Commission
Date
State or Federal agency/bureau or Tribal Government

In my opinion, the property meets does not meet the National Register criteria.

Signature of Commenting Official: _____ Date _____

Title: _____ State of Federal agency/bureau or Tribal Government _____

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4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register

other (explain: _____)

[Handwritten Signature]
 Signature of the Keeper

11-20-2015
 Date of Action

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
0	0	sites
0	0	structures
1	0	objects
2	0	Total

Number of contributing resources previously listed in the National Register 0

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6. Function or Use

Historic Functions

(Enter categories from instructions)

OTHER/Fire Lookout

Current Functions

(Enter categories from instructions)

OTHER/Fire Lookout (emergency)

RECREATION/CULTURE/outdoor recreation

7. Description

Architectural Classification

(Enter categories from instructions.)

OTHER/Standard Plan Aermotor MC-39

Materials: (enter categories from instructions.)

Principal exterior materials of the property: CONCRETE; METAL:Steel; WOOD; GLASS

Narrative Description

The Kettlefoot Fire Lookout Tower is located within the Cherokee National Forest near Mountain City in Johnson County in Upper East Tennessee. The sixty-foot-tall skeletal steel tower provided a high, sheltered location for fire observation. The tower is capped by a square cab marked by a ribbon of windows which provided the observer a 360° panoramic view of the surrounding terrain. The building has experienced normal wear and tear, but is in overall good condition.

Kettlefoot Fire Lookout Tower, 1936 (C)

Located in the Cherokee National Forest in Johnson County in Upper East Tennessee, the Kettlefoot Fire Lookout Tower is situated on a north-south axis at an elevation of 3,889 feet and was constructed in 1936 by the Civilian Conservation Corps (CCC) (Kirksey 2014). The sixty-foot-tall, galvanized steel, truss frame tower with bolted connections is supported by four legs secured to concrete footers. At its base, the tower measures sixteen feet by sixteen feet. Steel X-bracing is affixed to the structural frame at each of the tower's six levels, spanning the distance between every level of the tower with diagonal support members on each face. The lower portion of each section of X-bracing is further reinforced by T-bracing, which traverses the distance between each leg and is bisected by a single steel member at center. Additional steel bracing is installed at the juncture of each level of the tower. Oriented on a horizontal plane, the bracing extends from

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each of the staircase's five landings to the opposing section of the tower, thereby forming a rectangular figure.

The steel used in the tower bears the markings of the Carnegie Steel Company. The Pittsburgh, Pennsylvania-based manufacturer was a major steel producer in early 20th century America. The design and components of the tower were supplied by the Aermotor Company, and the tower appears to be an Aermotor Type MC-39. Based in Chicago, Illinois, Aermotor was the premier manufacturer of steel fire towers in the early twentieth century. A successful windmill maker, Aermotor re-tooled their existing designs into fire lookout towers, typically topped with a small, seven-foot by seven-foot square cab (Grosvenor 1999:96).

The observation tower tapers in width from the base to its apex and is ascended via an open steel staircase with metal handrails. A total of ninety-six wood plank treads complete the climb to the top of the structure. Each sixteen-tread stringer rises diagonally across the interior of the tower to a triangular landing, also constructed of wood planks. The first landing is located at the northwest corner of the tower. The second landing is located at the next level of the structure at the southeast corner. This alternating, dogleg pattern continues through five landings, with the sixth stringer reaching the apex of the tower, which is accessed via a trapdoor at the base of the square observation room.

The observation room is steel-framed, partially clad in metal sheeting, and topped with a hipped metal roof. The floor of the cab is comprised of wood boards. The interior walls consist of vertical wood boards that rise approximately three feet from the base of the cab and terminate at the window sill. Each elevation contains two, nine-light, pivot windows constructed of metal. The windows are oriented side-by-side and encompass the entirety of the width of each elevation, thereby forming an unobstructed 360° view of the surrounding terrain. No glass, however, is extant in any of the historic window frames.

Aerial Identification Marker, ca. 1960 (C)

A concrete aerial identification marker lies adjacent to the tower at its east elevation, and reads "C 3".

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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.)

Areas of Significance
(Enter categories from instructions.)

ARCHITECTURE

CONSERVATION

Period of Significance

1936-1965

Significant Dates

1936

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Civilian Conservation Corp. (CCC)

- 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 N/A
(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 old or achieving significance within the past 50 years.

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Statement of Significance Summary Paragraph

The Kettlefoot Fire Lookout Tower is eligible for listing on the National Register of Historic Places (NRHP) as part of the "Tennessee Division of Forestry Fire Lookout Towers, 1933-1975" Multiple Property Document under National Register Criterion A in the area of Conservation as a reflection of changing conceptions regarding forest management and fire control in the twentieth century. Additionally, the tower is eligible for the NRHP under National Register Criterion C in the area of Architecture as a good example of an Aermotor MC-39 fire lookout tower. The tower retains its original design features, and its historic setting has been preserved. The tower was constructed as part of the Tennessee Division of Forestry's (TDF) statewide efforts to protect forested land in the state through its fire control program. The period of significance begins in 1936, when the tower was constructed by the Civilian Conservation Corps (CCC). The CCC was responsible for the construction and operation of the majority of the fire lookout towers built in the early twentieth century. The period of significance terminates in 1965, when Tennessee fire lookout towers were largely abandoned in favor of other methods of fire identification.

Narrative Statement of Significance

Located on Doe Mountain in Johnson County, Tennessee, the Kettlefoot Fire Lookout Tower was constructed in 1936 by the Civilian Conservation Corps (CCC) (Kirksey 2014). Very little historical information is available regarding the Kettlefoot fire lookout tower, and no records of the tower are on file at the Tennessee Division of Forestry (TDF). The tower is situated within the Cherokee National Forest, which was established in 1920 by President Woodrow Wilson, following the Weeks Act of 1911, which authorized federal creation of national forests. Later, in 1936, lands from the Unaka and Pisgah National Forests were combined with Cherokee to form the approximately 640,000-acre park that exists today (Woodcock 2010). The lookout tower is significant under National Register Criterion A in the area of Conservation as a reflection of changing conceptions regarding forest management and fire control in the twentieth century. Tennessee, along with many other states, benefited from the early shift in public policy allowing for improvement in fire detection as a result of the conservation movement that led to the construction and staffing of fire towers.

In 1936, the CCC began forestry management and restoration work within the park under the direction of the TDF, and began construction of administrative and visitor facilities. Administrative duties for the park were shared between the TDF and the Department of Agriculture, who constructed hiking trails, picnic areas, dams, scenic overlooks, and cabins. Additionally, the CCC constructed local roads and highways, and fire lookout towers, including the Kettlefoot Fire Lookout Tower (Woodcock 2010). The TDF relied heavily on CCC labor, and the CCC was responsible for the construction and operation of many of Tennessee's fire lookout towers built in the 1930s. While it is unknown exactly which CCC group constructed the Kettlefoot Fire Lookout Tower, and there were no known CCC camps in Johnson County, two CCC camps were located in the adjacent Carter County: Company 1454 and Company 1456. Nearby Sullivan County was also home to a CCC camp: Company 1473. It is likely that the TDF drew from these camps for workmen.

In Region 8 or the Southern Region of the United States Forest Service and particularly in the State of Tennessee, with large areas of difficult-to-access mountain terrain and thick forest canopy, fire towers have served as a particularly important fire management tool. At its peak, the state had 208 lookout towers of which 142 are extant as of March 26, 2014 (University of Tennessee-Knoxville 2014). The lookout tower is

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a prominent symbol of the history of fire management and a key component of the conservation movement. From its establishment, the Forest Service played a significant role in shaping national fire control policies as well as in the development of state level fire prevention systems. The Kettlefoot Fire Lookout Tower is a visual reminder of this multi-agency, federal and state-level governmental cooperation for the benefit of forest land in Tennessee.

The Kettlefoot Fire Lookout Tower is significant under National Register Criterion C in the area of Architecture as an excellent example of an Aermotor MC-39 observation-only fire lookout tower. The MC-39 design was one of the most popular steel designs by the Aermotor Company of Chicago, Illinois (Forest Fire Lookout Association; Starr). The tower design was based on standardized plans adapted from Aermotor windmills (Steere 1987). The type is characterized by a seven-foot by seven-foot steel cab, an internal stairway that doglegs from corner to corner. Each run of stairs terminates at a triangular landing. This type was available in a number of heights, ranging from 33 feet to as tall as 176 feet (Forest Fire Lookout Association n.d.). This type is very similar to an International Derrick Tower model from 1933, which was designed by Aermotor and the U.S. Forest Service. The International Derrick Towers often had issues with swaying staircases, however, and were unpopular (Forest Fire Lookout Association; Starr). While no schematics were located for the MC-39, schematics are available for the nearly-identical International Derrick 1933 model (*see Figures 1 & 2*). The Aermotor MC-39 improved upon the International Derrick 1933 design, and the Kettlefoot Fire Lookout Tower represents an important stage in the evolution of lookout tower architecture.

The Kettlefoot Fire Lookout Tower retains its original design and a high level of its original fabric, and therefore maintains integrity. While the historic setting has been altered through the removal of any original auxiliary structures, the surrounding area remains as it was during the tower's period of significance. Until the 1970s, the tower was used during high-fire season for fire detection, and was constantly manned. Since the mid-1970s, however, when forestry employees became more dependent on fire-spotting planes and fire reports from 911 emergency calls, the tower is no longer used for observance, but is occasionally ascended by forestry staff for maintenance checks. The tower was listed on the National Historic Lookouts Register on September 2, 2014 with a registry number of US1001, TN 15.

For additional information, please refer to the Multiple Property Documentation Form "Tennessee Division of Forestry Fire Lookout Towers, 1933-1975".

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9. Major Bibliographic References

Bibliography

Forest Fire Lookout Association

n.d. Fire Lookout Types. Electronic document, <http://www.firelookout.org/fire-lookout-types.html>, accessed June 5, 2014.

Grosvenor, John R. and United States Forest Service.

1999 *A History of the Architecture of the USDA Forest Service*. Engineering Staff, United States Department of Agriculture Forest Service.

Kirksey, John

2014 Personal communication. John Kirksey, Fire Management Unit Leader, Tennessee Division of Forestry.

Starr, Bill

2011 *The Five Various Steel Fire Tower Models Utilized in New York State*. Electronic document, http://nhlr.org/NY_Towers/New_York_Steel_Fire_Tower_Models_by_Bill_Starr.pdf, accessed June 5, 2014.

Steere, Peter L.

1987 "National Forest Fire Lookouts in the Southwestern Region, USDA Forest Service." National Register of Historic Places nomination, on file at the Kaibab National Forest.

University of Tennessee-Knoxville

2013 Tennessee Lookout Towers. Electronic Compiled Source Website, <http://web.eecs.utk.edu/~dunigan/towers/>. Accessed June 3, 2014.

Woodcock, Jaime

2010 Cherokee National Forest. Electronic document, <http://tennesseencyclopedia.net/entry.php?rec=238>. Accessed June 5, 2014.

Refer to the Multiple Property Documentation Form "Tennessee Division of Forestry Fire Lookout Towers, 1933-1975" for additional related sources.

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Previous documentation on file (NPS):		Primary location of additional data:	
<input checked="" type="checkbox"/>	preliminary determination of individual listing (36 CFR 67 has been requested)	<input checked="" type="checkbox"/>	State Historic Preservation Office
<input checked="" type="checkbox"/>	previously listed in the National Register	<input checked="" type="checkbox"/>	Other State agency
<input checked="" type="checkbox"/>	previously determined eligible by the National Register	<input checked="" type="checkbox"/>	Federal agency
<input type="checkbox"/>	designated a National Historic Landmark	<input type="checkbox"/>	Local government
<input type="checkbox"/>	recorded by Historic American Buildings Survey #	<input type="checkbox"/>	University
<input type="checkbox"/>	recorded by Historic American Engineering Record #	<input type="checkbox"/>	Other
<input type="checkbox"/>	recorded by Historic American Landscape Survey #	Name of repository: USDA Forest Service; Tennessee Forestry Service	
Historic Resources Survey Number (if assigned):			

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10. Geographical Data

Acreeage of Property 1 acre **USGS Quadrangle** Mountain City 214 NE

Latitude/Longitude Coordinates

Datum if other than WGS84:

1. Latitude: 36.426813 Longitude: -81.8666653

Verbal Boundary Description

The proposed boundary of the Kettlefoot Fire Lookout Tower property follows the boundary of Johnson County parcel 061 002.00, and is shown on the accompanying site map entitled "Kettlefoot Fire Lookout Tower Boundary". The National Register boundary includes one contributing building and one contributing object.

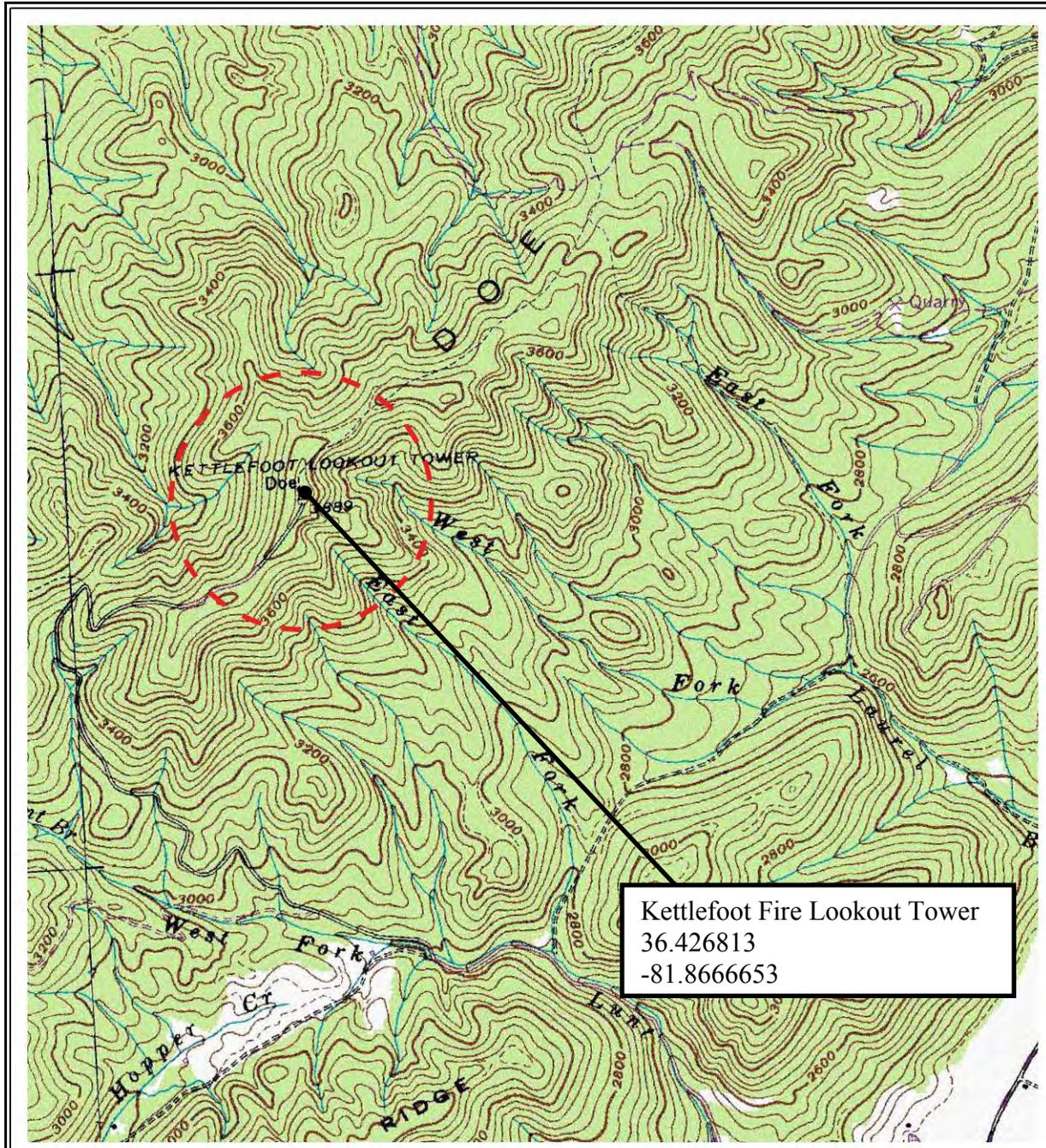
Boundary Justification

The National Register boundary for the Kettlefoot Fire Lookout Tower property includes those buildings and objects that are historically associated with the fire observation complex during its period of significance (1936-1965) and retain adequate integrity.

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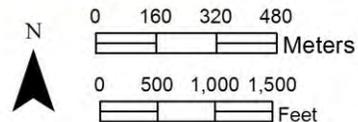
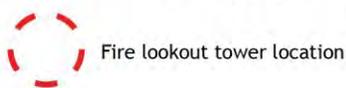
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Kettlefoot Fire Lookout Tower Boundary



Kettlefoot Fire Lookout Tower
36.426813
-81.8666653

Location of Kettlefoot Fire Lookout Tower

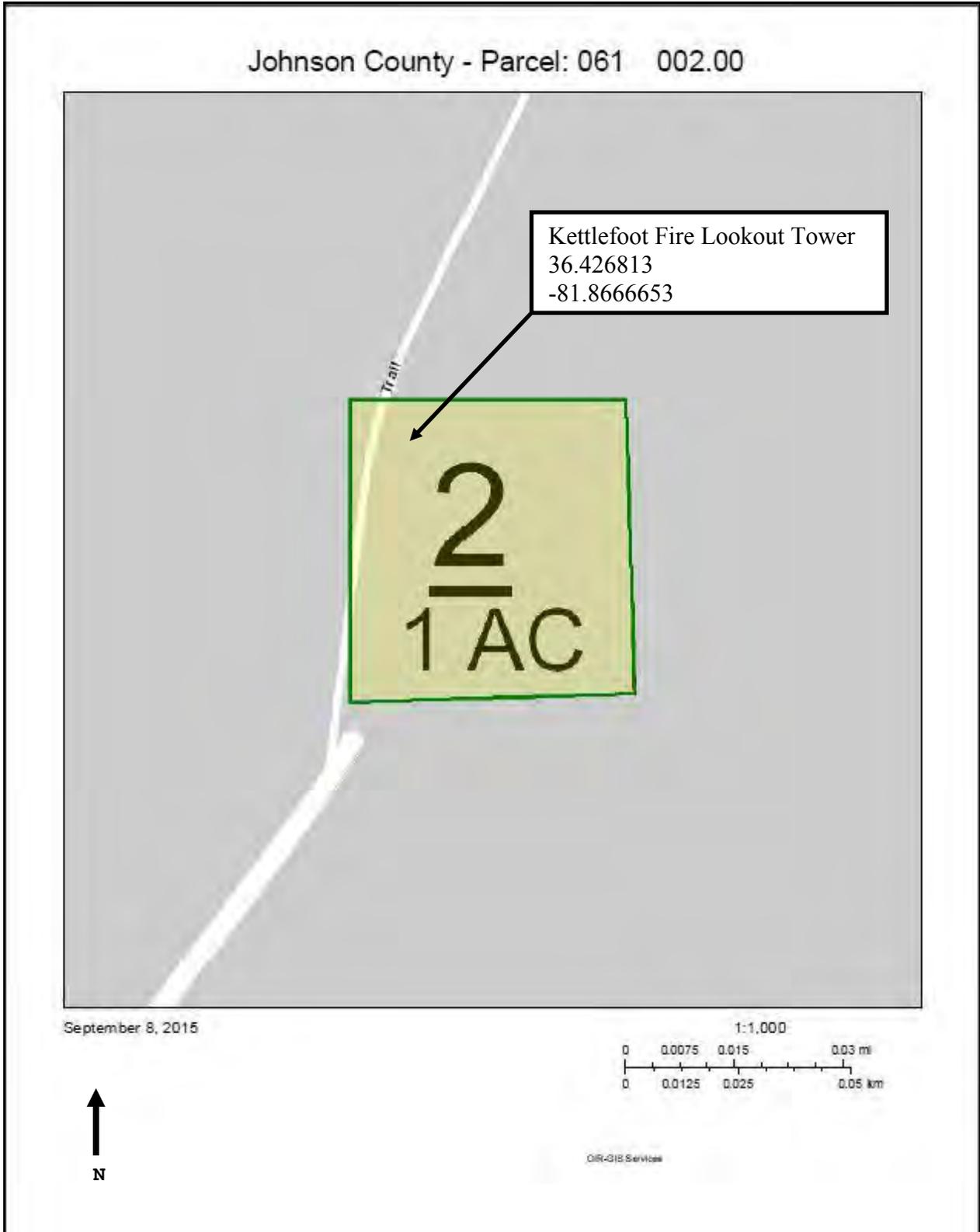


Located on USGS 1979 Mountain City 7.5-minute topographic quadrangle.

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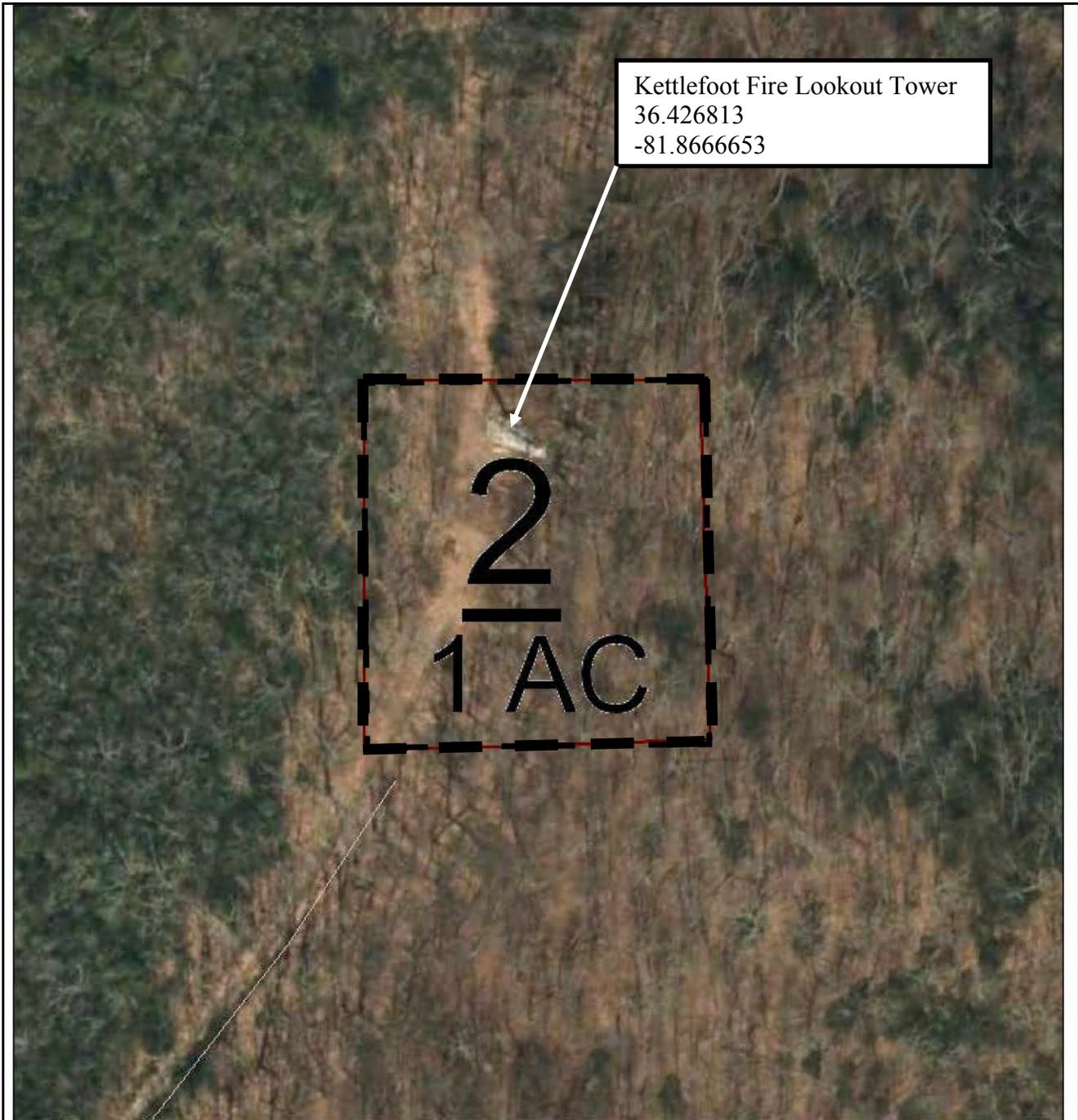
Kettlefoot Fire Lookout Tower Boundary



Kettlefoot Fire Lookout Tower
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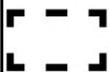
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Kettlefoot Fire Lookout Tower Boundary

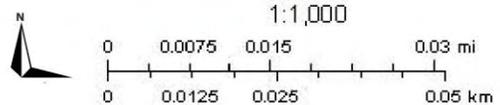


April 16, 2014

Johnson County, TN Tax Map



Proposed NRHP Boundary



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11. Form Prepared By

Name Sr. Preservation Planner Ted Karpyneec, Preservation Planner Meghan Weaver, and
Historian David Sprouse

Organization Tennessee Valley Archaeology Research

Street & Number 4219 Hillsboro Pike, Suite 201

Date June 2, 2014

City or Town Nashville

Telephone 615-760-5693

E-mail mweaver@tvaresearch.com

State TN

Zip Code 37215

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to map.
- **Photographs** (refer to Tennessee Historical Commission National Register *Photo Policy* for submittal of digital images and prints)
- **Additional items:** (additional supporting documentation including historic photographs, historic maps, etc. should be included on a Continuation Sheet following the photographic log and sketch maps)

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.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 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 Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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Photo Log

Name of Property: Kettlefoot Fire Lookout Tower
City or Vicinity: Butler
County: Johnson State: Tennessee
Photographer: Meghan Weaver, Tennessee Valley Archaeological Research, Nashville, TN
Date Photographed: December 18, 2013

0001. Fire lookout tower (C) south and west elevations. Camera facing north.
1 of 17.
0002. Fire lookout tower (C) south and west elevations. Camera facing northeast.
2 of 17.
0003. Fire lookout tower (C) north elevation. Camera facing south.
3 of 17.
0004. Fire lookout tower (C) cab south and west elevations. Camera facing northeast.
4 of 17.
0005. Fire lookout tower (C) concrete pad detail.
5 of 17.
0006. Fire lookout tower (C) "CARNEGIE C USA" stamp detail.
6 of 17.
0007. Site of non-extant lookout operator's cabin. Camera facing north.
7 of 17.
0008. Fire lookout tower (C) bracing detail.
8 of 17.
0009. Fire lookout tower (C) stairway detail.
9 of 17.
0010. Fire lookout tower (C) bolts and plating detail.
10 of 17.
0011. Fire lookout tower (C) cab interior. Camera facing northeast.
11 of 17.
0012. Fire lookout tower (C) cab interior and view from tower. Camera facing northwest.
12 of 17.

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0013. Fire lookout tower (C) cab interior. Camera facing southeast.
13 of 17.

0014. Fire lookout tower (C) cab interior. Camera facing northeast.
14 of 17.

0015. Fire lookout tower (C) cab interior. Camera facing north.
15 of 17.

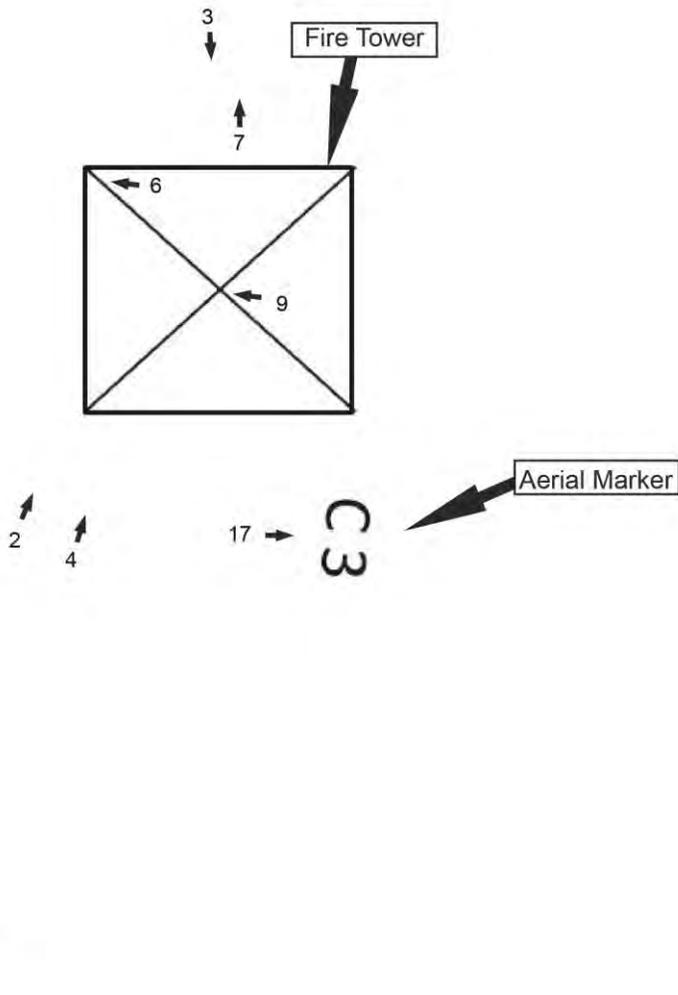
0016. Lookout tower aerial marker (C). View from above.
16 of 17.

0017. Lookout tower aerial marker (C). Camera facing east.
17 of 17.

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Kettlefoot Fire Lookout Tower Site Plan with Photo Key



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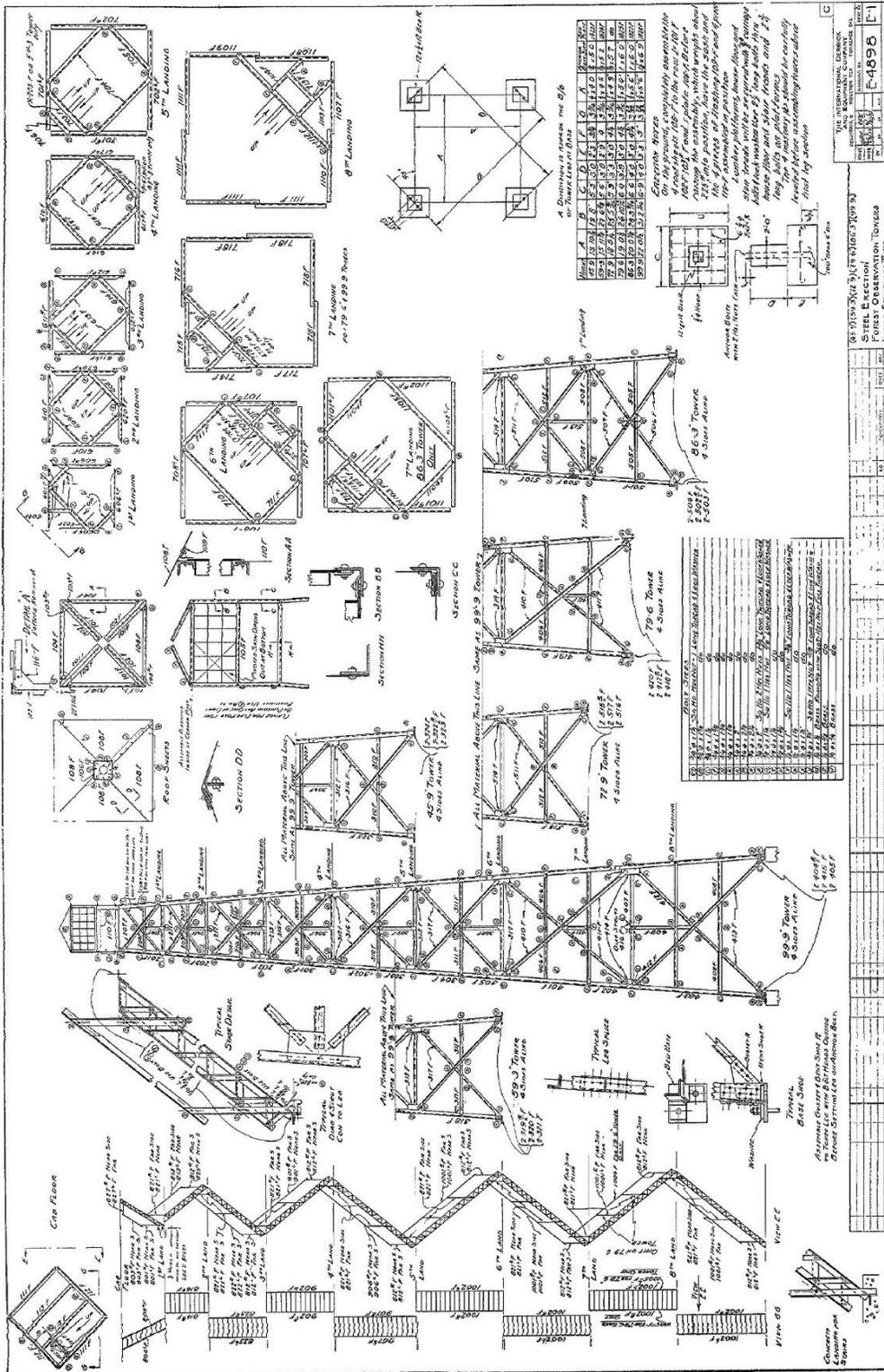
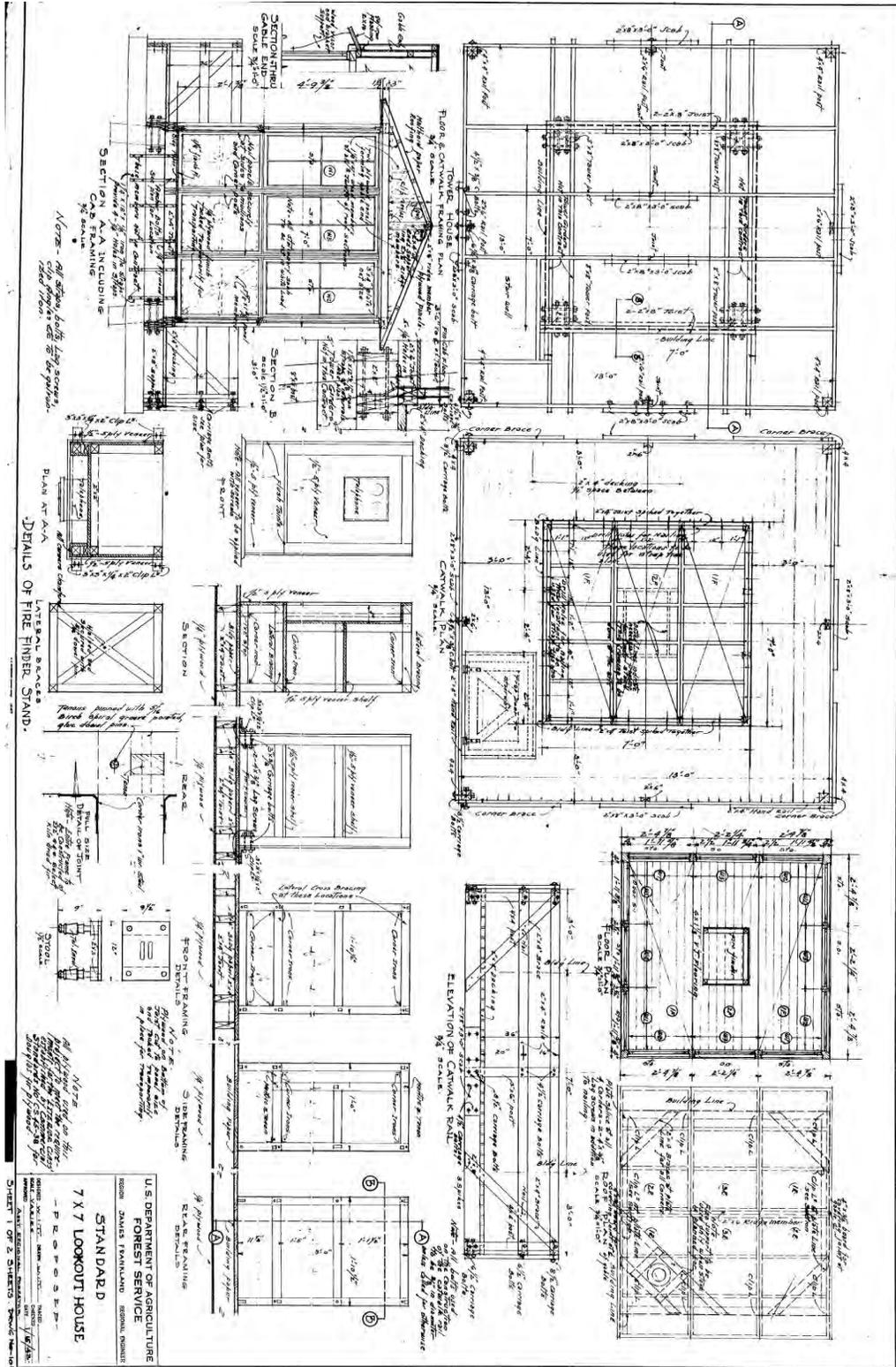


Figure 1: International Derrick Model 1933.

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4. 11. 2011
10:30
CARNEGIECUSA
DAI























