

FORT DRUM, ROUNDHOUSE
(Fort Drum, Building T-4099)
Adjacent to the railroad tracks at the east side
of the original cantonment
Watertown Vicinity
Jefferson County
New York

HABS No. NY-6337-D

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

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HISTORIC AMERICAN BUILDINGS SURVEY

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Location: Adjacent to the railroad tracks at the east side of the original cantonment, in the Main Post of Fort Drum, Watertown vicinity, Jefferson County, New York.

USGS Quadrangle Black River, New York; 7.5 minute series 1982 (photorevised from 1958); UTM Coordinates: Zone 18. 437900 E 4874820 N

Present Owner: United States Army

Original Use: Originally used as a repair and maintenance facility for railroad locomotives and related equipment.

Present Use: Currently used for storage of railroad track maintenance supplies and apparatus.

Significance: This building is the only railroad roundhouse constructed at Fort Drum, and its original purpose was for the maintenance and repair of locomotives, train cars, and other equipment related to the railway system of the post. The design for this building is probably based on the 700 Series or the 800 Series of standardized construction drawings developed by the War Department for the mobilization effort during World War II.

This building retains much of its original character based on observations of other World War II-era structures located at Fort Drum and other United States Army installations. The construction techniques utilized on the Roundhouse are typical of those applied to most Second World War mobilization structures.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: Based on the Real Property Record for the Roundhouse, the estimated year of construction is 1941.¹ However, based on observations made during the inspection of this structure, it is evident that the facility was built in two phases. The existing drawings for this building confirm that proposals to expand the structure were devised in both 1949 and 1951.² Therefore, it is likely that the first phase of construction occurred in 1941, and then, as the need arose for additional space, the second portion of the building was erected in 1951.

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2. Architect: The most detailed of the three drawings on file at Fort Drum for the Roundhouse is Plan Number P. E. 633; the signature of the Post Engineer is illegible, but the rank is discernible as lieutenant colonel, civil engineer.³ The Roundhouse was probably designed according to the standardized drawings of the 700 Series or the 800 Series that were developed for the mobilization effort for the Second World War. The development by the War Department of the 700 Series of construction drawings to be used in the event of another mobilization effort was a process that began in the late 1920s, with the drawings being based on those that were used during the First World War. However, it was not until Hitler's rise to power during the 1930s that the true necessity of plans on a grand scale to accommodate a large fighting force began to be realized in the United States, and called for by a small, but vocal, group of military planners. Among this group was Colonel Charles D. Hartman, who had been with the Quartermaster Corps during World War I, and he proceeded with producing the 700 Series with very little financial support. By 1940, when Hartman became the Chief of the Construction Division of the Quartermaster Corps, the development of the 700 Series was well on its way, with the assistance of Major Elsmere J. Walters. Major Walters was the Executive Officer of the Engineering Branch, and he oversaw the revisions to these drawings; the work was directly supervised by Major Robert B. Field, assistant to Major Walters.⁴

The Construction Division of the Quartermaster Corps was reorganized late in 1940, and as a result, Major Hugh J. Casey was appointed to head up the Engineering Division in early 1941. George E. Bergstrom, then the president of the American Institute of Architects, became the Chief of the Architectural Unit of the Engineering Division, and he and his staff completed the 800 Series in 1941. Casey oversaw the work performed by Bergstrom, and the new series that emerged from this effort was sturdier and roomier than its predecessor.⁵

3. Original and subsequent owners: Prior to 1909, the area of land north of the Black River, which is now known as the original cantonment of Fort Drum, was held by private entities. From that year onward, the federal government has held title to the land for military purposes, and has expanded its holdings in the area over the years. The United States Army is the current owner.
4. Builder, contractor, suppliers: The first section of this structure was probably built during the first major wave of pre-World War II construction at the post that began in the late fall of 1940 and continued for approximately a year. The primary contractors for this work were The John W. Cowper Company, Inc., in partnership with Senior and Palmer, Inc., of Great Bend, New York. Much of the lumber used during this work was provided by the War Department.⁶ It is assumed that other materials were obtained through local suppliers. The second phase of the Roundhouse was constructed after July 27, 1951, the date found on Plan Number P. E. 633.⁷
5. Original plans and construction: As noted above, there are two drawings filed at Fort Drum that depict the Roundhouse; both were produced by the Office of the Post Engineer, although at different times. It is not known if this

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building was constructed based on any of the standard War Department drawings; the techniques and materials used do resemble those found in other temporary mobilization structures. The estimated cost of construction is \$3500.00, according to the Real Property Record.⁸

6. Alterations and additions: There is a lean-to addition located at the north end of the west elevation of the building; the date of this annex is unknown, but it is not depicted on the 1951 drawing.⁹ It is presumed that this addition was built after 1951. There is an outline at the east end of the north facade that suggests another addition was probably constructed at some point.

Another alteration that has taken place concerns the large doors at the south facade. Currently, there are two sets of large hinged doors that provide access to the building; however, a note on the 1951 drawing indicates that there were only two large sliding doors at this location. Further bolstering the evidence that the doors have been altered is the depiction on the 1949 drawing of two large doors, each measuring about 11' wide and 15' tall,¹⁰ the current doors each measure 5'- 6" x 9'- 9" tall. The west pair of the existing doors, and some of the exterior siding above, have been replaced recently.¹¹

One set of railroad tracks has been removed, but no date for this alteration was discovered. Notes on the Real Property Record indicate that a new roof was installed in October, 1975, and the building was repainted in 1968 and 1979.¹² On the interior, remnants of galvanized metal ductwork are suspended from the roof structure, and were connected to a coal-fired heating system that has been removed.¹³

B. Historical Context:

The general area of where the present-day Fort Drum is located has been of vital military importance due to the presence of the St. Lawrence River to the north and Lake Ontario to the west. The town of Sackets Harbor, approximately 15 miles west of Fort Drum, was a strategic post during the years leading up to, and including, the War of 1812; it, along with nearby Madison Barracks, served as a center of naval and military activity into the 1840s.¹⁴

In 1908, Brigadier General Frederick Dent Grant, son of General Ulysses S. Grant, came to the Pine Plains, as the Fort Drum area was known at that time, with 10,000 soldiers, most of whom were militia, and found the area north of Watertown along the Black River to be ideal for training troops. The following year, some of the land at Pine Plains was acquired by the federal government; more land was added to this initial acquisition in the ensuing years. By 1935, the government's holdings at Pine Plains were of substantial consequence to accommodate the largest peacetime maneuvers conducted in the United States.¹⁵

As a result of the war in Europe during the late 1930s and the early 1940s, the United States began to turn its attention to its own military defenses, and began the massive undertaking of creating a modern fighting force capable of defending the country against attack. At Pine Camp, as it was known during the Second World War, this

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tremendous effort took shape in the construction of approximately 800 buildings¹⁶ and the creation of a small city beginning in November, 1940.¹⁷

Troops of the Fourth Armored Division began arriving at Pine Camp both by train and armored vehicle convoy in mid-April of 1941,¹⁸ the post was officially activated on April 15, with Brigadier General Henry W. Baird overseeing the ceremony and reviewing 4,000 soldiers.¹⁹

The first wave of construction took less than a year to complete, and by the fall of 1941 the military post had grown to encompass over 80,000 acres. At that point, Pine Camp could accommodate about 15,000 soldiers.²⁰

General George S. Patton's 4th Armored Division, as well as the 45th Infantry Division and the 5th Armored Division all trained at Pine Camp during World War II.²¹

In 1951, Pine Camp became Camp Drum, named in honor of Lieutenant General Hugh A. Drum, the commander of the First Army during the first part of World War II. The installation was redesignated Fort Drum in 1974, and in 1984 it was selected as the site for the location of a new light infantry division, the 10th Mountain Division (Light Infantry). The current size of the post is 107,265 acres.²²

With the first phase probably being completed in June 1941, the Roundhouse was constructed as a part of the first wave of building that occurred at the post in 1940-41. It was doubled in size approximately ten years later, based on documentation on file at Fort Drum.²³ The building originally functioned as a facility for the maintenance and repair of locomotives, train cars, and other equipment related to the railway system of the post. The building was probably operated by the Transportation Corps, which provided transport of supplies and shelter for the army.²⁴

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. Architectural Character: The character of the Roundhouse is utilitarian in nature, befitting for this type of facility. The name "roundhouse" is a misnomer, however, since the building is not circular in shape; historically, though, it did function as a storage and repair facility for railroad locomotives. The structure is relatively intact and continues to serve in a capacity related to the railroad. The construction techniques used are similar to those found in other World War II-era temporary mobilization buildings, and it is assumed that the Roundhouse was erected according to the standard War Department plans.

The 700 Series is typified by the use of 2" x 4" or 2" x 6" platform framing, double-hung wood windows with divided lights (six-over-six or eight-over-eight), and central heating. "Aqua medias" were significant elements found on some types of buildings from this series (primarily barracks and mess halls); these were continuous eaves running the entire perimeter of both one-

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and two-story structures. These buildings were to be temporary in nature, and yet certain features such as concrete foundation piers and termite shields were incorporated to increase their durability.²⁵

The 800 Series differed from the 700 Series in that the structural systems were sturdier and many types of facilities were roomier than their 700 Series counterparts. These structures had improved heating systems, more efficient insulation and better safety features such as exit lighting. The "aqua medias" were dispensed with as a cost-cutting move, but the 800 Series' temporary nature was questioned by many.²⁶

2. **Condition of Fabric:** The paint finish at the exterior is extremely deteriorated, especially at the south portion, where the paint is virtually nonexistent. There is a notation on the Real Property Record that the building was painted in 1979.²⁷ All of the windows have been covered with plywood, and many of the glass panes are broken. The window and door trim, the corner boards, and the raking boards exhibit the worst signs of deterioration. The general state of the roof appears to be sound.

B. Description of Exterior

1. **Overall Dimensions:** The Roundhouse measures roughly 32' x 72' and there is a lean-to addition attached to the north end of the west facade that measures 12' x 22'. The ridge of the roof is approximately 23' above grade; the highest point of the shed roof at the addition is about 15'.
2. **Foundations:** The foundation plan shown on Plan Number P.E. 633, dated July 27, 1951, depicts 8" square reinforced concrete piers supported by 16" square concrete pads at 12'- 0" on center; these alternate with 16" square piers and 24" square footing pads, also at 12'- 0" on center.²⁸ On the centerline, a 8'- 0" wide concrete slab on grade runs the full length of the building. At either side is a 5'- 3" wide concrete slab; both run the full length of the structure.
3. **Walls:** The perimeter walls are composed of 2" x 4" wood studs with 5" wide exterior drop (German) siding.
4. **Structural systems, framing:** The sole plate consists of two-2" x 8"s, which supports 2" x 4" studs at 24" on center; the studs are capped by a double 2" x 4" top plate that is 16'- 6" above the grade level. At the south end and at the midpoint are 2" x 8" stud walls at the center and at the sides, perpendicular to the perimeter walls; the center walls measure 6'- 0" long and the side walls are 4'- 0" long. These walls, along with a stud wall at the north end, all carry trusses that are composed of triple 2" x 8"s at the bottom chord and single 2" x 10" top chords; vertical 2" x 8"s spaced at about 4' extend between the top and bottom chords. Within each 36' bay, there are columns along the perimeter at 12'- 0" on center that are composed of triple 2" x 8"s; the height of the columns is 15'- 4" and these carry the intermediate roof trusses. Each of the four intermediate trusses (two per 36' bay) is a modified pitched Howe

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unit; the bottom chord consists of a spaced double 2" x 6", and the top chord is a spaced double 2" x 10". At the midpoint is a vertical 2" x 6", with a single diagonal 2" x 6" and a single vertical 2" x 4" at either side. Extending from each column is a diagonal 2" x 12" knee brace, which runs beyond the top chord to the roof. Running perpendicular to, and supported by, the trusses are 2" x 6" roof joists that are spaced about 4' on center. There is solid blocking between the joists; the wood roof decking is nailed to the joists.

The addition at the northwest corner is probably constructed of 2" x 4"s, with 2" x 6" rafters; most of the interior surfaces are covered with masonite, therefore the exact structural configuration of the lean-to could not be determined.

5. Openings:

- a. Doorways and Doors: There are two pairs of large hinged doors composed of 4" wide vertical boards; each door measures 5'-6" x 9'-9" tall, and the trim is 5½" wide. These doors are probably not original; see the alterations section above for further information concerning these doors. A 2'-6" x 6'-8" unit with four lights above and three horizontal panels below is located on the north elevation of the building at the east end; two identical doors are located on the north facade of the addition, the glass panes are covered with plywood.
- b. Windows: There are ten windows, all of which are covered with plywood; six units at the east elevation, four at the west elevation of the main building, and one unit at the west elevation of the addition.

6. Roof:

- a. Shape, Covering: The roof of the main building is a gable, and the addition has a shed roof; all roof surfaces are covered with asphalt shingles.
- b. Cornice, Eaves: There is a plain raking board running along the gable ends of the main building and the sloped ends of the addition. At the east and west facades, the plain cornice board is situated at the eaves.

C. Description of Interior:

1. Floor Plan: The plans of both the main building and the northwest addition are simple rectangles with no interior partitions.
2. Flooring: Except for the areas of concrete slab previously described, there are dirt floors.
3. Wall and Ceiling Finish: Most of the studs, rafters, and trusses are exposed; some portions of the walls at the north end are covered with masonite.
4. Openings:

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- a. Doorways and Doors: The doors are described above; the interior door trim at the units on the north facade is 3-3/4" wide.
 - b. Windows: The windows located in the main building are all eight-over-eight double-hung sash units, although some muntins have been removed. Each unit measures 3'- 10" wide x 4'- 6" tall; two of the windows at the west side have been enclosed with plywood, which probably was the result of the lean-to being added.
5. Hardware: The door hardware that is on the units at the north elevation appears to be original; no window hardware was observed.
6. Mechanical Equipment:
- a. Heating: There is a notation on the Real Property Record indicating the existence of a coal-fired boiler at one time;²⁹ however, no physical evidence of the heater was found. There are remnants of galvanized metal ductwork in the main building, which shows there was a heating system of some kind.
 - b. Lighting: There are two original pendant-type light fixtures with porcelain enamel reflectors suspended from the trusses at the north end of the building.
- D. Site:
1. General Setting and Orientation: The Roundhouse faces south, and is located just to the west of the railroad tracks that run through the west end of the original cantonment at Fort Drum. This area is labeled on current maps as "Pine Plains" and its topography is generally flat.
 2. Historical landscape design: The Roundhouse is located adjacent to the railroad tracks. A comparison of a site plan of the cantonment dating from 1943 and the current context indicates that the layout has not been altered significantly over the years.³⁰

PART III. SOURCES OF INFORMATION

- A. Architectural Drawings It is assumed that the design of the Roundhouse was developed from the 700 Series (and possibly the 800 Series) of standardized construction drawings that were produced by the War Department prior to and during the United States' involvement in World War II. Two drawings were produced by the Office of the Post Engineer and are currently on file at the Engineering Plans and Services (EPS) Division, Directorate of Engineering and Housing, Building 479, Fort Drum. The drawing dating from 1949 depicts a 75' long addition that was apparently never built, while the 1951 drawing shows the doubling in size of the main section of the structure. It is assumed that the addition located at the north end of the west elevation was built after 1951.

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Field observations and measurements revealed that the Roundhouse was constructed basically as shown on the drawings; any alterations have been noted in the appropriate sections of this report. The drawings cited in the Bibliography have been photographically reproduced and are included at the end of this report.

B. Bibliography:

1. Primary and unpublished sources:

a. Drawings on file at Fort Drum:

- i. Office of the Post Engineer, Pine Camp, NY. "Extension to Existing Roundhouse & Repair Pit, Floor Plan, Elevation, & Section," Plan Number P.E. 66, September 14, 1949.
- ii. _____ . "Addition to Roundhouse Building T-4099, Foundation Plan & Details," Plan Number P.E. 633, July 27, 1951.

b. Other records at Fort Drum:

- i. "Real Property Record. Buildings. Building T-4099," [no date]. Filed at Real Property Branch, Engineering Plans and Services Division, Directorate of Engineering and Housing, Building 478, Fort Drum.
- ii. "History of Fort Drum Fact Sheet," [no date]. Photocopy provided by Environmental Division, Directorate of Engineering and Housing.

2. Secondary and published sources:

a. Books and manuscripts:

Fine, Lenore and Jesse A. Remington. *The Corps of Engineers: Construction in the United States*. [Volume in the series, *United States Army in World War II: The Technical Services*.] Washington, D.C.: Office of the Chief of Military History, United States Army, 1972.

b. Newspaper articles (chronological listing):

"Air Squadron for Pine Camp." *Watertown Daily Times*, November 4, 1940.

"Large Force of Men Transforming 'Bad Lands' at Pine Plains Into Great Military City Comprising Two Miles of Barracks." *The Post-Standard* (Syracuse, NY), November 4, 1940.

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"5,598 Employed on Camp Project," *Watertown Daily Times*, December 14, 1940.

"General Baird Takes Command," *Watertown Daily Times*, April 16, 1941.

"Fourth Armored Division Arrives at Pine Camp by Truck and Train From Fort Knox, Ky," *Carthage (NY) Republican-Tribune*, April 17, 1941.

"Building of Camp Nearly Finished," *Watertown Daily Times*, September 24, 1941.

D. Likely Sources Not Yet Investigated:

1. Documentary: A search of the files at the Watertown, New York, library and other local libraries could be conducted in an attempt to determine the names of the individuals and companies involved in the construction of the Roundhouse.
2. Oral History: An interview with Bob Brennan, a local historian from Sackets Harbor, could be a source for additional information regarding the construction of Pine Camp.

D. Supplemental Material:

1. Drawings: The drawings for the Roundhouse that are on file at Fort Drum have been photographically reproduced and are included in this report. A full citation of each drawing is found in the Bibliography.
2. Photographs: Large-format photographs of this building and its setting are provided as supplemental material in this report.

PART IV. PROJECT INFORMATION

This report was prepared by the Center for Architectural Conservation, Georgia Institute of Technology, as part of a project to document four representative types of World War II-era temporary mobilization structures at Fort Drum during June, 1992. The project was sponsored by the Tri-Services Research Center, United States Army Corps of Engineers, Construction Engineering Research Laboratory (USACERL), Champaign, Illinois. Keith Landreth, Director of the Tri-Services Research Center, provided assistance throughout the project. Assistance at Fort Drum was provided by Cait Schadock, Environmental Division, and Richard West, Engineering Plans and Services Division, Directorate of Engineering and Housing. Large-format photography was done by Martin Stupich.

NOTES:

1. "Real Property Record. Buildings. Building T-4099," [no date]. Filed at Real Property Branch, Engineering Plans and Services Division, Directorate of Engineering and Housing, Building 478, Fort Drum.
2. Office of the Post Engineer, Pine Camp, NY. "Extension to Existing Roundhouse & Repair Pit, Floor Plan, Elevation, & Section," Plan Number P.E. 66, September 14, 1949; and Office of the Post Engineer, Pine Camp, NY. "Addition to Roundhouse Building T-4099, Foundation Plan & Details," Plan Number P.E. 633, July 27, 1951.
3. Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 633.
4. Lenore Fine and Jesse A. Remington. *The Corps of Engineers: Construction in the United States*. [volume in the series, *United States Army in World War II: The Technical Services*]. Washington D.C.: Office of the Chief of Military History, U.S. Army, 1972, pp. 69, 73, 115, 116, 163-166.
5. Fine and Remington, pp. 265, 347, 349-51.
6. "Air Squadron for Pine Camp." *Watertown Daily Times*, November 4, 1940.
7. Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 633.
8. "Real Property Record...Building T-4099."
9. Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 633.
10. Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 66. There is no indication on the drawing of whether the doors are hinged or sliding.
11. Based on information provided by the Directorate of Engineering and Housing, Fort Drum.
12. "Real Property Record...Building T-4099."
13. Ibid.
14. "History of Fort Drum Fact Sheet," [no date]. Photocopy provided by Environmental Division, Directorate of Engineering and Housing.
15. Ibid.
16. "5,598 Employed on Camp Project," *Watertown Daily Times*, December 14, 1940.
17. "Large Force of Men Transforming 'Bad Lands' at Pine Plains Into Great Military City Comprising Two Miles of Barracks." *The Post-Standard* (Syracuse, NY), November 4, 1940.
18. "Fourth Armored Division Arrives at Pine Camp by Truck and Train From Fort Knox, Ky," *Carthage (NY) Republican-Tribune*, April 17, 1941.

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19. "General Baird Takes Command," *Watertown Daily Times*, April 16, 1941.
20. "Building of Camp Nearly Finished," *Watertown Daily Times*, September 24, 1941.
21. "History of Fort Drum Fact Sheet."
22. Ibid.
23. Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 66; and Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 633.
24. Russell F. Weigley. *History of the United States Army*. New York: The Macmillan Company, 1967, p. 446.
25. Ibid., pp. 116, 117.
26. Ibid., pp. 350, 351.
27. "Real Property Record...Building T-4099."
28. Office of the Post Engineer, Pine Camp, NY, Plan Number P.E. 633.
29. "Real Property Record...Building T-4099."
30. United States Engineer Office, Syracuse District, Syracuse, N.Y. "Pine Camp, N.Y. General Site Plan," August 13, 1943.