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Military Training Lands Historic Context

Training Village, Mock Sites, and Large Scale Operations Areas

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and Manroop Chawla

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Abstract: This work provides an historic context for military training lands, written to satisfy a part of Section 110 of the National Historic Preservation Act (NHPA) of 1966 as amended. Cultural resources personnel at the installation level and their contractors will use this historic context to determine whether military training resources are eligible for the National Register of Historic Places (NRHP), and whether an adverse effect will take place. This overall project covered five types of military training: small arms ranges, large arms ranges, training villages and sites, bivouac areas, and large-scale operation areas. This document provides an historic context of training villages, mock sites, and large scale operations areas on military training lands for the U.S. Army, U.S. Navy, U.S. Army Air Corps/U.S. Air Force, and the U.S. Marines, with a focus on the landscape outside the developed core of military installations. This work determined that that military training lands are significant enough in our nation's history to be surveyed for eligibility to the NRHP. However, training lands must be viewed as a whole; individual buildings on a training range are rarely eligible for the NRHP; buildings in their larger context (and the integrity of that larger context) are important.

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Preface

This study was conducted for the Legacy Resource Management Program, Cultural Resources Management, under project “Activity A1450-MIPR to ERDC PN05-265.” Funding was provided by Military Interdepartmental Purchase Request (MIPR) W31RYO51541162. The Legacy Resource Management Program technical monitor was Hillori Schenker, Cultural Resources Specialist.

The work was performed by the Land and Heritage Conservation Branch (CN-C) of the Installations Division (CN), Construction Engineering Research Laboratory (CERL). The CERL Project Manager was Adam Smith. Daniel Archibald, was primary compiler of the historical information; Sunny Adams was assistant architectural historian; Manroop Chawla was environmentalist, and Daniel Smith (IMCOM) was the military training history expert. Special thanks are owed to those that assisted with the development of this historic context: Holly Reed, Teresa Roy, and Donna Larker in the Still Pictures Room at the National Archives in College Park, Maryland; Andrew Knight, Priscilla Dyson, and Ivy Yarbough in the Cartographic and Architectural Record Room at the National Archives in College Park, Maryland; Pat Lacey, ERDC-CERL Librarian; Michelle Michael at Fort Bragg, NC; John Doss at Fort Bragg, NC; Laurie Rush at Fort Drum, NY; Ruth Lewis at Fort Gordon, GA; Pam Anderson at Naval Base, Norfolk, Virginia; Jim Dolph at Portsmouth Navy Yard; and Brian Lione, former Deputy Federal Preservation Officer, Office of the Secretary of Defense. Dr. Christopher White is Chief, CN-C, and Dr. John T. Bandy is Chief, CN. The Director of CERL is Dr. Ilker R. Adiguzel.

CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Commander and Executive Director of ERDC is COL Gary E. Johnston, and the Director of ERDC is Dr. Jeffery P. Holland.

Unit Conversion Factors

Multiply	By	To Obtain
acres	4,046.873	square meters
degrees Fahrenheit	$(F-32)/1.8$	degrees Celsius
feet	0.3048	meters
gallons (U.S. liquid)	3.785412 E-03	cubic meters
horsepower (550 foot-pounds force per second)	745.6999	watts
inches	0.0254	meters
miles (U.S. statute)	1,609.347	meters
square feet	0.09290304	square meters
square miles	2.589998 E+06	square meters
square yards	0.8361274	square meters
yards	0.9144	meters

1 Introduction

Background

Through the years, laws have been enacted to preserve our national cultural heritage. The Antiquities Act of 1906, which was the first major Federal preservation legislation to be enacted, was instrumental in securing protection for archeological resources on Federal property. The benefits derived from this Act and subsequent legislation precipitated an expanded and broader need for the preservation of historic cultural resources. This growing awareness was codified in the most sweeping legislation to date, the National Historic Preservation Act of 1966 (NHPA).

The NHPA was created to provide guidelines and requirements aimed at preserving tangible elements of our past primarily through the creation of the National Register of Historic Places (NRHP). Contained within this piece of legislation (Sections 110 and 106) are requirements for Federal agencies to address their cultural resources, defined as any prehistoric or historic district, site, building, structure, or object. Section 110 requires Federal agencies to inventory and evaluate their cultural resources. Section 106 requires the determination of effect of Federal undertakings on properties listed on, deemed eligible for, or potentially eligible for the NRHP, and requires Federal agencies to take into account the effect of a project on a property and to afford the State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) a reasonable opportunity to comment on the undertaking.

According to National Register Bulletin #15, "How to Apply the National Register of Criteria for Evaluation," and National Register Bulletin #16a, "How to Complete the National Register Registration Form define historic contexts," for a building, structure, object, or a district to be eligible for the National Register, it must:

represent a significant part of the history, architecture, archeology, engineering, or culture of an area, and it must have the characteristics that make it a good representative of properties associated with that aspect of the past. The significance of a historic property can be judged and explained only when it is evaluated within its historic context. ... Historic contexts are those patterns or trends in history by which a specific occur-

rence, property, or site is understood and its meaning (and ultimately its significance) within history or prehistory is made clear.

A historic context is necessary to help researchers and persons involved in inventorying buildings for eligibility to the National Register, address these five factors:

1. The facet of prehistory or history of the local area, State, or the nation that the property represents
2. Whether that facet of prehistory or history is significant
3. Whether it is a type of property that has relevance and importance in illustrating the historic context
4. How the property illustrates that history
5. Whether the property possesses the physical features necessary to convey the aspect of prehistory or history with which it is associated.

National Register Bulletin #15

This project work was undertaken to develop a historic context for the development of military training lands used by the U.S. Department of Defense (DOD) and its forerunners.

Objectives

The initial objective of this project was to develop a historic context for the development of military training lands used by the DOD and its forerunners.

Approach

This work was performed in four steps:

1. A literature review was done in the area of military training.
2. Original photographs and training plans were gathered from a variety of archival centers.
3. A site visit was made to a large-scale training installation to photograph extant training facilities.
4. Data was collected and analyzed, and conclusions were drawn.

Literature review

The research team used secondary literature to determine the general history of military training throughout the development of War Department and the Navy Department (and subsequently the DOD—Army, Navy, and Air Force). The military literature review consisted of reading the various

training manuals pushed out by those departments and a variety of military training histories published by and for those departments.

Archival research

The research team then located primary research materials and additional secondary materials to establish a strategy to best use these resources. The research team conducted four visits to the National Archives in Washington, DC and the National Archives at College Park, MD. They occurred during the weeks of 6 February 2006, 27 February 2006, 17 April 2006, and 22 May 2006. Other archival depositories visited were the Library of Congress, 27 February 2006; the Naval Photo Library at the Washington Navy Yard, 17 April 2006; the History Office at the Corps of Engineers, Alexandria, VA, 17 April 2006; and a variety of installation museums, cultural resources offices, and archives across the country.

Site visits

Two members of the research conducted a site visit to Fort Bragg, NC. Fort Bragg was chosen for the site visit because it had one of the largest groupings of different training lands in the DOD; the complexity of its training lands; and the level of historical background that Fort Bragg had on its training lands.

Analysis

After the initial research was complete, the team analyzed the gathered information. The researchers outlined the historical context for military training, identified changes in history and use over time, identified important chronological periods, established a geographical context, and identified historical themes. The analysis resulted in an outline of military training divided into eight significant periods:

- Pre-Civil War (up to 1861)
- Civil War (1861-1865)
- National Expansion (1865-1916)
- World War I (1917-1920)
- Interwar (1921-1940)
- World War II (1941-1945)
- Early Cold War (1946-1955)
- Late Cold War (1956-1989).

Scope

Military training that occurred inside buildings and the Cold War missile programs are not part of this historic context.

The complexity of military training across the services required four historic contexts to be developed, each geared to a particular type of training:

1. Small arms ranges
2. Large arms ranges
3. Training villages, mock sites, and large-scale operation areas
4. Miscellaneous training sites.

This report details the history of training villages, mock sites, and large-scale operation areas.

Mode of technology transfer

This report will be made accessible through the World Wide Web (WWW) at URL: <http://www.cecer.army.mil>

2 Training Villages, Mock Sites, and Large Scale Operation Areas

The U.S. military constructed a variety of training villages, mock sites, and courses in an effort to create realistic combat environments for training. Bivouac sites and large-scale operation areas were also utilized for realistic, multiple day training exercises and maneuvers. This volume contains descriptions, drawings, and historical photographs of many such training ranges and sites. Following some “General Information” that applies to many of these areas, individual ranges and sites are discussed under the categories of “Training Villages,” “Mock Sites,” “Courses,” and “Large Scale Operation Areas.” Present-day photographs and evaluation material follow the list of ranges.

General Information

Purpose

“The primary purpose of this type of range was to train personnel in the use of organic weapons in a combat environment with a secondary purpose of mental conditioning. Every combat soldier was trained mentally for the shock of battle. So far as practicable, soldiers were subjected in training to the sights, sounds, and sensations of battle. Every opportunity was taken to subject personnel to overhead fire and fire at their flanks. So far as practicable, artillery service practice and exercises or drills of other troops were located and coordinated to provide troops with experience in undergoing overhead artillery fire. Individuals in entrenchments of their own construction were run over by tanks when practicable. Such training required men to throw or discharge practice grenades or simulated grenades at the tank. Troops were subjected to realistic simulated attack from the air at every available opportunity” (“RO-2” 13).

Terrain

“The terrain over which these ranges were constructed was selected in order to make available the varied terrain suitable for the employment of all of the weapons with which the units were to be trained and armed. Any ground satisfactory for maneuvers was suitable for tactical exercises involving field firing. The range areas varied in nearly every dimension de-

pending on the practice requirements. The amount of land required for the range was determined by calculating the length and breadth of the danger area required to fulfill the requirements of AR 750-10 as it related to the type of weapon, ammunition, and firing exercises to be fired on the range” (“RO-2” 14). “Multiple weapons type ranges could have been stand-alone ranges or shared with an artillery range, or other ranges on a Ground Forces Training Center” (“RO-2” ES2).

Construction

“The multiple weapons type range often involved significant construction” (“RO-2” 11). For example, mock villages included multiple buildings, walls, and fences “to simulate an urban environment for training. Other facilities constructed on the various multiple weapons type courses included bunkers, foxholes, trenches, shell holes, slit trenches, wire entanglements, simulated mine fields, control towers, and machine gun platforms” (“RO-2” 11). “Some facilities, such as target butts, target pits, drainage channels and culverts, storerooms, range houses, and firing points supplemented range functions. If present, these buildings and facilities were centrally located beyond the firing range limits and impact areas” (“RO-2” 12). “The construction on each type of range covered in this report is discussed under the description of the range” (“RO-2” 11).

Training procedures

“Either chosen personnel from the using unit or range control personnel prepared the range for use. This involved placing simulators, preparing and emplacing weapons integral to the range, and possibly positioning aggressor forces. After the range was prepared and the weapons serviced, the using unit was issued the ammunition to be used during the training” (“RO-2” 7-8). After firing exercises, troops cleaned their weapons and policed the training area, either taking the trash they gathered to a landfill, or putting it in a foxhole if they were on their way to do more training. Duds and other ammunition waste materials were either destroyed on site, or taken to the ordnance officer for disposal (“RO-2” 8-9).

Weapons

“The ranges covered under this report may have been used in two ways, either live fire exercises or force-on-force exercises. For live fire exercises, conventional ammunition for every authorized type of weapon was poten-

tially used unless local regulations limited use of the range to specific types of ammunition. For force-on-force exercises, ammunition use was normally limited to blank ammunition, simulators, practice, pyrotechnics, etc. However, live ammunition was occasionally used in a very controlled manner, such as on the infiltration course” (“RO-2” ES2). “Although the actual weapons used on this type of range is site specific, these weapons may have included small arms, recoilless rifles, shoulder-launched rockets, hand and rifle grenades, and flame throwers” (“RO-2” 1-2).

Training villages

“The mock village became common as a training area with the start of World War II (WWII) and is still in use today. The Mock Village was also known as a combat-in-cities course and more recently as Military Operations in Urbanized Terrain (MOUT). In each case, the mock village consisted of a simulated village designed to mimic the villages of the anticipated enemy. During WWII the village resembled European or Japanese villages, and during the Korean War, Korean villages. During the cold war the mock villages again resembled European villages, and during the Vietnam War, Vietnamese villages. The villages were designed to allow units to conduct various training problems in an urban environment and to employ the weapons available to them. The training situations may have been set up to allow live fire training or force-on-force training where ammunition would have been restricted to simulators and blanks. During 1942 and at least through 1951, an installation housing one or two divisions (a Division contains approximately 15,000 personnel) would have had one Mock Village training facility” (“RO-2” 15-16).

“Training Villages often involved significant construction. For example, the Combat-in-Cities Course involved the construction of multiple buildings to simulate an urban environment for training. The Course contained one, two, and three story buildings with fences and walls in between the back yards. At least one wall was 10 or 12 feet high to allow the use of hooks and toggle ropes. Windows were equipped with disappearing dummies and silhouette targets arranged on hinges and pulleys, and controlled by a control officer” (“RO-2” 11, 16, 26).

“This type of course may have included camouflage features in addition to simulated personnel, booby traps, land mines, etc. The Mock Village was to be installed where 180-degree field of fire could be provided. From 1944 through at least 1951, the range was to be restricted to the use of M2 .30

caliber or other ammunition not requiring a danger range exceeding 4,000 yards. In some instances, the mock village course was located on an artillery range. Artillery was allowed to fire over the heads of the troops using the Mock Village” (“RO-2” 16). Examples of several mock villages, combat in cities courses, and MOUT facilities are shown below.

Mock villages

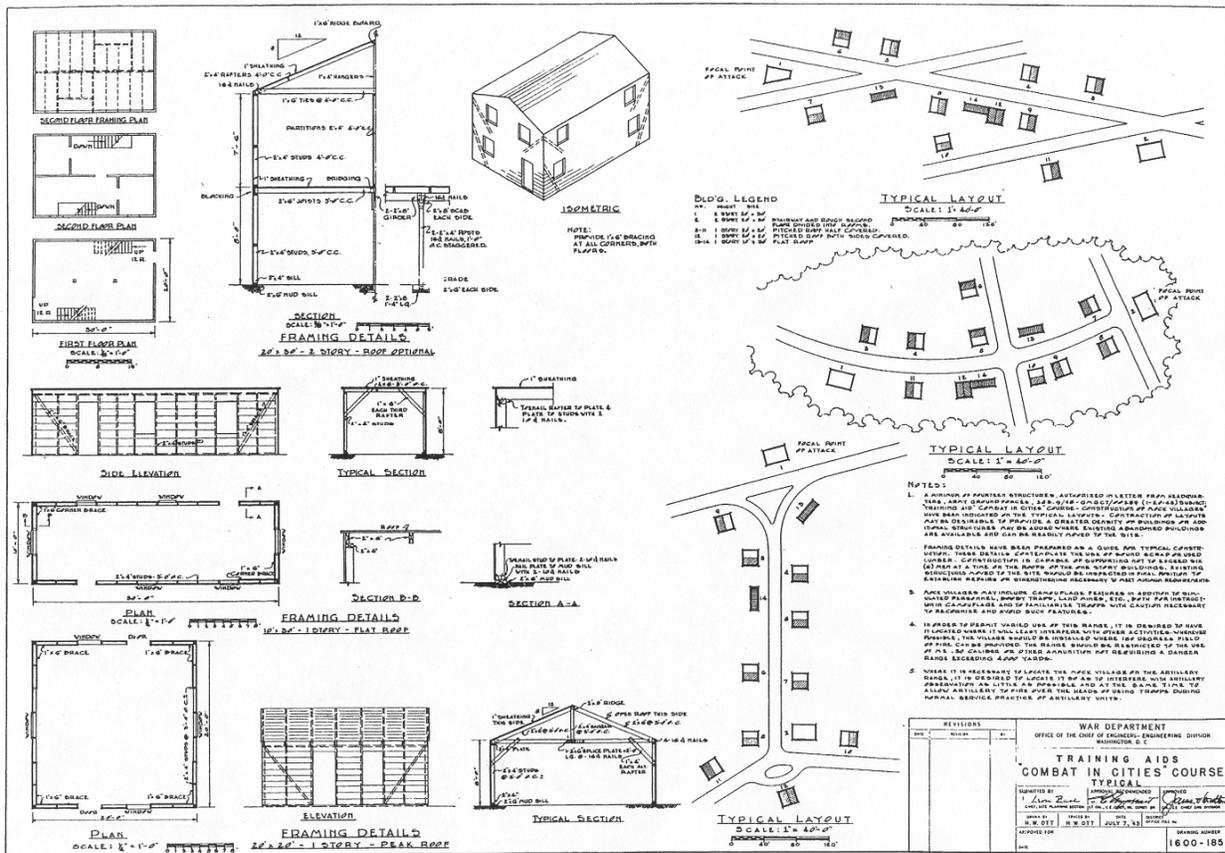


Figure 1. Mock village, circa 1943 (standard drawing no. 1600-185, combat in cities course, 7 July 1943).



Figure 2. An overall shot of the combat town built by the 7th Engineering Battalion at Camp Pendleton, CA, 19 January 1953 (NARA College Park, RG 127-GC, box 11, photo A177454).

European



Figure 3. "German Village" West of Pier "D" Reserve Basin, (circa 1917) (neg. No. 1367, Public Works Dept., U.S. Navy Yard, Philadelphia, PA. 4 April 1917).



Figure 4. Squad using hand grenades in clearing out enemy in house-to-house fighting at Fort Bliss, TX, 9 April 1943 (NARA College Park, RG 111-SC WWII, box 162, photo SC175736).



Figure 5. Members of the field artillery using live ammunition amidst live dynamite charges run through the "German Village" on the Ranger Course at Fort Jackson, SC, 22 April 1943 (NARA College Park, RG 111-SC WWII, box 159, photo SC174957).



Figure 6. Trainee peering through a window of a mined dummy house at Camp Peary, VA, 29 April 1944 (NARA College Park, RG 80-G, box 453, photo 170420).

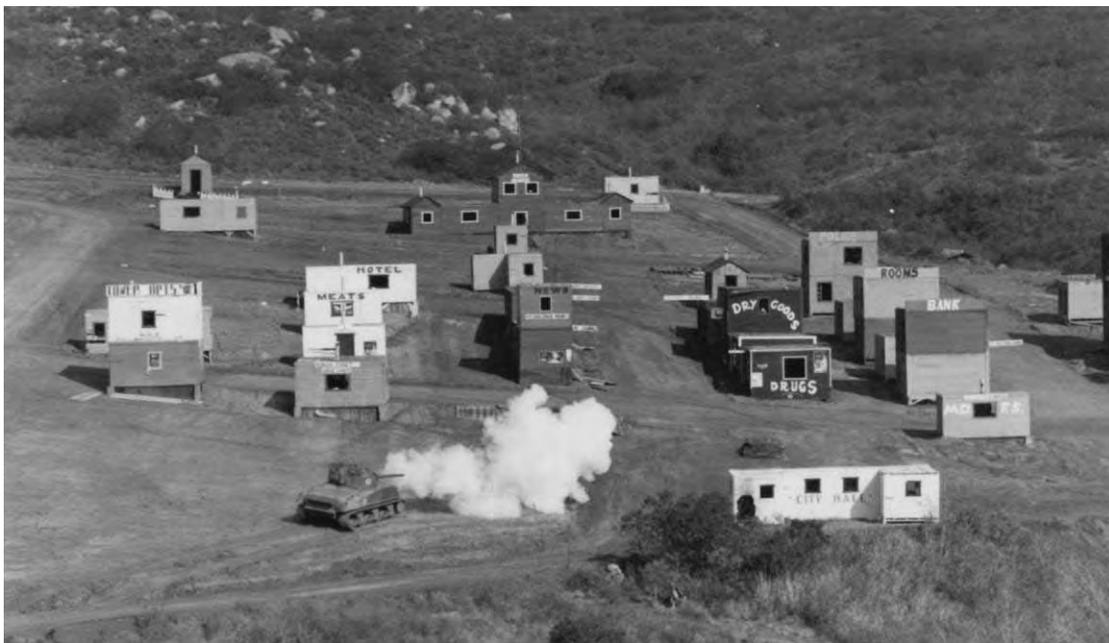


Figure 7. An M-26 tank of the 1st Tank Battalion is shown softening up the “enemy” in the mock town at Camp Pendleton, CA, 3 February 1950 (NARA College Park, RG 127-GC, box 11, photo A25737).



Figure 8. Soldiers undergo simulated combat training at the "Mock Village" at Fort Bliss, TX, 13 January 1951 (NARA College Park, RG 111-SC WWII, box 197, photo SC357878).



Figure 9. Soldiers undergo simulated combat training at the "Mock Village" at Fort Bliss, TX, 13 January 1951 (NARA College Park, RG 111-SC WWII, box 197, photo SC357878).



Figure 10. A building in the last stages of construction in the European section of combat town at Camp Pendleton, CA, 15 August 1952 (NARA College Park, RG 127-GC, box 11, photo A176775).



Figure 11. An instructor explains how to attack and enter Combat Village at Camp Lejeune, NC, 30 September 1952 (NARA College Park, RG 127-GC, box 26, photo A13710).



Figure 12. A European combat town at Camp Pendleton, CA, 16 December 1952 (NARA College Park, RG 127-GC, box 11, photo A350096).



Figure 13. A European combat town at Camp Pendleton, CA, 16 December 1952 (NARA College Park, RG 127-GC, box 11, photo A350095).



Figure 14. Two Marines lift another man to the rooftop while another Marine battles an aggressor from the roof at Camp Pendleton, CA, 3 July 1957 (NARA College Park, RG 127-GC, box 11, photo A367250).



Figure 15. Personnel of the 101st Airborne Division rappel from a UH-1 A/C into the training village at Fort Campbell, KY, 11 March 1963 (NARA College Park, RG 111-SC post-1955, box 380, photo SC603421).



Figure 16. Army UH-1 "Iroquois" helicopters descend into the training village at Fort Campbell, KY, 7 March 1963 (NARA College Park, RG 111-SC post-1955, box 379, photo SC601653).



Figure 17. Three men of a fire team assault a house with aggressors firing from the roofline in combat town at Camp Pendleton, CA, 30 April 1968 (NARA College Park, RG 127-GG, box 24, photo A620114).

Japanese

Figure 18. Japanese language drama when squad raids a Japanese hut at Camp Pendleton, CA, March 1944 (NARA College Park, RG 127-GC, box 11, photo 36472).



Figure 19. The result of opening a door without a thorough examination beforehand might result in three dead MPs as demonstrated to a class at unknown location, 15 February 1946 (NARA College Park, RG 342-FH, box 2214, photo 4A-19842).

Korean/Oriental

Figure 20. A shot showing construction work and buildings of combat town at Camp Pendleton, CA, 15 August 1952 (NARA College Park, RG 127-GC, box 11, photo A176772).



Figure 21. An Oriental section street scene in the "market" district of combat town at Camp Pendleton, CA, 15 August 1952 (NARA College Park, RG 127-GC, box 11, photo A176771).



Figure 22. A Marine decorates a cart with Oriental writing before placing it in the Oriental section of combat town at Camp Pendleton, CA, 21 August 1952 (NARA College Park, RG 127-GC, box 11, photo A176830).



Figure 23. House-to-house fighting in combat town at Camp Pendleton, CA, 4 August 1953 (NARA College Park, RG 127-GC, box 11, photo A351261).



Figure 24. A man falling from his position after supposedly being hit by a shell in a demonstration of an "Asiatic" combat town at Camp Pendleton, CA, 9 December 1952 (NARA College Park, RG 127-GC, box 11, photo A350089).



Figure 25. An Oriental combat town at Camp Pendleton, CA, 16 December 1952 (NARA College Park, RG 127-GC, box 11, photo A350100).



Figure 26. An Oriental combat town built by the Marines for the purpose of training men and giving them an idea of what kind of country they are entering at Camp Pendleton, CA, 16 December 1952 (NARA College Park, RG 127-GC, box 11, photo A350102).

Vietnamese



Figure 27. Asian Village at MCB Camp Pendleton, CA, 13 October 1964 (NARA College Park, RG 127-GG-957, box 34, photo A368699).



Figure 28. Marines clear and defend aggressors in the Asian Village at MCB Camp Pendleton, CA, 13 October 1964 (NARA College Park, RG 127-GG-957, box 34, photo A368695).



Figure 29. Construction site of Vietnamese village in "H" area at Fort Bragg, NC, 8 April 1966 (NARA College Park, RG 111-SC post-1955, photo SC628897).



Figure 30. Overall view of the Southeast Asian Village constructed at the Basic School at MCB Quantico, VA, 9 June 1966 (NARA College Park, RG 127-GG-957, box 34, photo A556414).

Vietnamese house

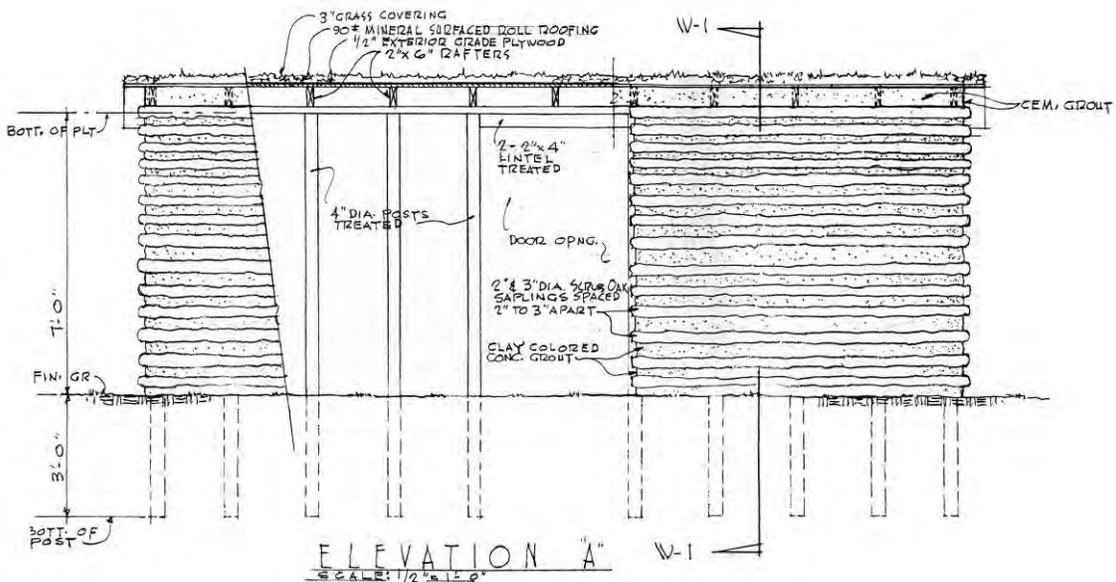


Figure 31. Vietnamese house elevation "A", Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

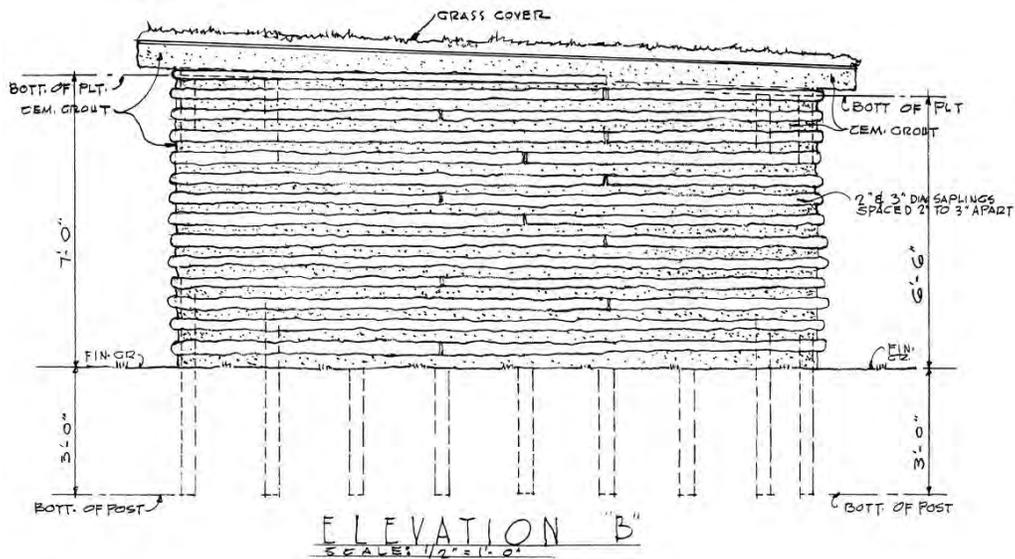


Figure 32. Vietnamese house elevation "B", Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

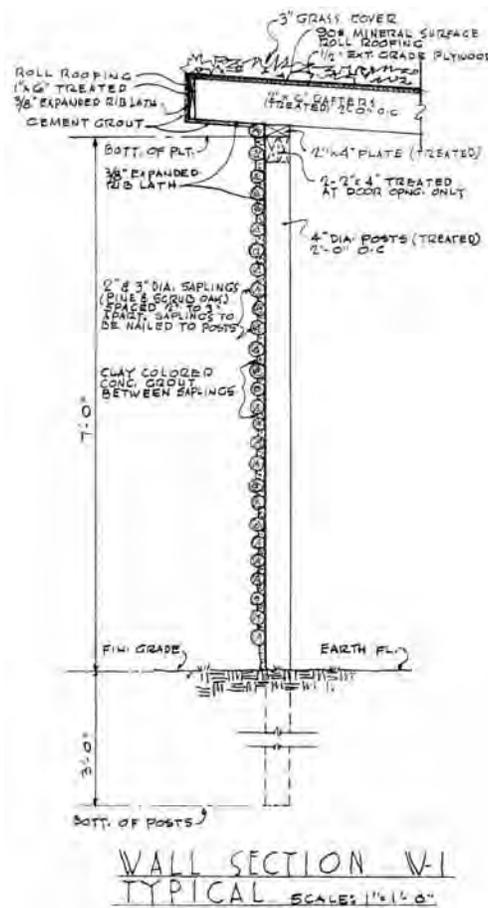


Figure 33. Vietnamese house typical wall section, Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

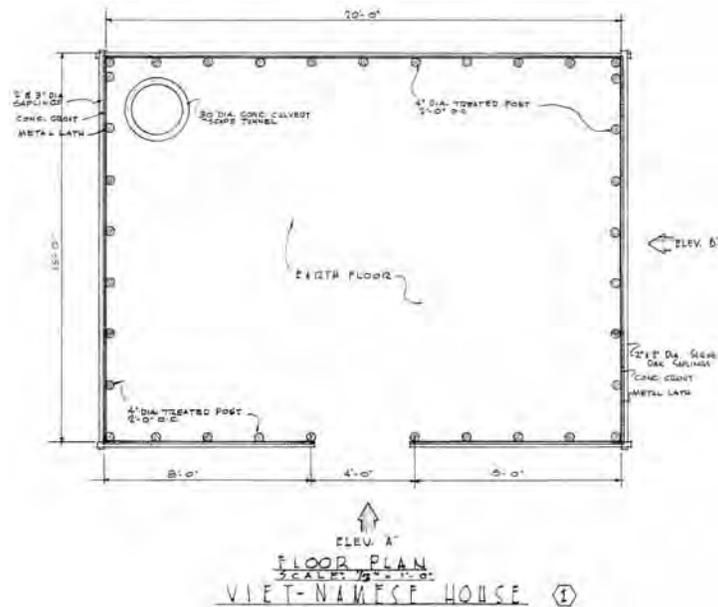


Figure 34. Vietnamese house floor plan, Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

Montagnard house

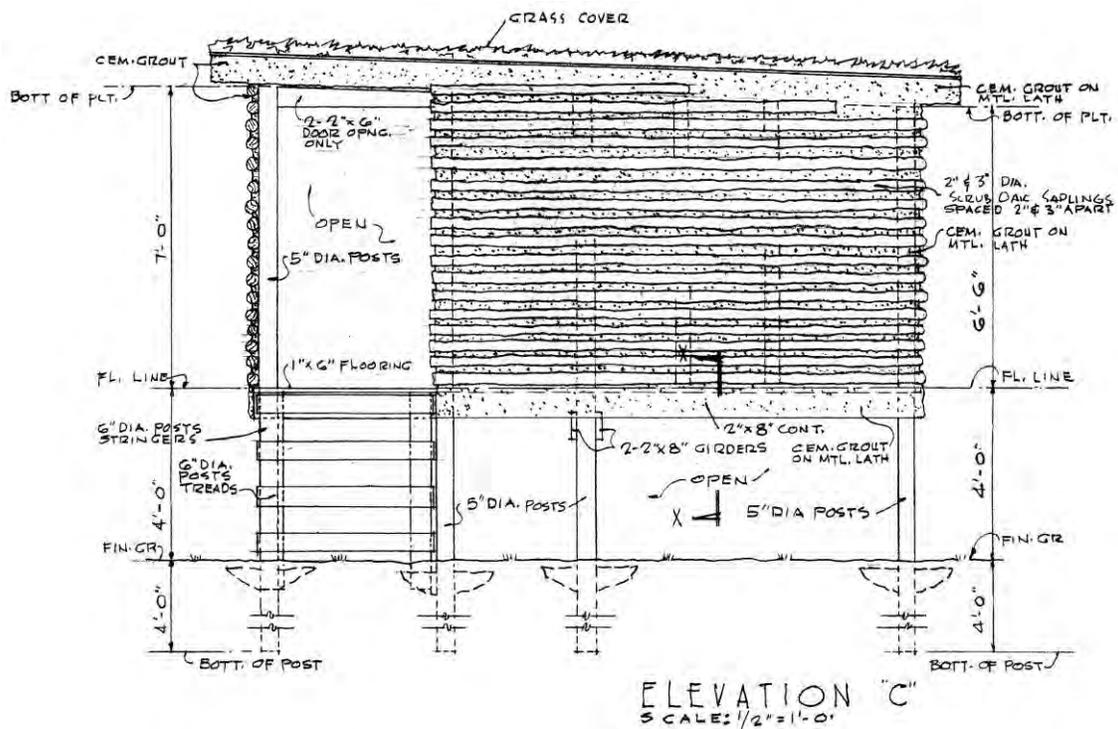


Figure 35. Montagnard house elevation "C", Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

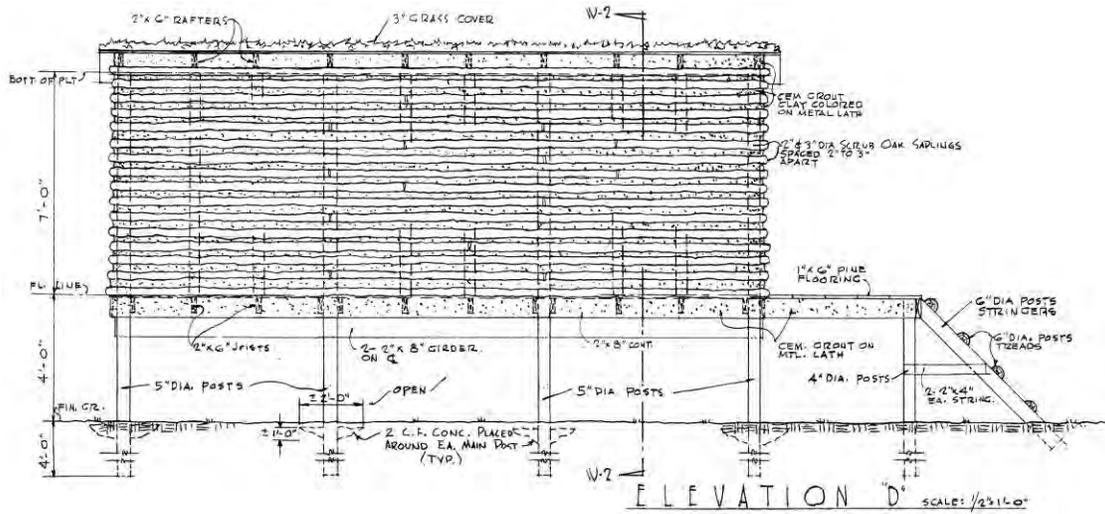


Figure 36. Montagnard house elevation "D", Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

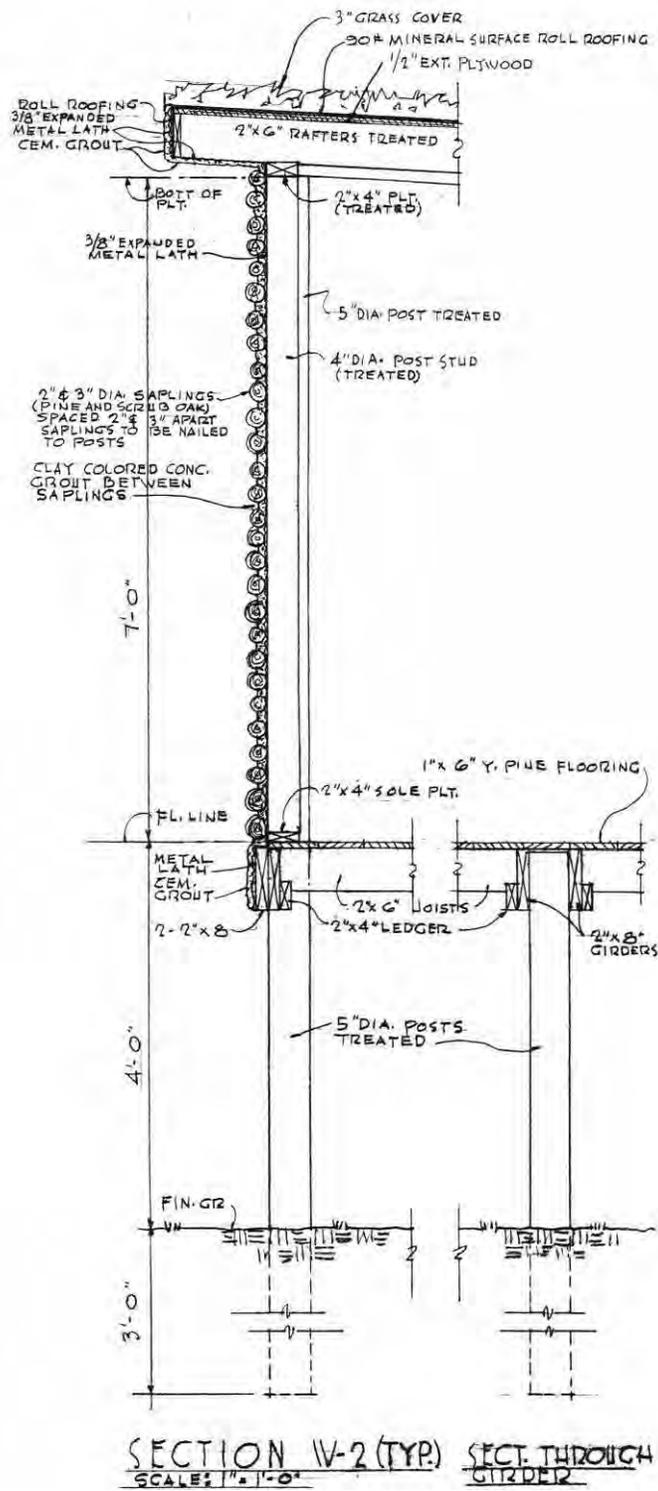


Figure 37. Montagnard house wall section, Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

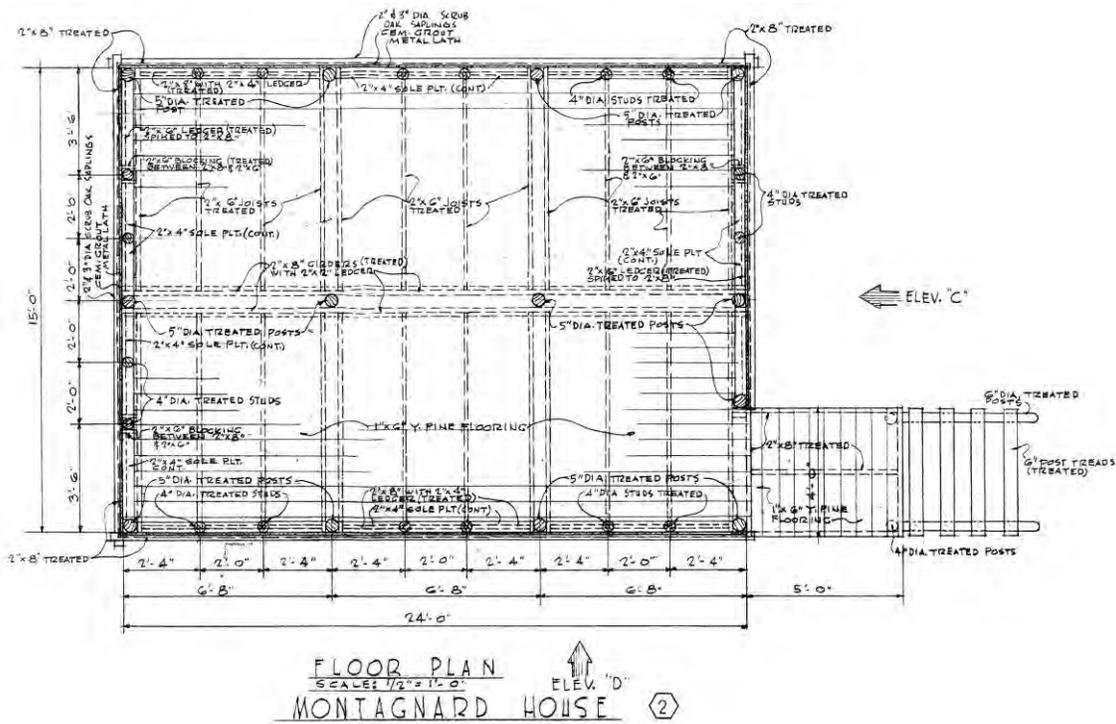


Figure 38. Montagnard house floor plan, Camp Gordon, 1966 (standard drawing GOR 28-13-09 sheet 16, Vietnamese and Montagnard houses plans, elevations, and sections, 1 April 1966).

Combat in cities course



Figure 39. Mock-up table of "Combat in cities" course and surrounding terrain at Fort Leonard Wood, MO, 22 February 1952 (NARA College Park, RG 111-SC WWII, box288, photo SC396207).



Figure 40. Training at the "Combat in cities" course at Fort Leonard Wood, MO, 26 November 1951 (NARA College Park, RG 111-SC WWII, box 222, photo SC389142).

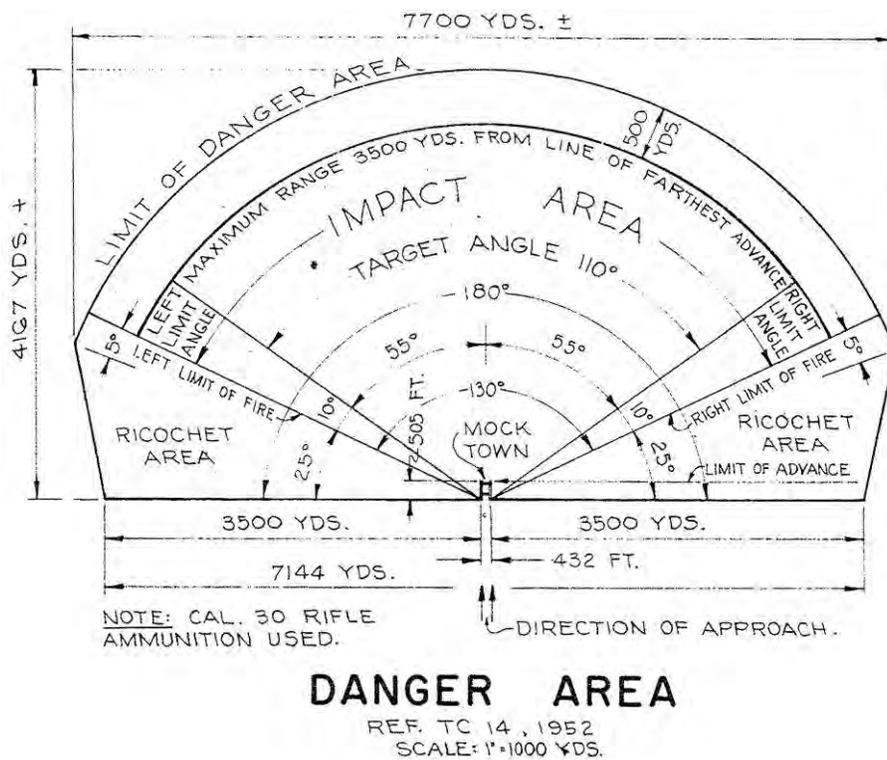


Figure 41. "Combat in cities" course danger area, 1952 (standard drawing No. 28-13-01, sheet 2 of 9, "Combat in cities" course, 20 June 1952).

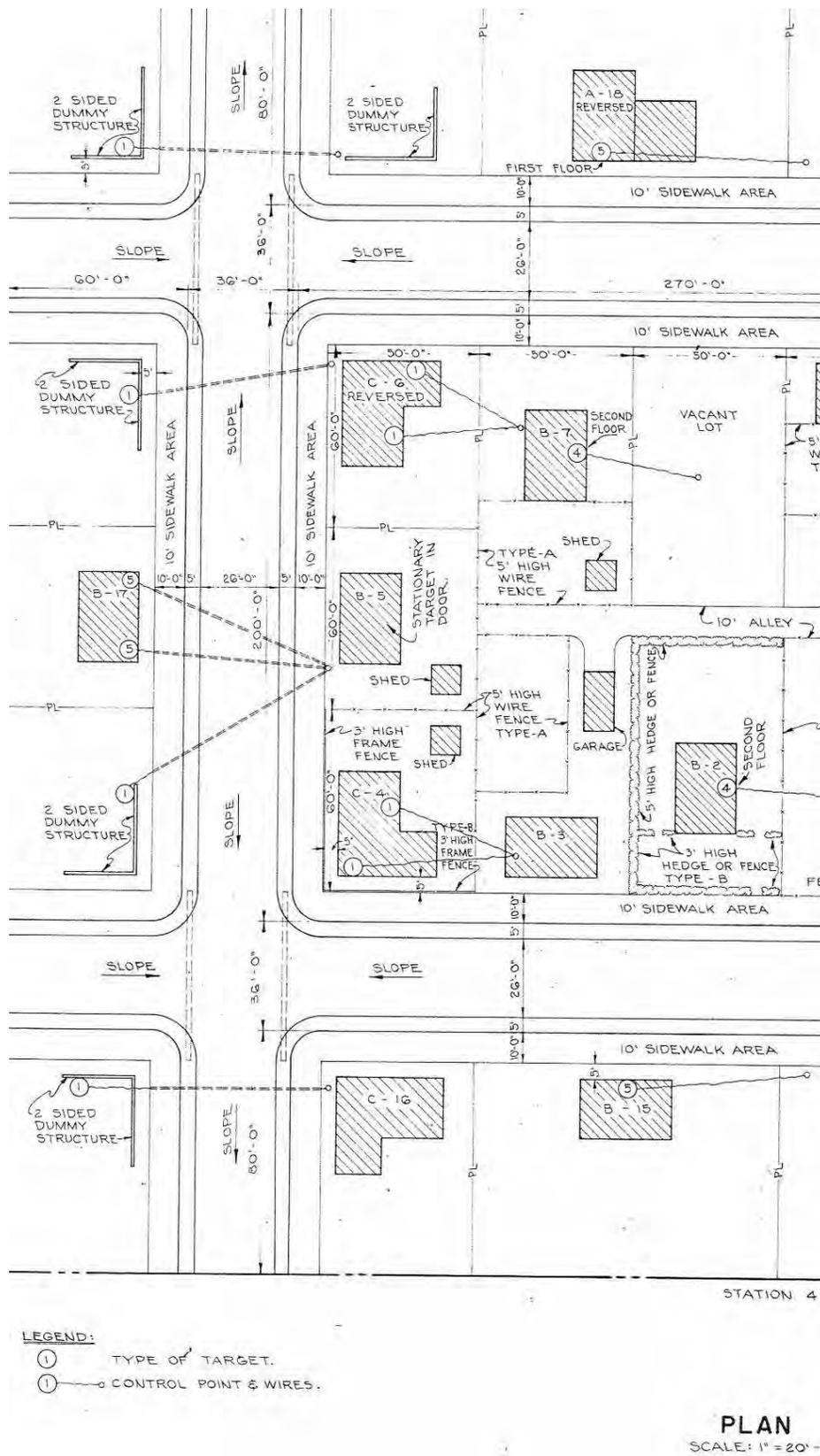


Figure 42. "Combat in cities" course plan, 1952 (standard drawing No. 28-13-01, sheet 2 of 9, "Combat in cities" course, 20 June 1952).

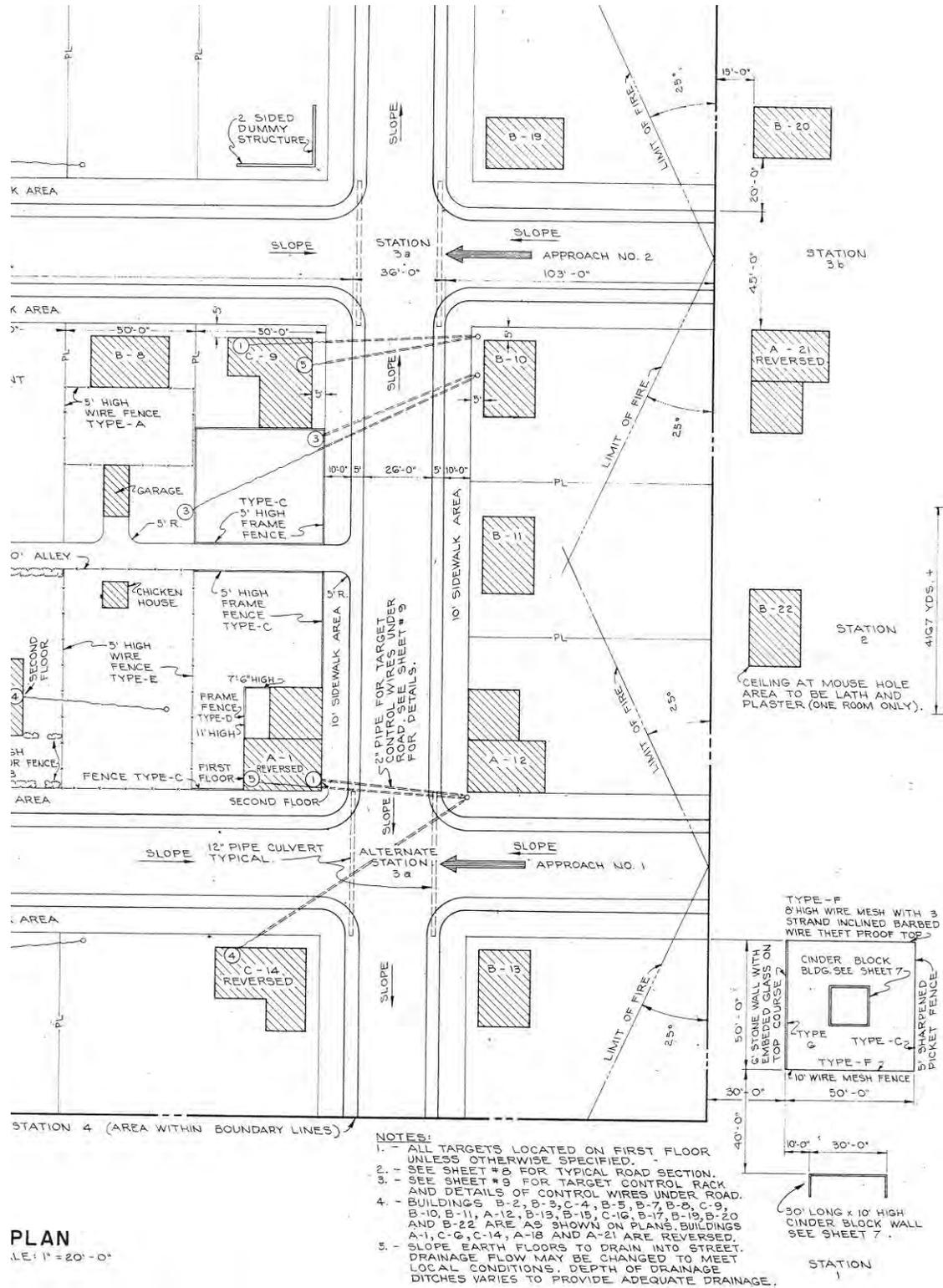


Figure 43. "Combat in cities" course plan, 1952 (standard drawing No. 28-13-01, sheet 2 of 9, "Combat in cities" course, 20 June 1952).

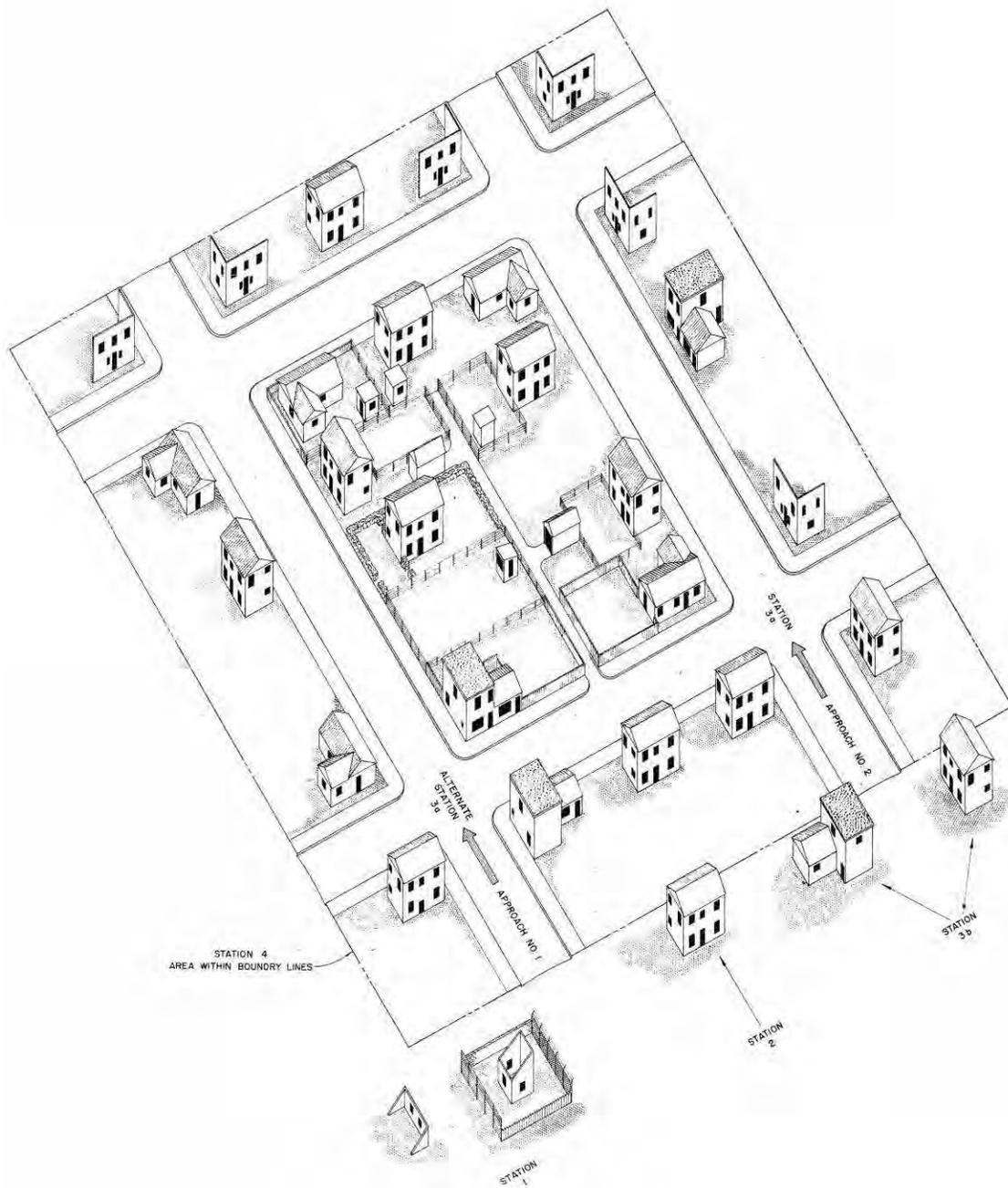
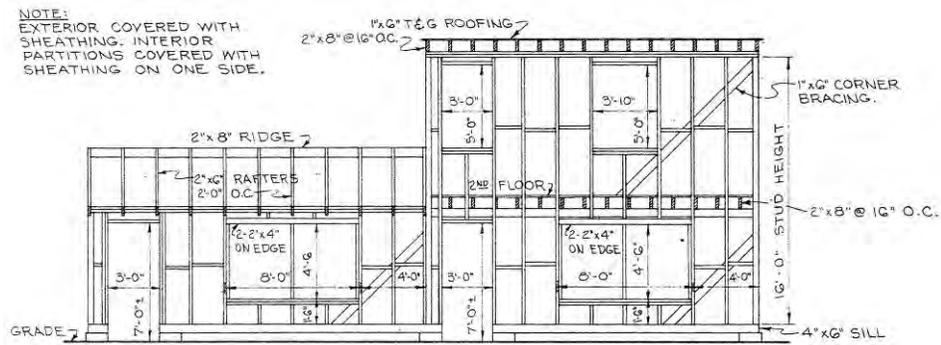


Figure 44. "Combat in cities" course, isometric view, 1952 (standard drawing 28-13-01 sheet 1 of 9; "Combat in cities" course, isometric view; 20 June 1952).

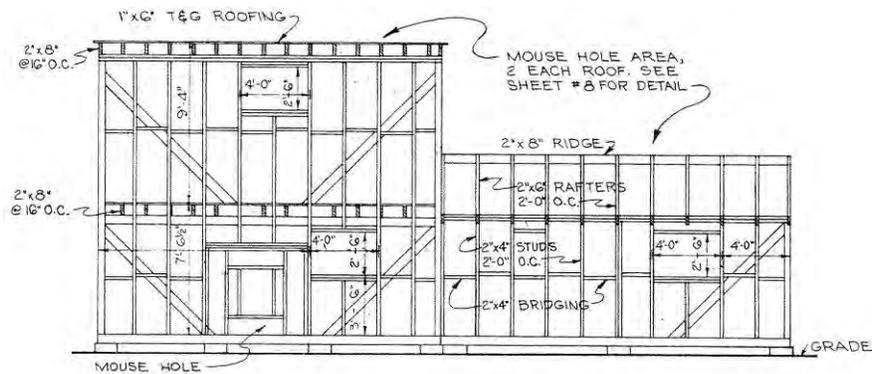
Type "A" building



FRONT ELEVATION

SCALE: 1/4" = 1'-0"

Figure 45. "Combat in cities" course type "A" building front elevation, 1952 (standard drawing 28-13-01 sheet 3 of 9; "Combat in cities" course, type "A" building, plans, elevations, and details; 20 June 1952).



REAR ELEVATION

SCALE: 1/4" = 1'-0"

Figure 46. "Combat in cities" course type "A" building rear elevation, 1952 (standard drawing 28-13-01 sheet 3 of 9; "Combat in cities" course, Type "A" building, plans, elevations, and details; 20 June 1952).

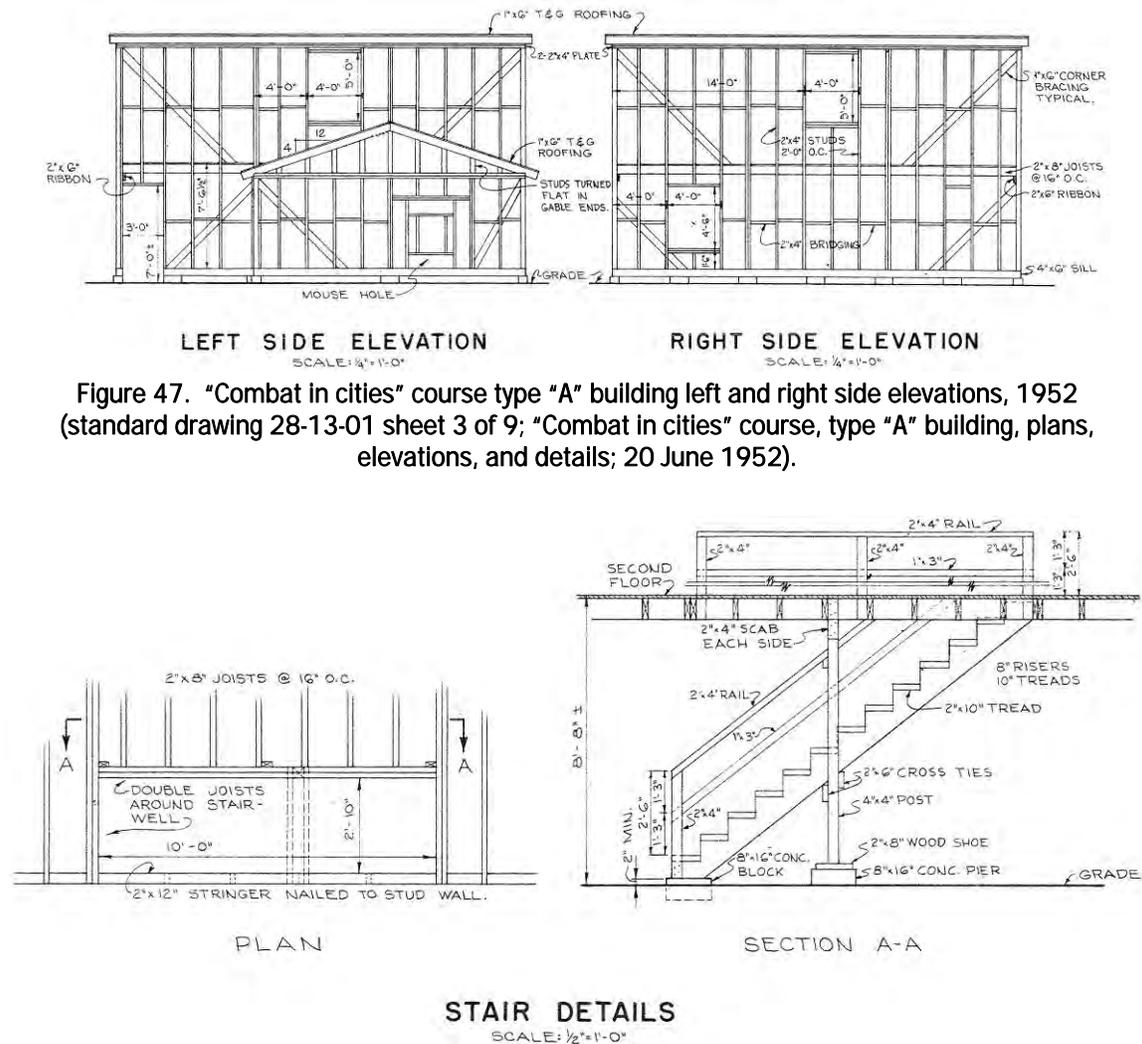


Figure 47. "Combat in cities" course type "A" building left and right side elevations, 1952 (standard drawing 28-13-01 sheet 3 of 9; "Combat in cities" course, type "A" building, plans, elevations, and details; 20 June 1952).

Figure 48. "Combat in cities" course type "A" building stairs details, 1952 (standard drawing 28-13-01 sheet 3 of 9; "Combat in cities" course, type "A" building, plans, elevations, and details; 20 June 1952).

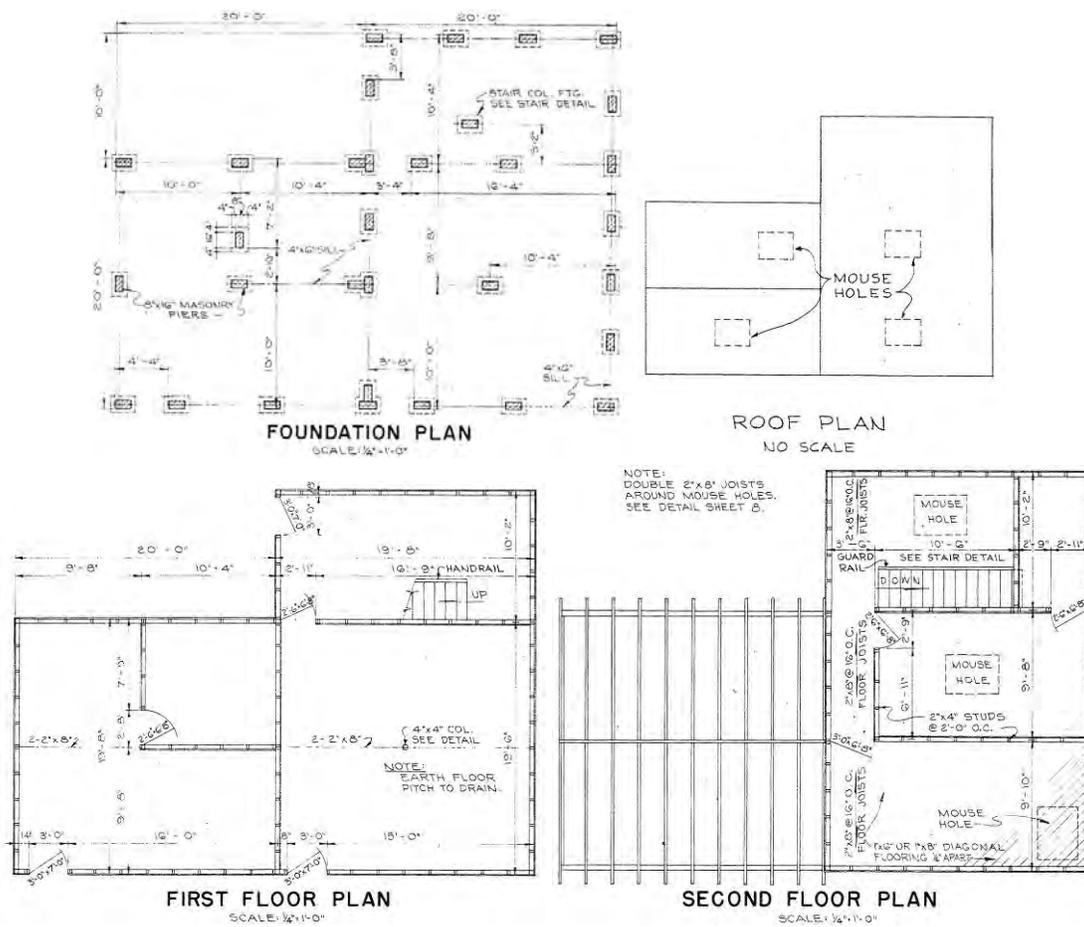


Figure 49. "Combat in cities" course type "A" building foundation, floor and roof plans, 1952 (standard drawing 28-13-01 sheet 3 of 9; "Combat in cities" course, type "A" building, plans, elevations, and details; 20 June 1952).

Type "B" building

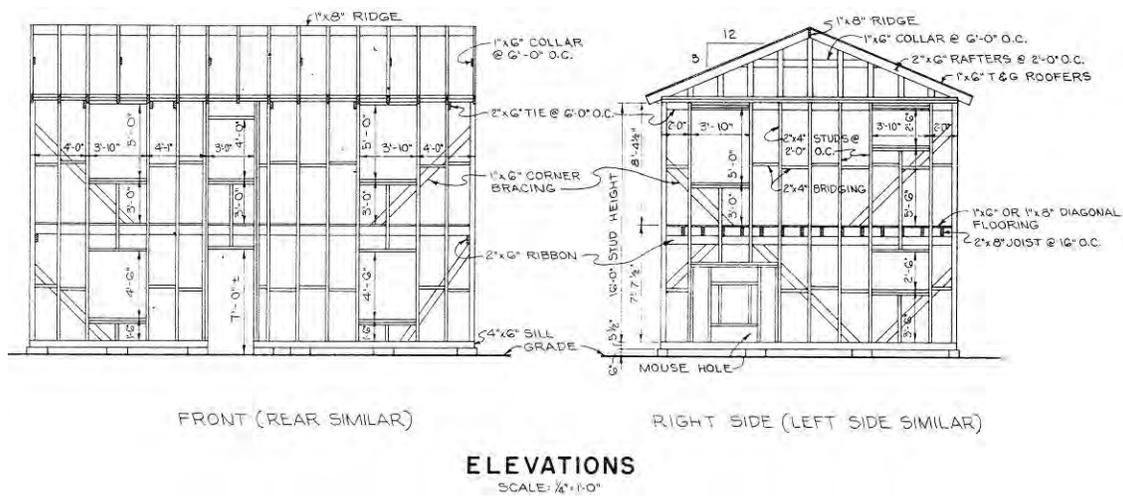


Figure 50. "Combat in cities" course type "B" building elevations, 1952 (standard drawing 28-13-01 sheet 4 of 9; "Combat in cities" course, type "B" building, plans, elevations, and details; 20 June 1952).

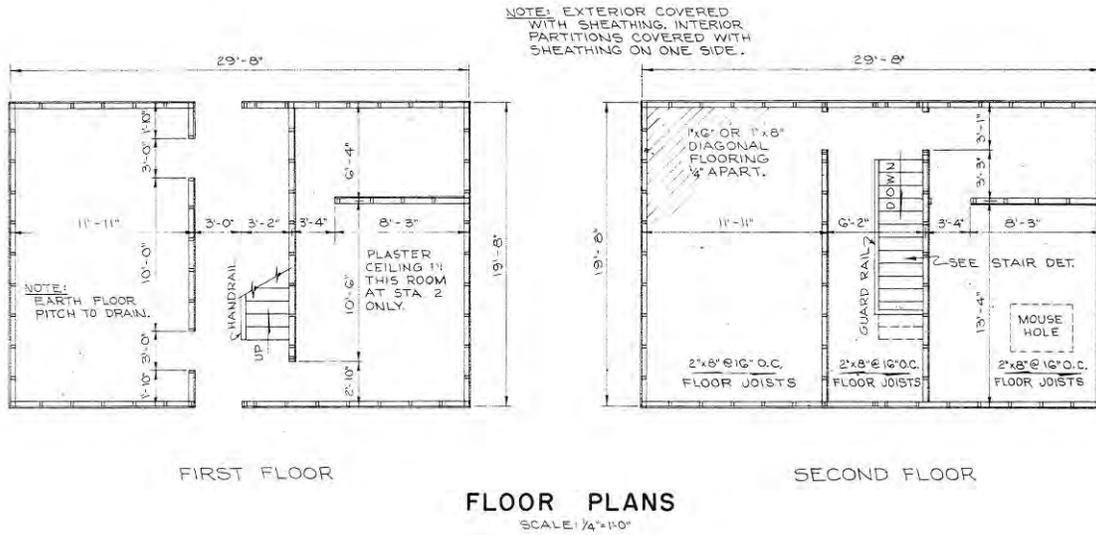


Figure 51. "Combat in cities" course type "B" building floor plans, 1952 (standard drawing 28-13-01 sheet 4 of 9; "Combat in cities" course, type "B" building, plans, elevations, and details; 20 June 1952).

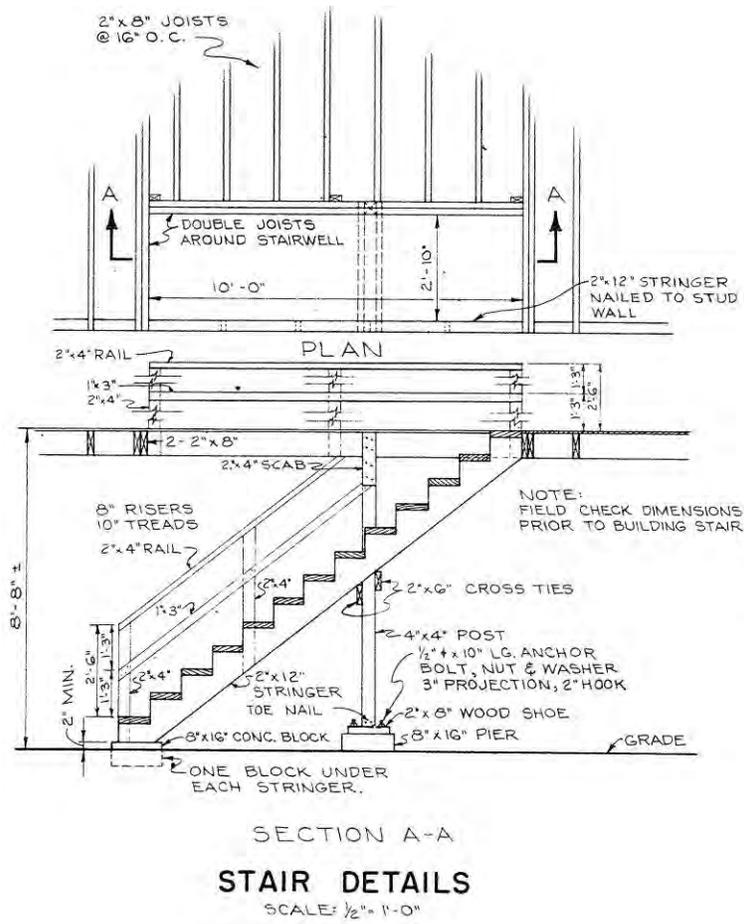


Figure 52. "Combat in cities" course type "B" building stairs details, 1952 (standard drawing 28-13-01 sheet 4 of 9; "Combat in cities" course, type "B" building, plans, elevations, and details; 20 June 1952).

Dummy building

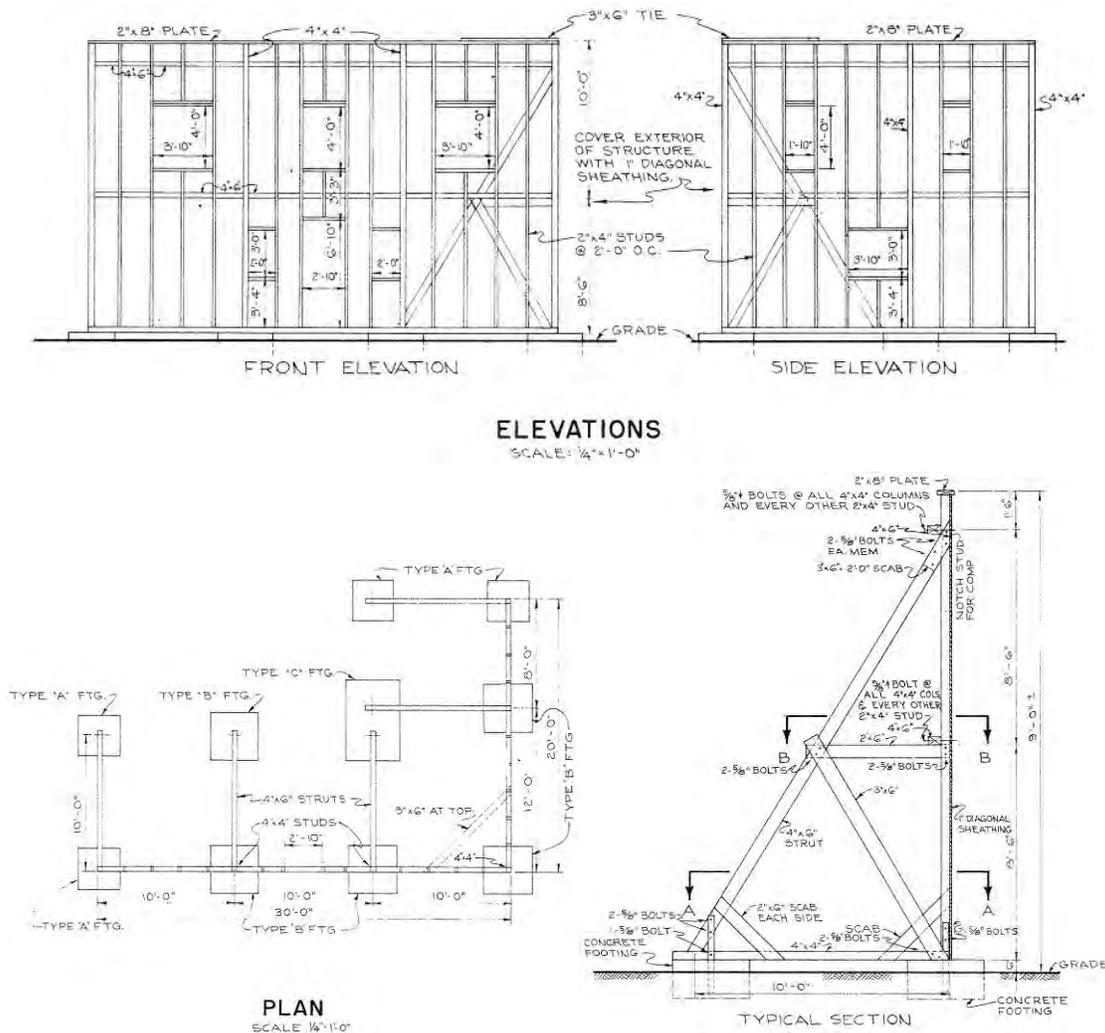


Figure 57. "Combat in cities" course dummy building elevations, plan, and section, 1952 (standard drawing 28-13-01 sheet 6 of 9; "Combat in cities" course, dummy building, plan, elevations, and details; 20 June 1952).

Masonry building

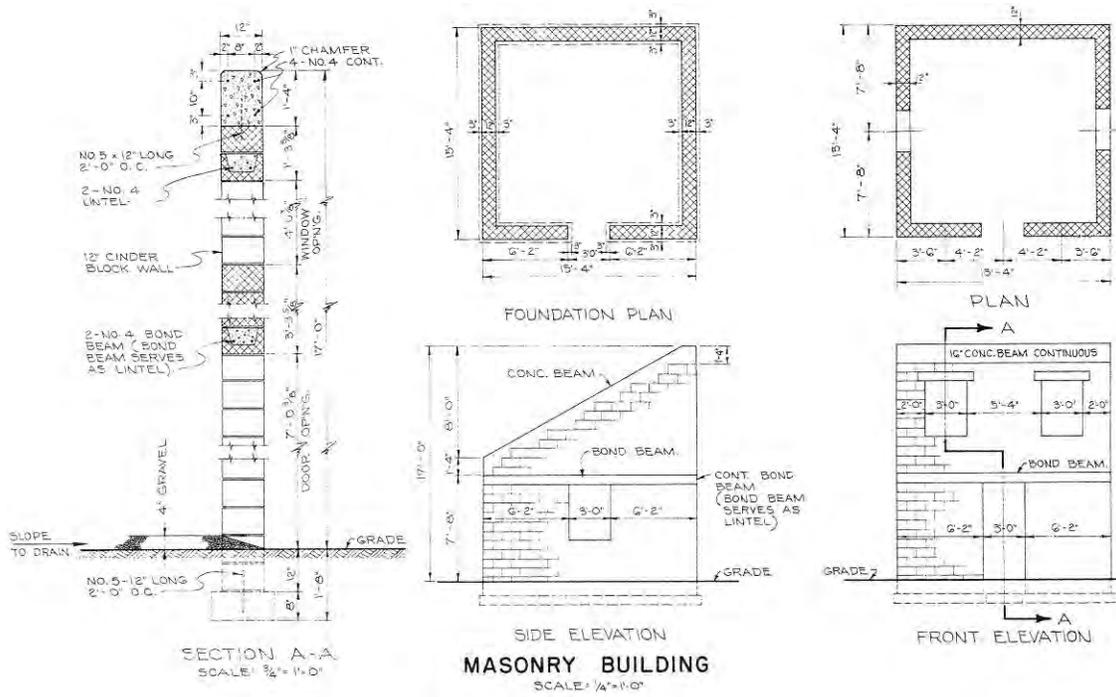


Figure 58. "Combat in cities" course masonry building at Section 1, 1952 (standard drawing 28-13-01 sheet 7 of 9; "Combat in cities" course, structures at Station 1; 20 June 1952).

Masonry wall

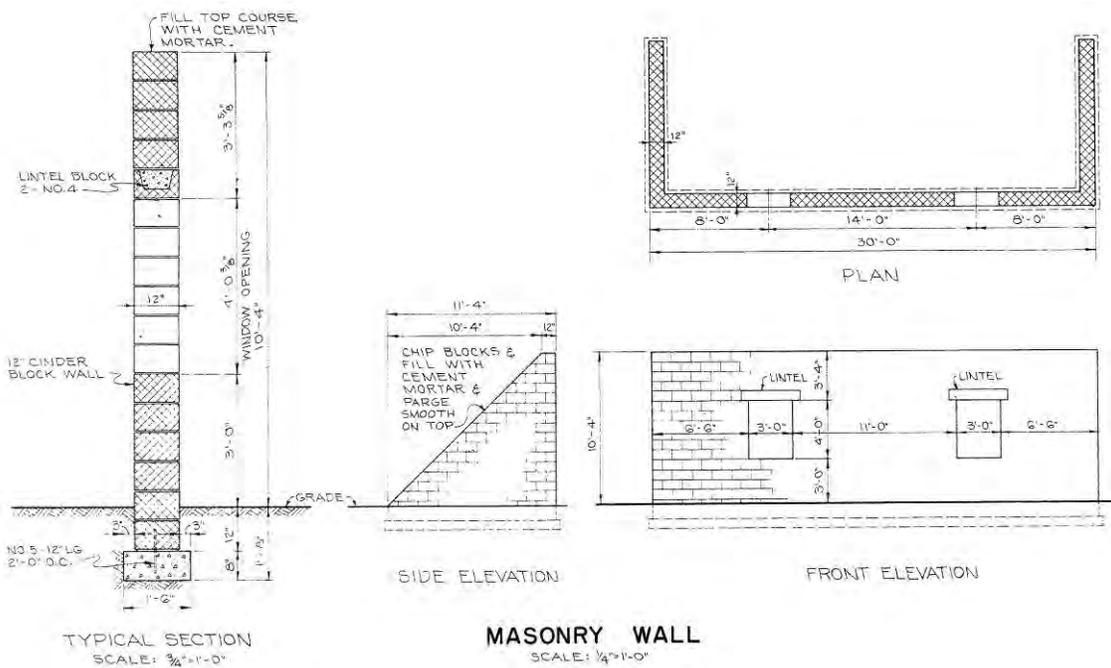
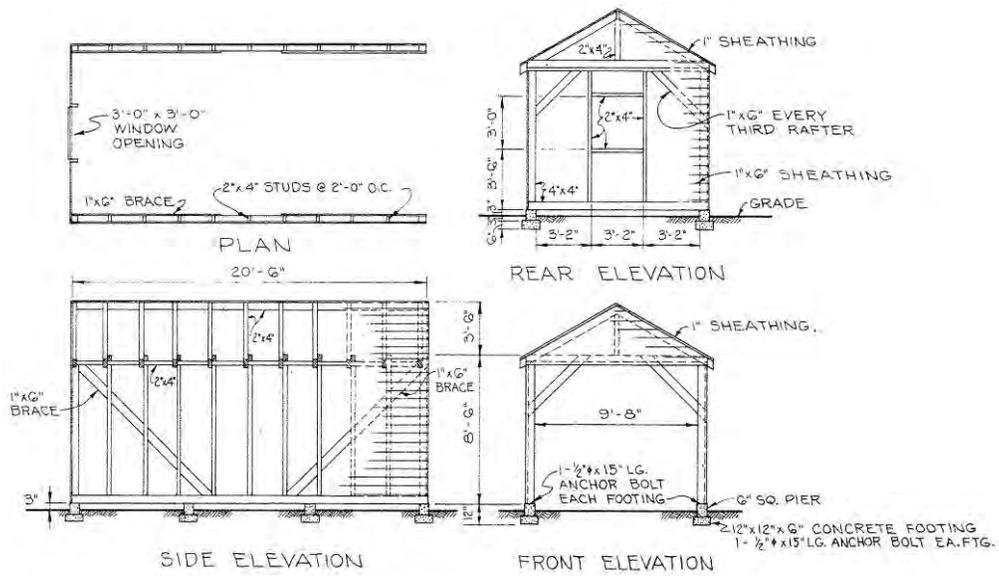


Figure 59. "Combat in cities" course masonry wall at Section 1, 1952 (standard drawing 28-13-01 sheet 7 of 9; "Combat in cities" course, structures at Station 1; 20 June 1952).

Garage



GARAGE DETAILS

SCALE: 1/4" = 1'-0"

Figure 62. "Combat in cities" course garage details, 1952 (standard drawing 28-13-01 sheet 8 of 9; "Combat in cities" course, details; 20 June 1952).

Fences

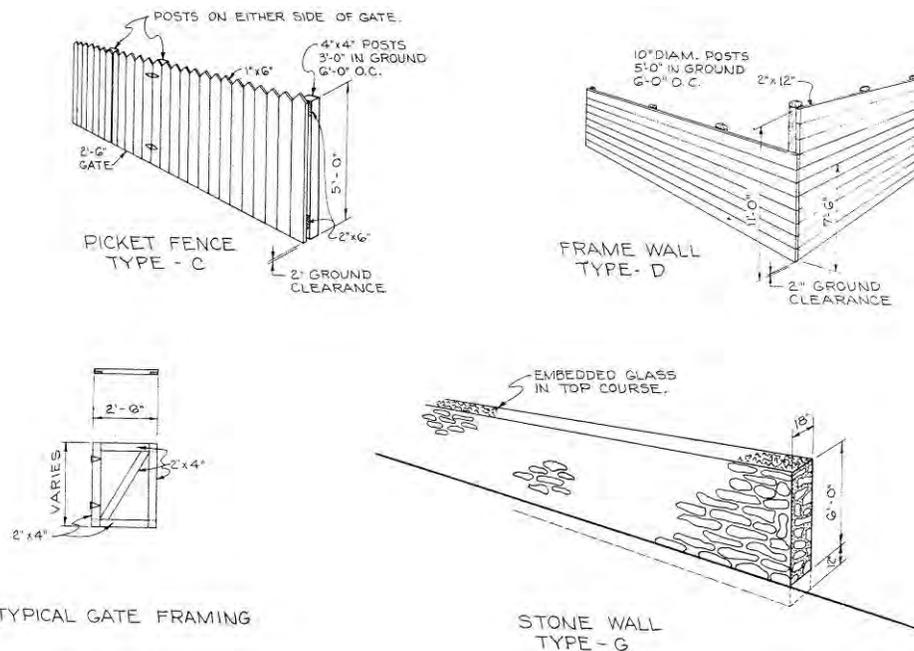


Figure 63. "Combat in cities" course fence details, 1952 (standard drawing 28-13-01 sheet 9 of 9; "Combat in cities" course, fence, wall and target details; 20 June 1952).

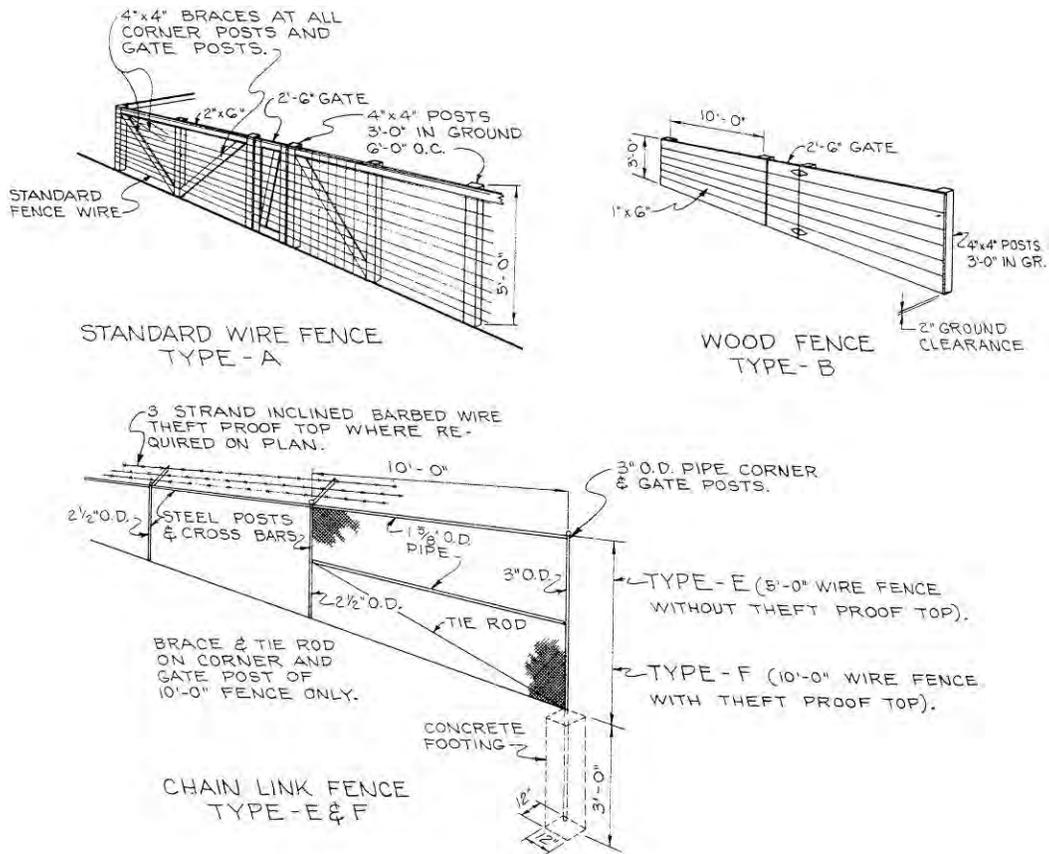


Figure 64. "Combat in cities" course fence details, 1952 (standard drawing 28-13-01 sheet 9 of 9; "Combat in cities" course, fence, wall and target details; 20 June 1952).

Targets

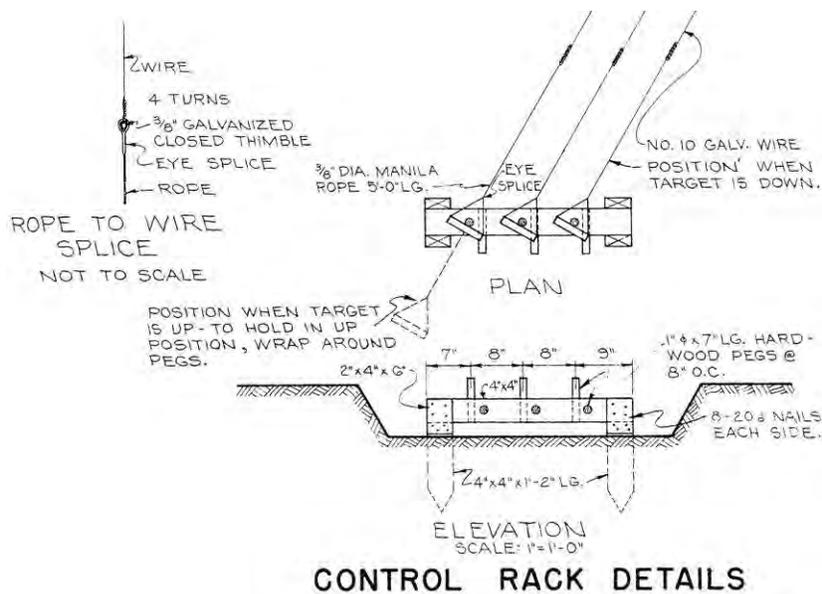


Figure 65. "Combat in cities" course target control rack details, 1952 (standard drawing 28-13-01 sheet 9 of 9; "Combat in cities" course, fence, wall and target details; 20 June 1952).

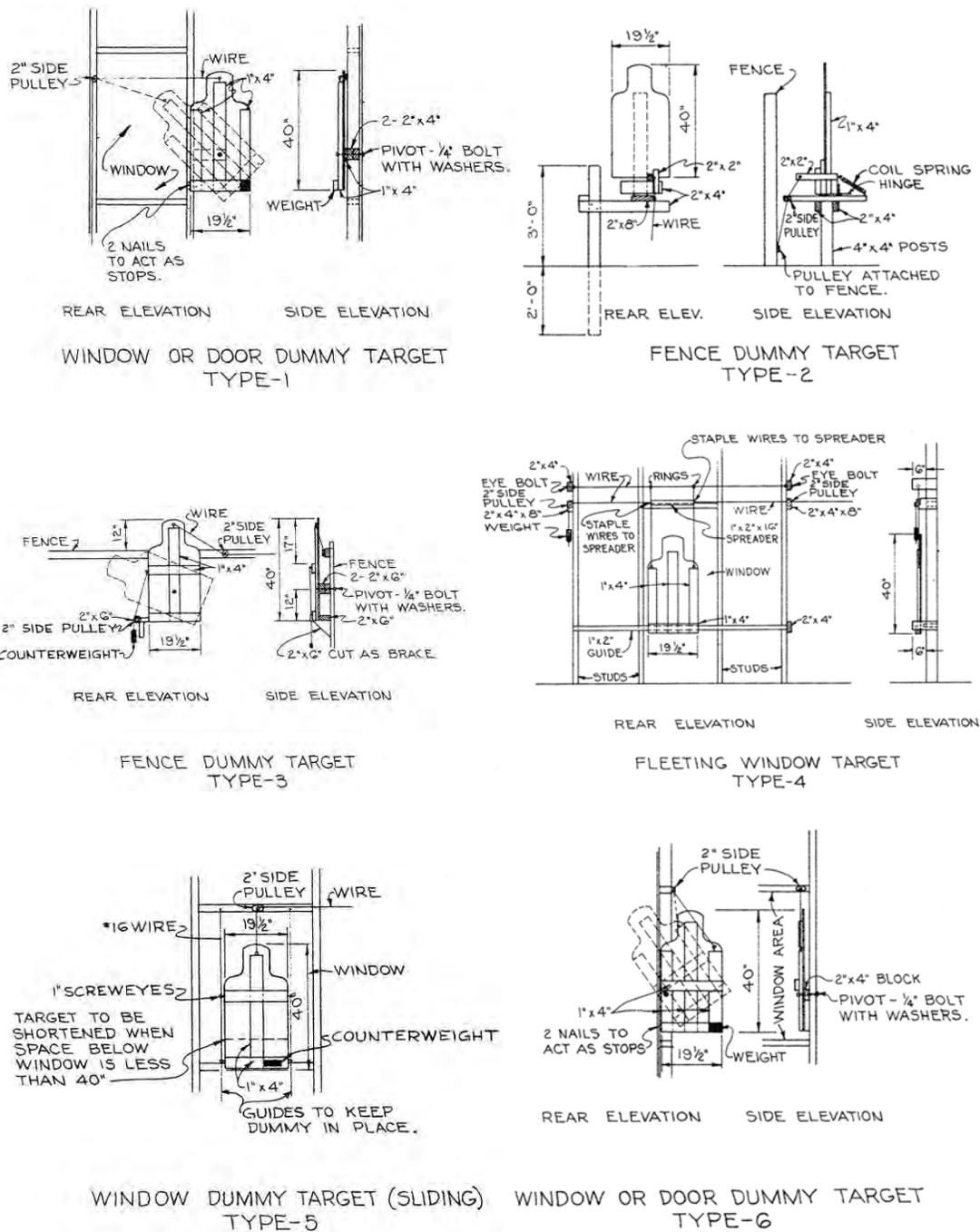


Figure 66. "Combat in cities" course, window, door and fence dummy targets, 1952 (standard drawing 28-13-01 sheet 9 of 9; "Combat in cities" course, fence, wall and target details; 20 June 1952).

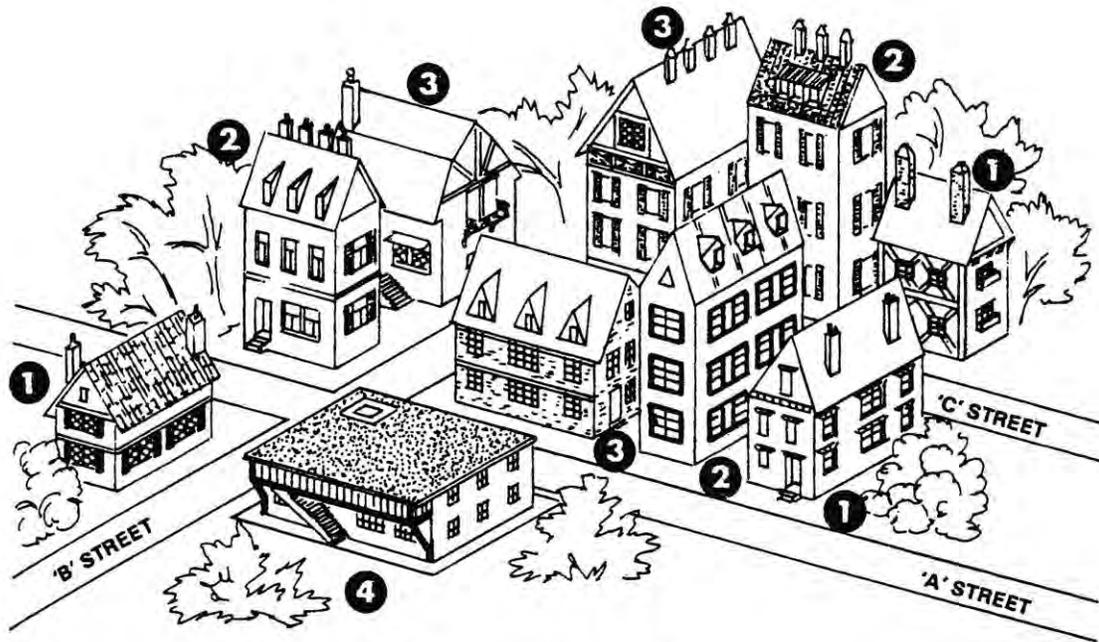
Military operations in urban terrain (MOUT)



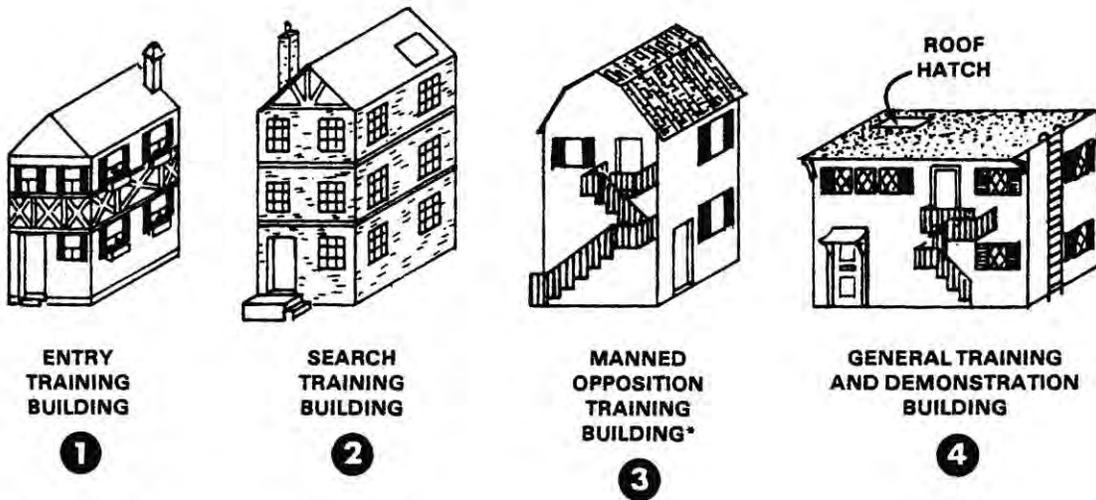
Figure 67. Marines attack aggressor forces in combat town at MCB Camp Lejeune, NC, 11 March 1977 (NARA College Park, RG 127-GG-970, box 35, photo A569115).



Figure 68. Marines rappel from a UH-1N Iroquois helicopter to an “enemy-held” building in combat town during hostage training for the Marine detachment from the guided missile cruiser USS Long Beach at Camp Pendleton, CA, 20 March 1979 (NARA College Park, RG 127-GG-603, box 24, photo A358416).



PLAN VIEW OF CITY



*STRUCTURE NEEDS SPECIAL SUPPORT ON FLOORS, ROOFS, AND AROUND WINDOWS FOR SAND-BAGS USED IN REINFORCED POSITIONS STRUCTURE ALSO REQUIRES BASEMENT WITH CONNECTIONS TO ALL OTHER TYPE 3 BUILDINGS.

Figure 69. Military operations in urbanized terrain (MOUT) facility, circa 1980 (TC 25-2, training ranges, 10 March 1980, p. 65).

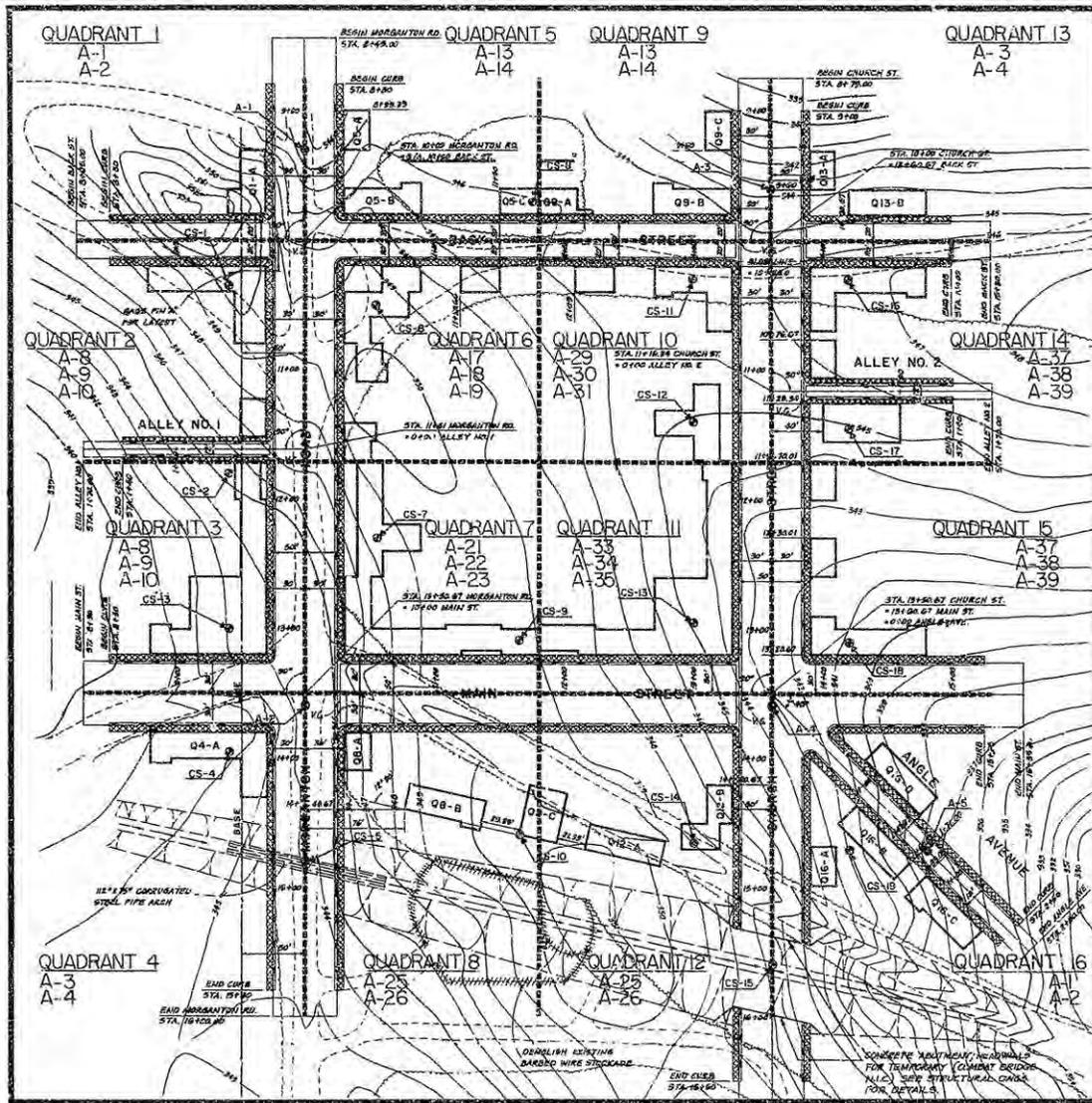


Figure 70. MOUT building location plan, Fort Bragg, NC, 1981 (CON28-09-04 sheet 2 of 55; military operations in urban terrain, building location plan and index of drawings; 8 June 1981).

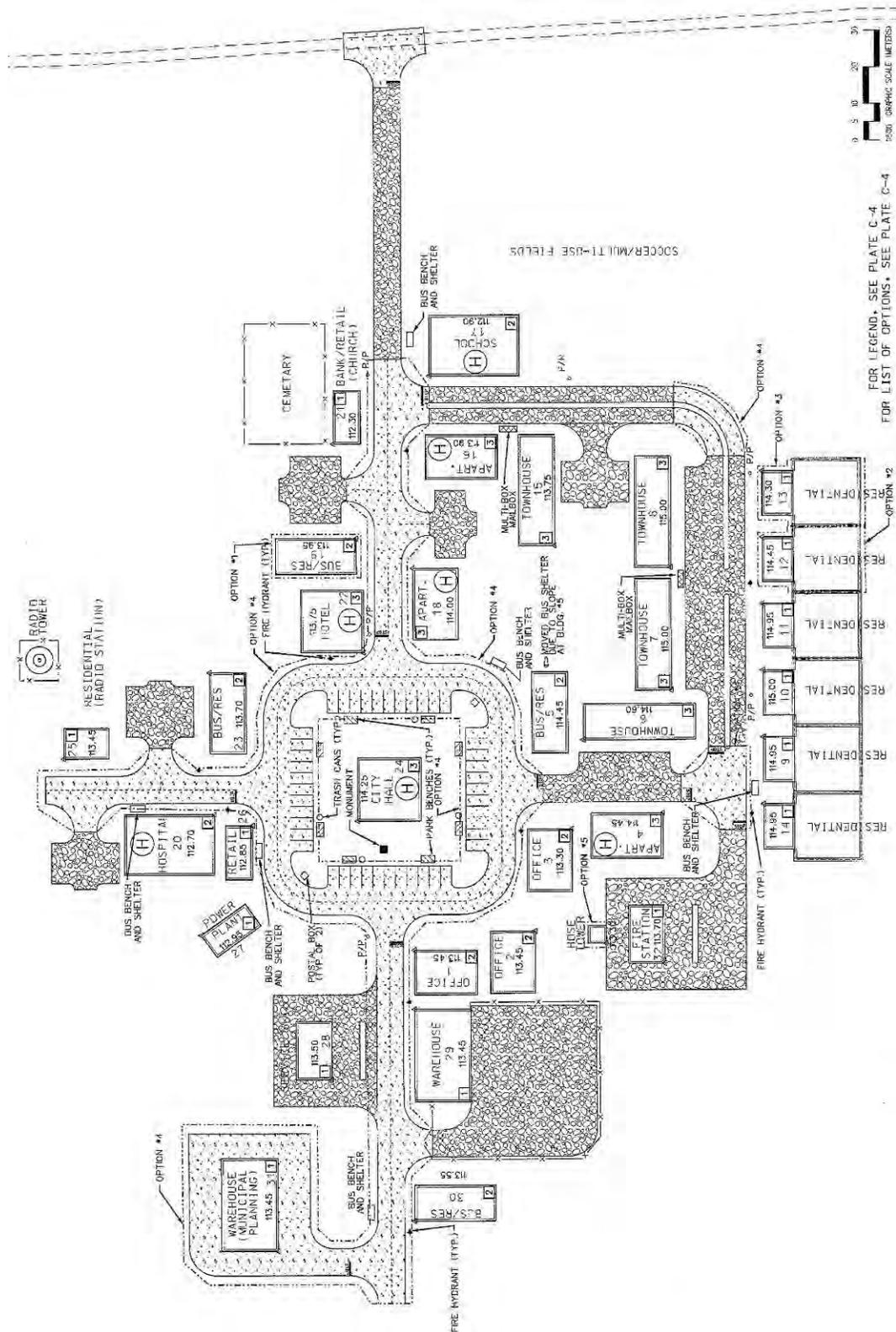


Figure 71. MOUT training complex layout plan, Fort Bragg, NC, 2002 (standard drawing 179-97-01 C-17 sheet 19; military operations in urban terrain, mout training complex, accessory plan; 29 January 2002).

MOUT buildings

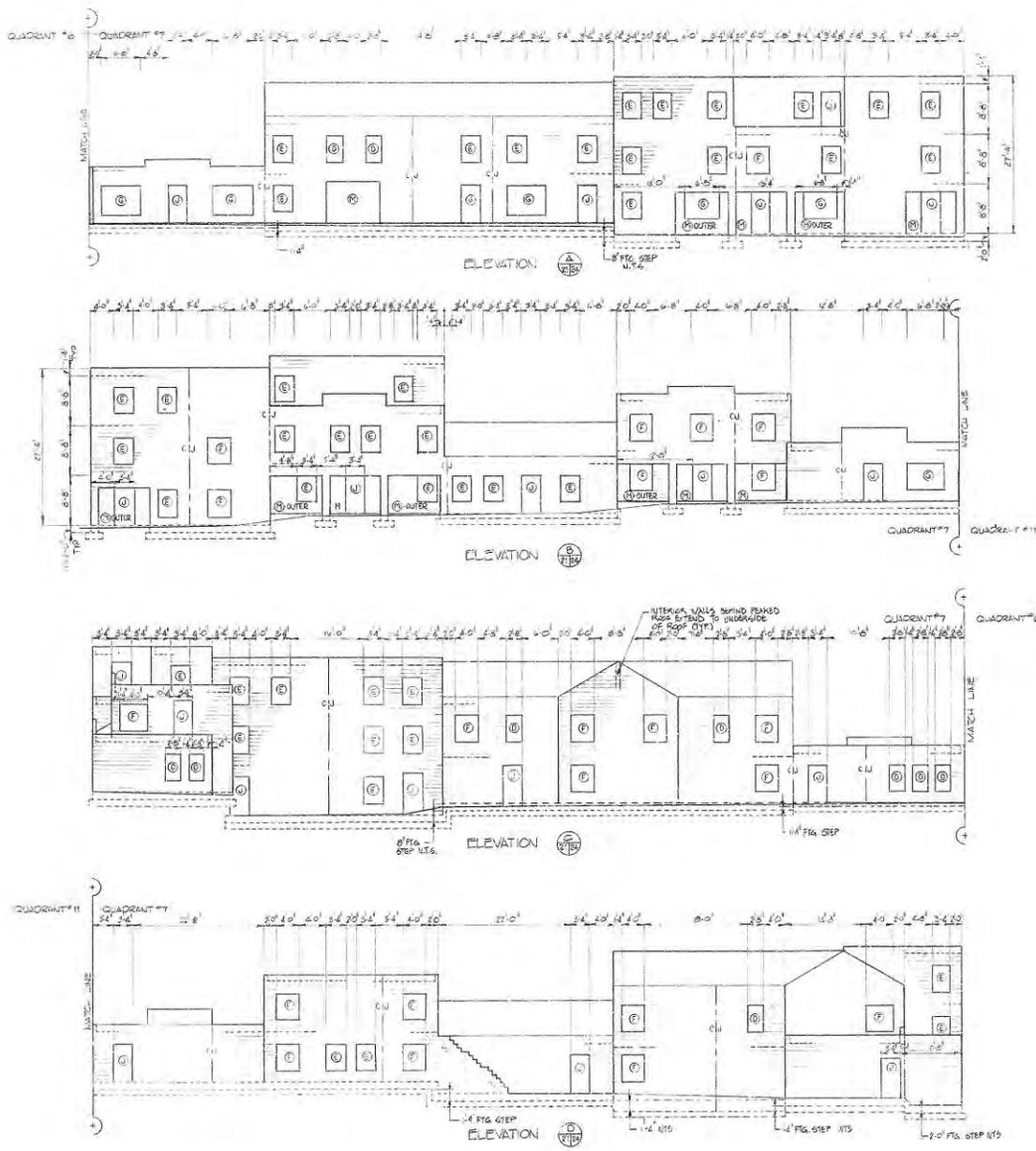


Figure 72. MOUT quadrant 7 building elevations, Fort Bragg, NC, 1982 (CON28-09-04 sheet 35 of 55; military operations in urban terrain, elevations, quadrant 7; 24 September 1982).

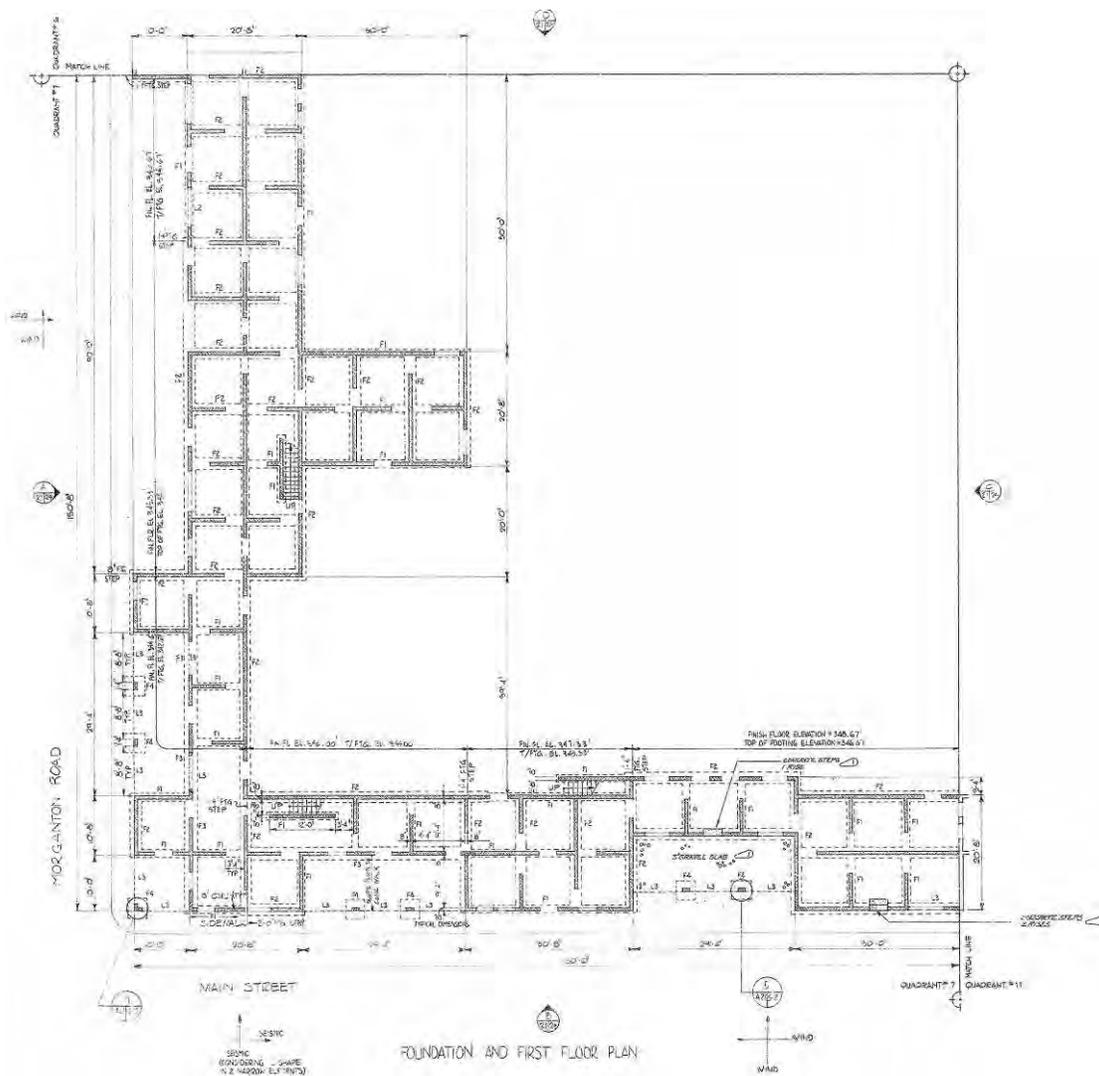


Figure 73. MOUT quadrant 7 buildings foundation and first floor plan, Fort Bragg, NC, 1982 (CON28-09-04 sheet 32 of 55; military operations in urban terrain, foundation and first floor plan, quadrant 7; 24 September 1982).

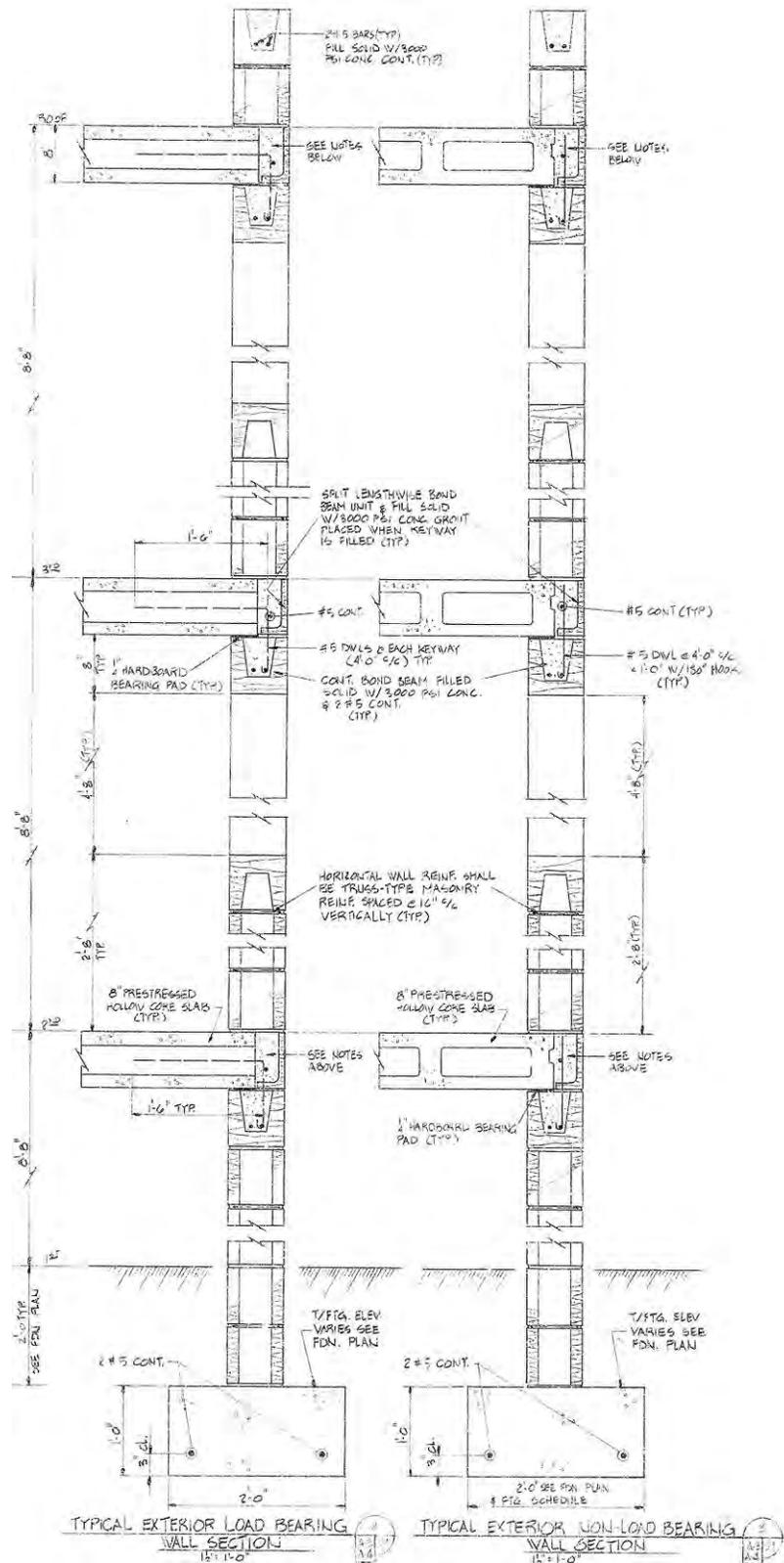


Figure 74. MOU masonry wall details, Fort Bragg, NC, 1982 (CON28-09-04 sheet 53 of 55; military operations in urban terrain, sections and details; 24 September 1982).

Apartments

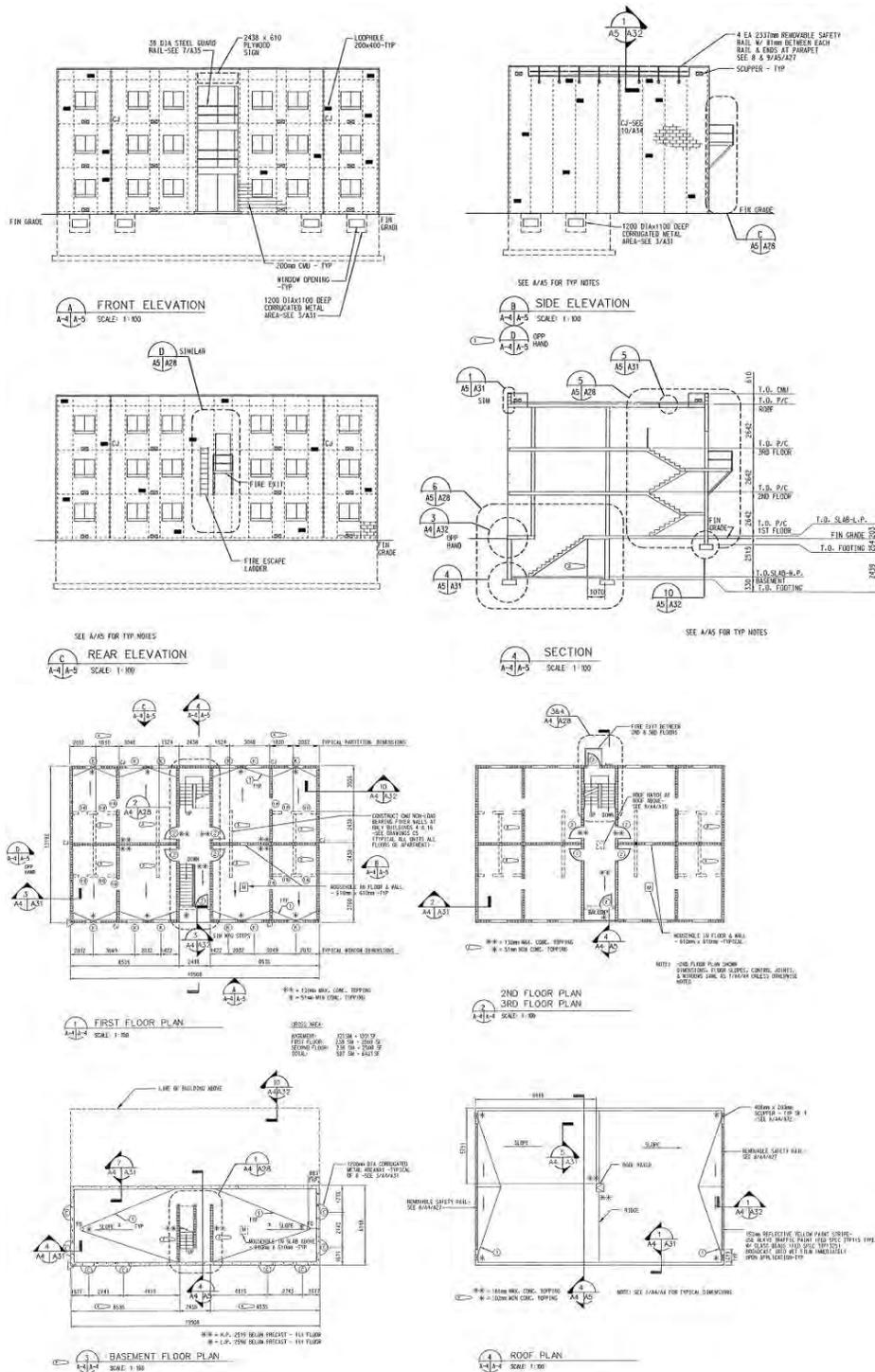


Figure 75. MOUT Apartment Building Elevations and Plans, Fort Bragg, NC, 2002 (standard drawing 179-97-01 A-4 sheet 56; military operations in urban terrain, MOUT training complex, apartment plans; 29 January 2002; standard drawing 179-97-01 A-5 sheet 57; military operations in urban terrain, MOUT training complex, apartment elevations; 29 January 2002).

Radio station/tower

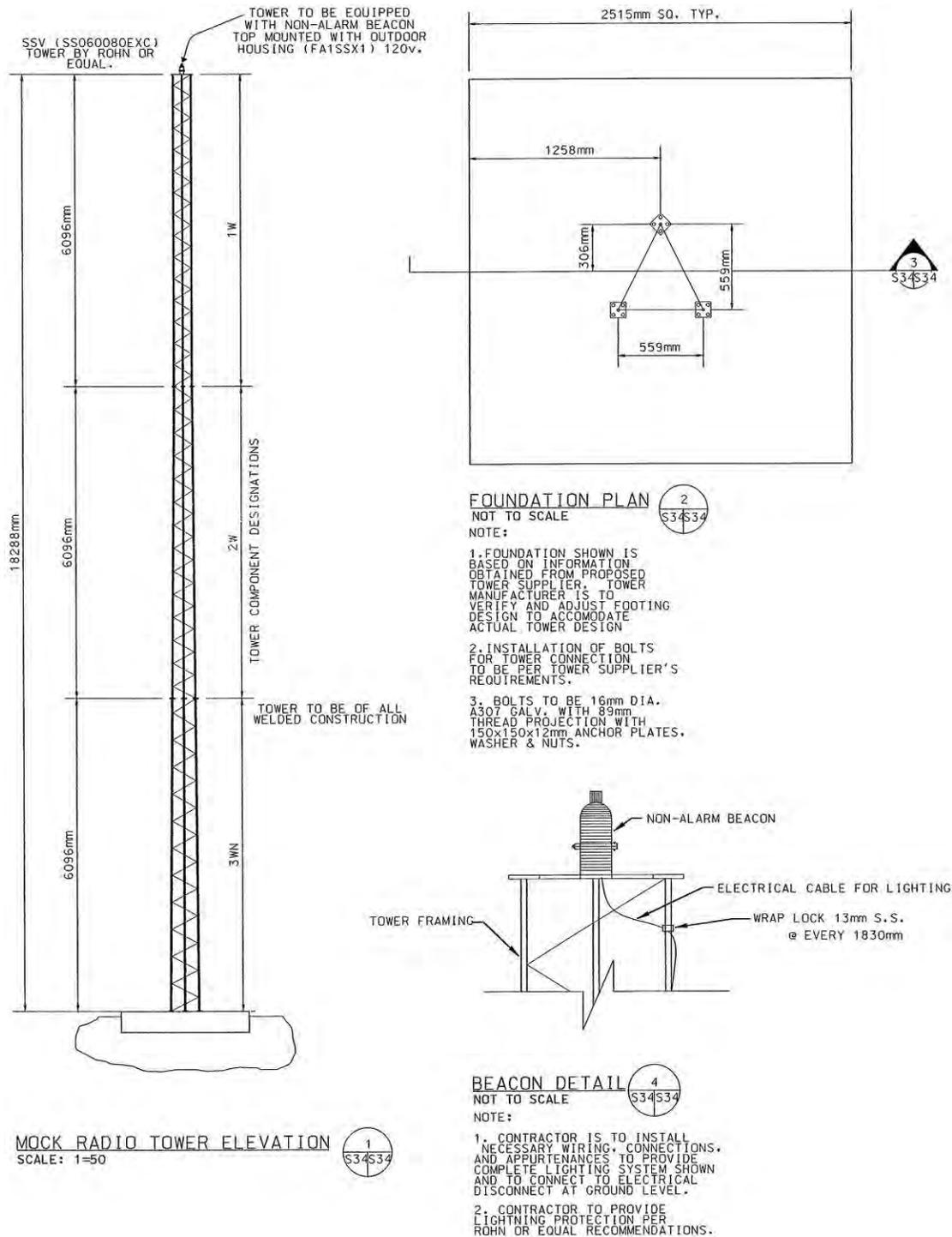


Figure 78. MOUT training complex mock radio tower foundation plan, elevation, and beacon detail, Fort Bragg, NC, 2002 (standard drawing 179-97-01 S-34 sheet 124; military operations in urban terrain, MOUT training complex, mock radio station tower foundation, elevation, and details; 29 January 2002).

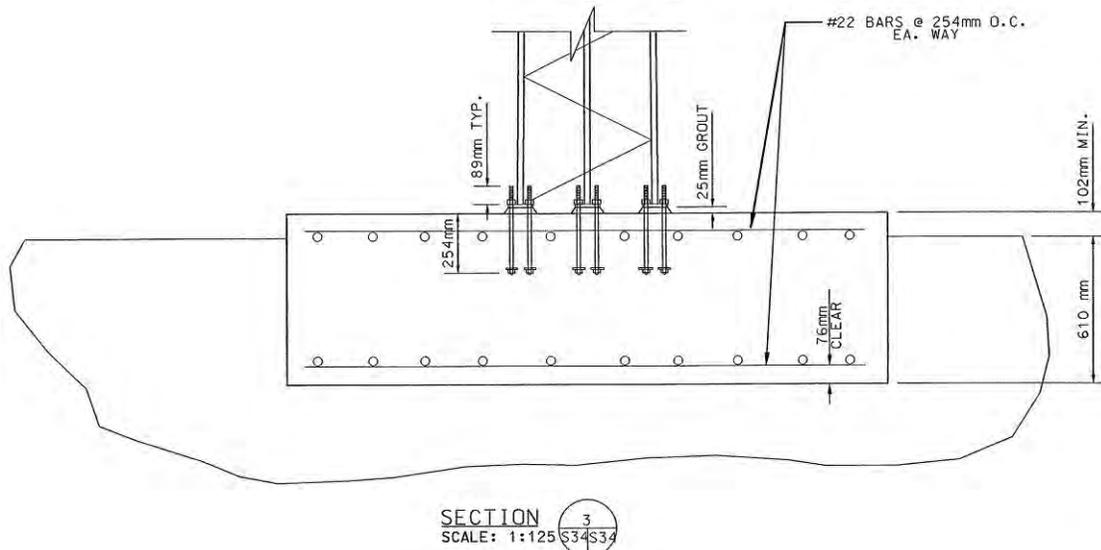


Figure 79. MOUT training complex mock radio tower foundation section, Fort Bragg, NC, 2002 (standard drawing 179-97-01 S-34 sheet 124; military operations in urban terrain, MOUT training complex, mock radio station tower foundation, elevation, and details; 29 January 2002).

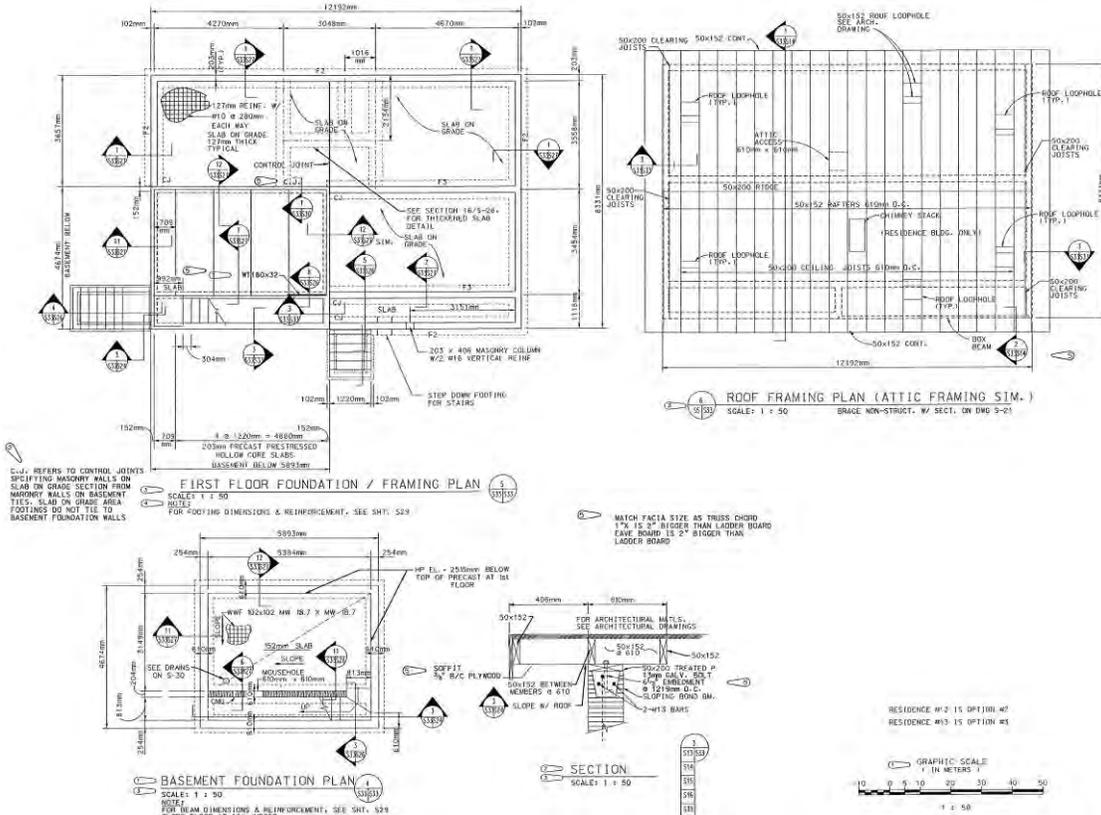


Figure 80. MOUT training complex radio station foundation and framing plan, Fort Bragg, NC, 2002 (standard drawing 179-97-01 S-33 sheet 123; military operations in urban terrain, MOUT training complex, radio station foundation and framing plan; 29 January 2002).

Fences

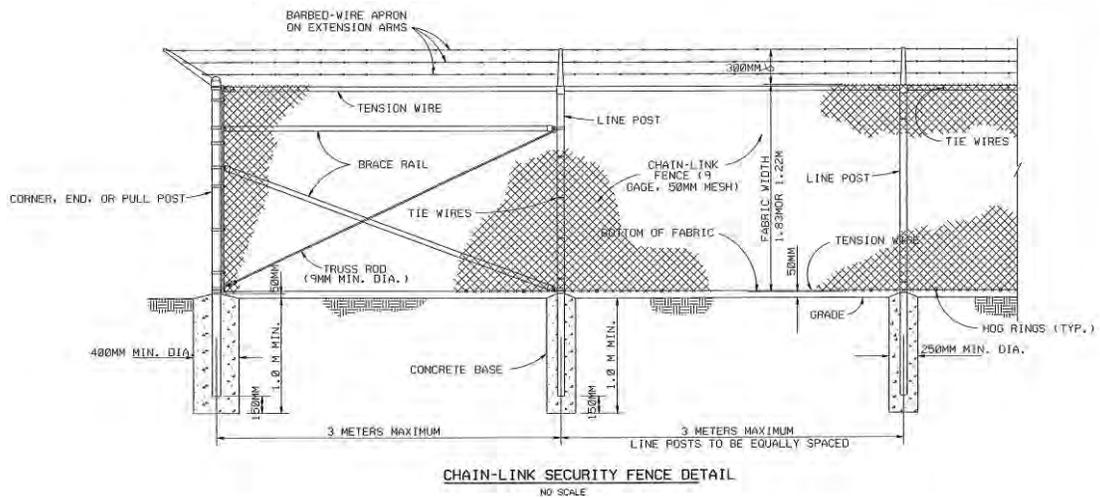


Figure 81. MOU training complex chain link security fence, Fort Bragg, NC, 2002 (standard drawing 179-97-01 C-35 sheet 37; military operations in urban terrain, MOU training complex, fence details; 29 January 2002).

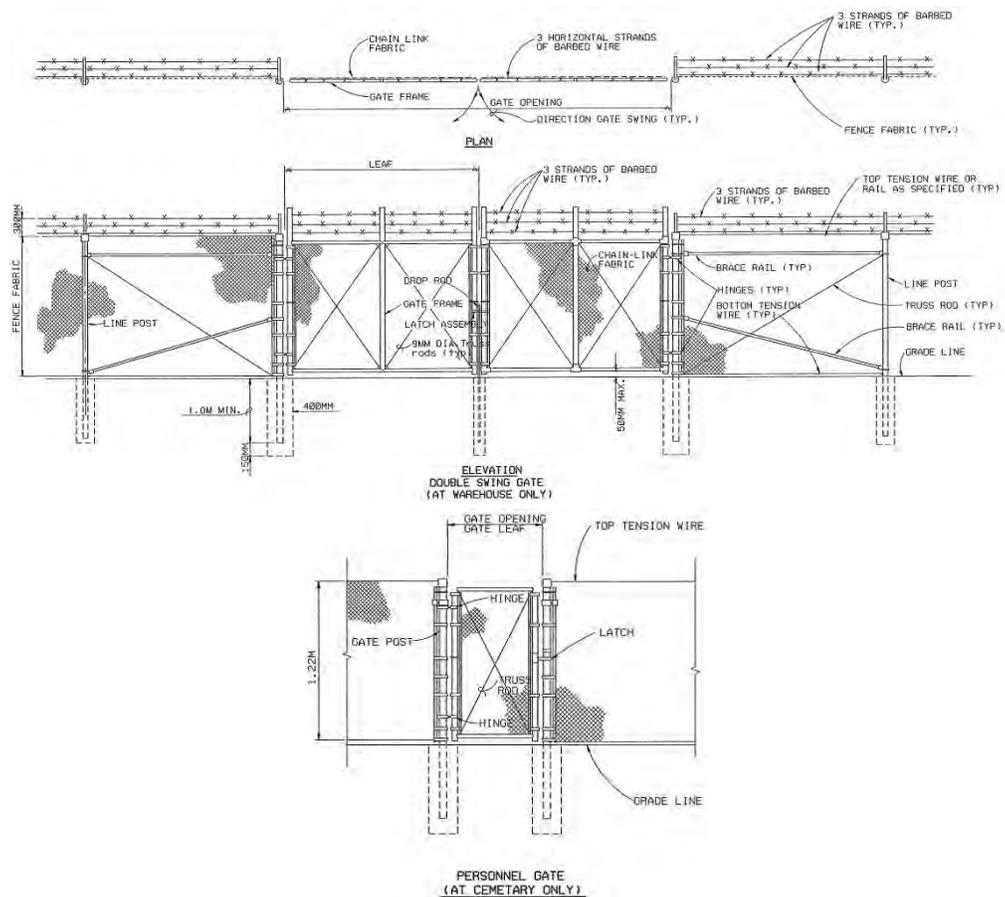
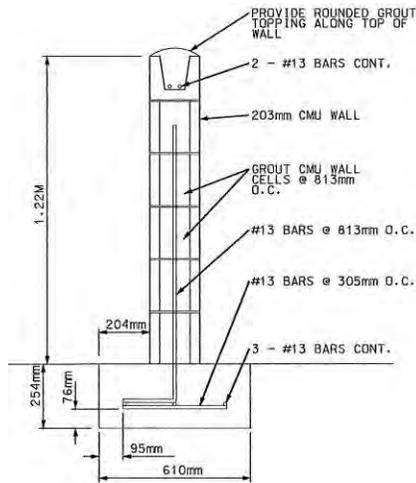


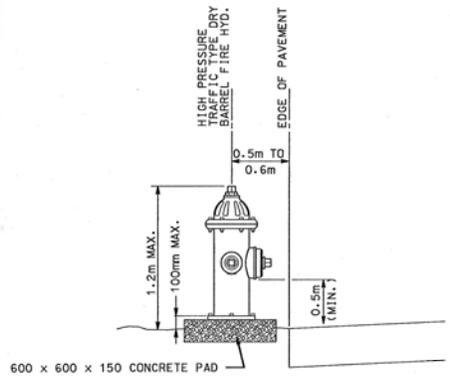
Figure 82. MOU training complex double swing gate and personnel gate, Fort Bragg, NC, 2002 (standard drawing 179-97-01 C-36 sheet 38; military operations in urban terrain, MOU training complex, fence gate details; 29 January 2002).

Other accessories



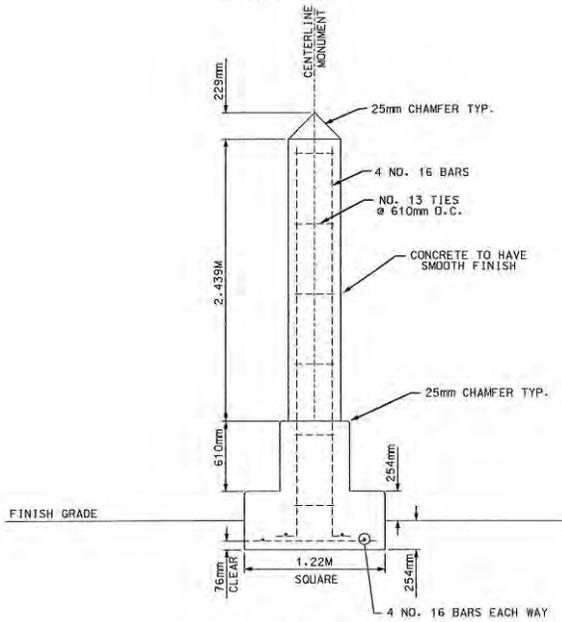
RFI #68
CMU WALL AT RESIDENCES

NOT TO SCALE



MOCK FIRE HYDRANT DETAIL

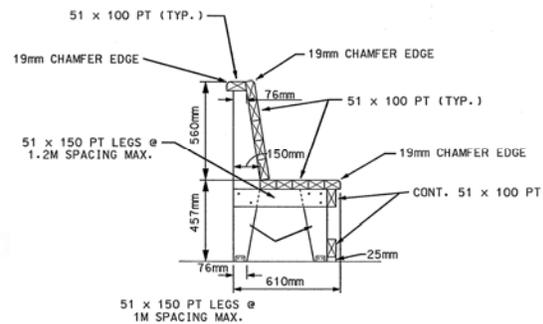
NOT TO SCALE



ELEVATION

MONUMENT

NOT TO SCALE



PARK BENCH DETAIL

NOT TO SCALE

NOTE: THIS DETAIL IS TO BE USED FOR BOTH A STAND ALONE BENCH AND THE BUS STOP SHELTER

Figure 83. MOUT training complex CMU Wall at residences, mock fire hydrant detail, monument elevation, and park bench detail, Fort Bragg, NC, 2002 (standard drawing 179-97-01 C-18 sheet 20; military operations in urban terrain, MOUT training complex, accessory details; 29 January 2002).

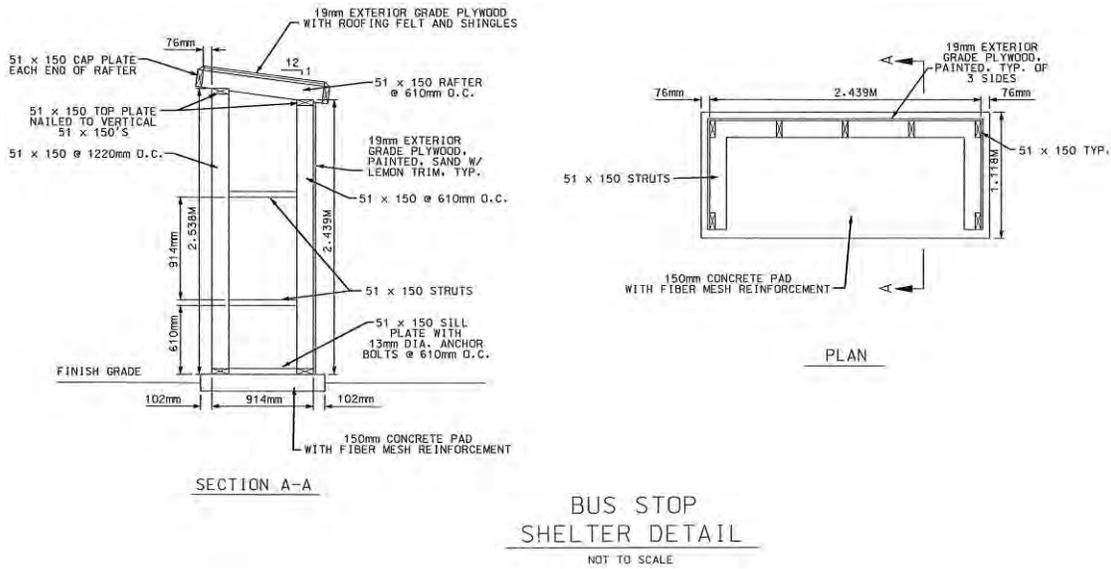


Figure 84. MOU training complex bus stop shelter, Fort Bragg, NC, 2002 (standard drawing 179-97-01 C-18 sheet 20; military operations in urban terrain, MOU training complex, accessory details; 29 January 2002).

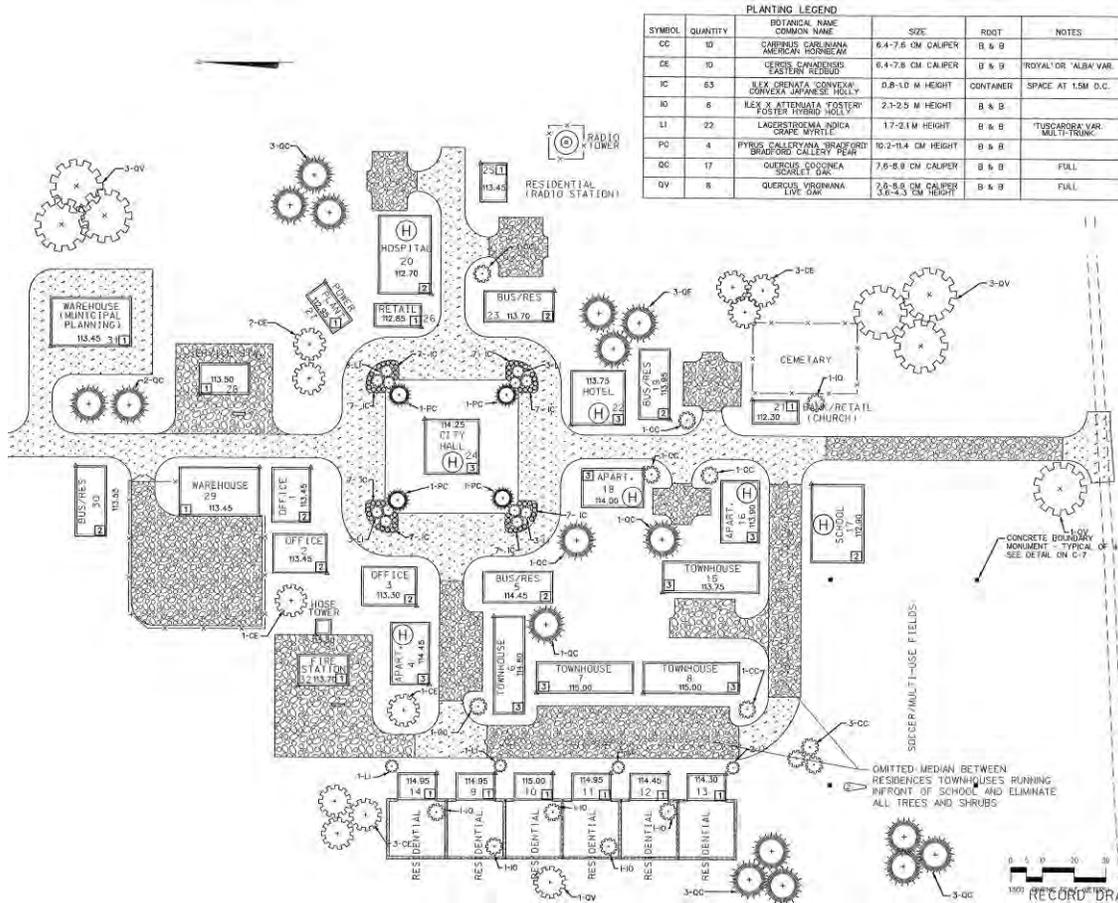


Figure 85. MOU training complex landscaping, Fort Bragg, NC, 2002 (standard drawing 179-97-01 L-1 sheet 39; military operations in urban terrain, MOU training complex, landscaping plan; 29 January 2002).

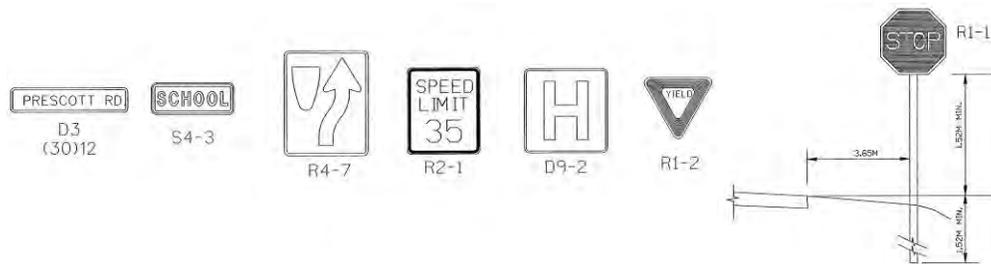


Figure 86. MOUT training complex mock road signage, Fort Bragg, NC, 2002 (standard drawing 179-97-01 C-16 sheet 18; military operations in urban terrain, MOUT training complex, signage and striping details; 29 January 2002).

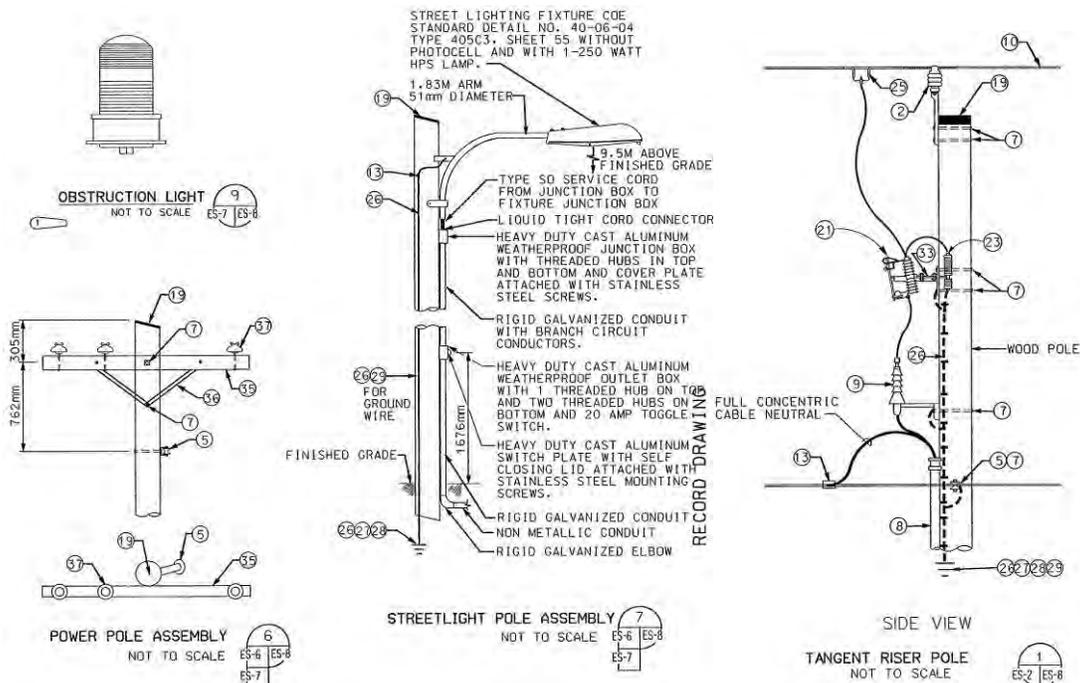


Figure 87. MOUT training complex obstruction light, power pole and streetlight, tangent riser pole, Fort Bragg, NC, 2002 (standard drawing 179-97-01 ES-48 sheet 48; military operations in urban terrain, MOUT training complex, exterior electrical details; 29 January 2002).

Mock sites

Air movement training mock-ups

Cargo crews and other soldiers were trained how to load and secure various cargo in air movement operations on a variety of mock-up planes. These mock-ups usually included loading ramps, plane floors with fasteners, and seating or other interior features (see examples below).

R5D Cargo plane hatch and interior



Figure 88. Mock up of cargo hatch and interior of R5D cargo plane at Camp Pendleton, CA, 23 March 1948 (NARA College Park, RG 127-GC, box 11, photo 407108).

C-119 Mock-up for air movement training (frame construction)

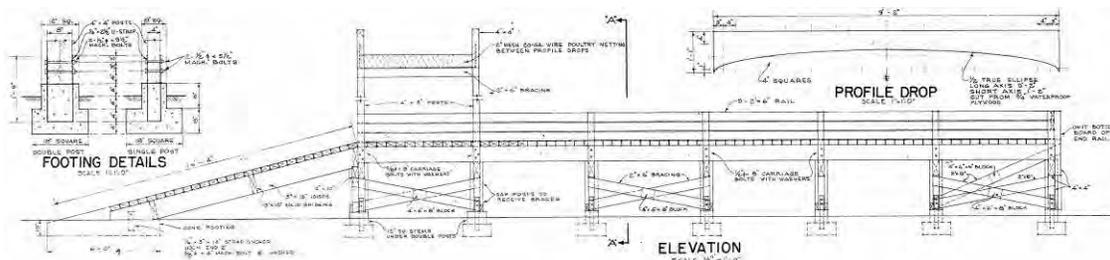


Figure 89. C-119 mock-up for air movement training, frame construction, elevation, and details, Fort Bragg, NC, 1951 (standard drawing 28-13-53 sheet 1 of 1; C-119 mock-up for air movement training, frame construction, plans, and details; 7 December 1951).

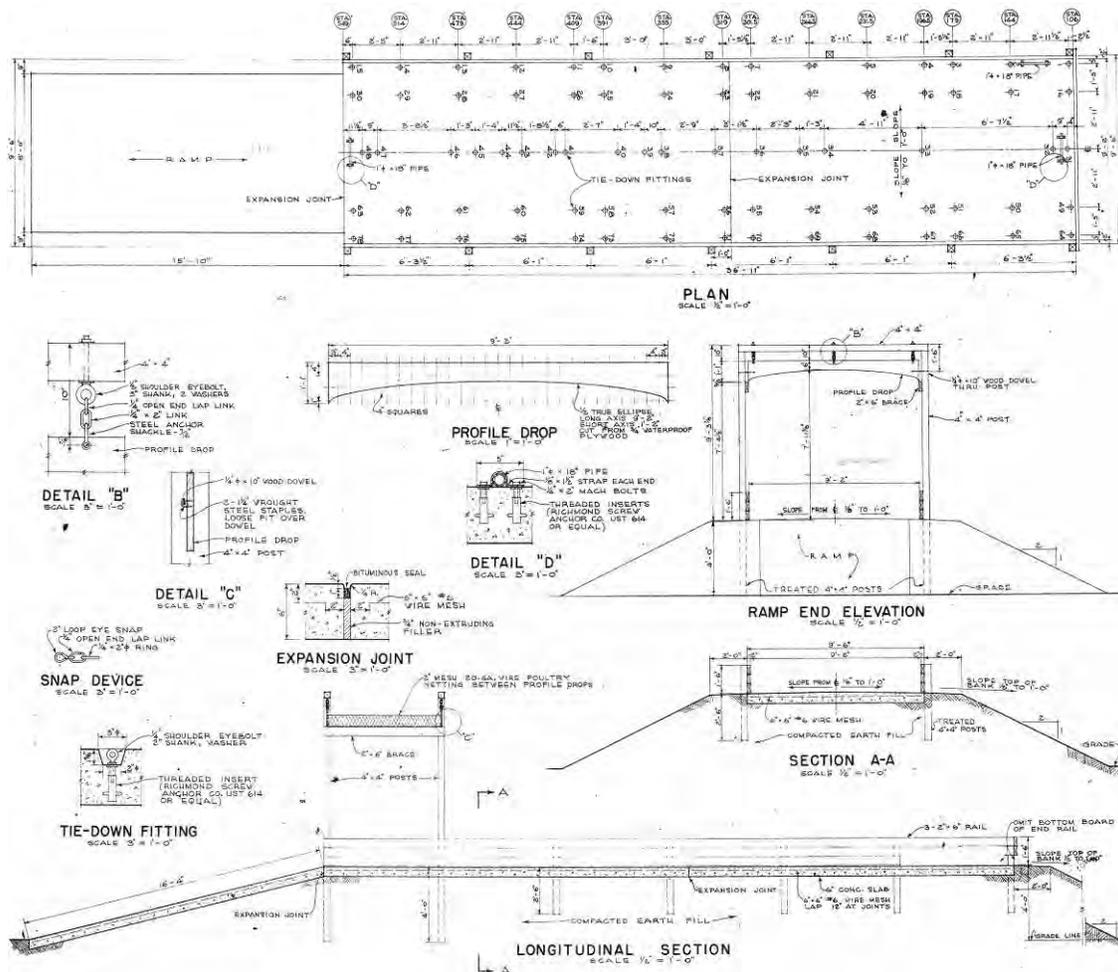


Figure 90. C-119 mock-up for air movement training, frame construction, framing plan, Fort Bragg, NC, 1951 (standard drawing 28-13-53 sheet 1 of 1; C-119 mock-up for air movement training, frame construction, plans, and details; 7 December 1951).

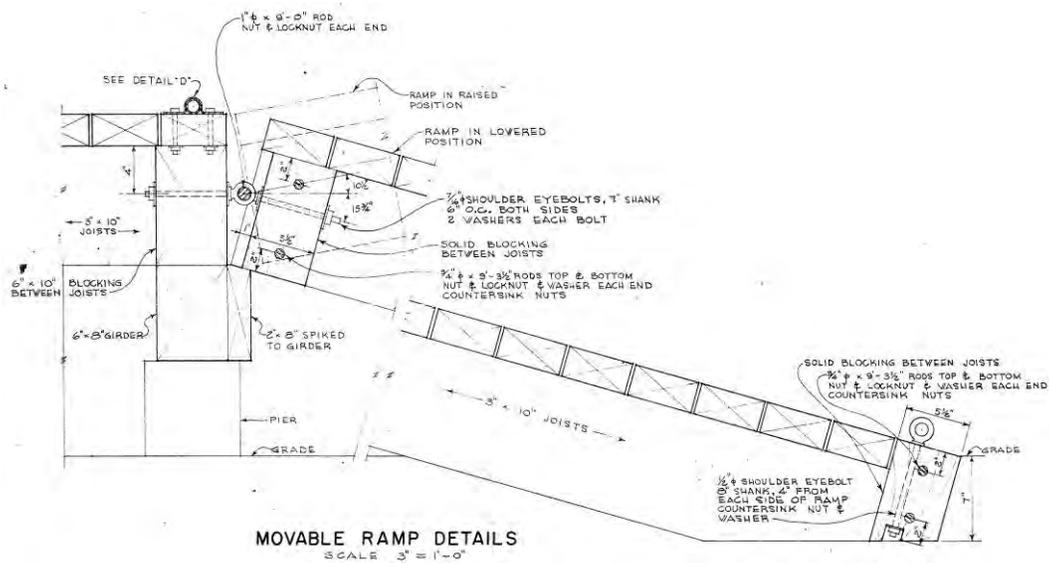


Figure 93. C-123 mock-up for airborne training, frame construction, movable ramp details, Fort Bragg, NC, 1951 (standard drawing 28-13-58 sheet 2 of 2; C-123 mock-up for airborne training, frame construction, details; 7 December 1951).

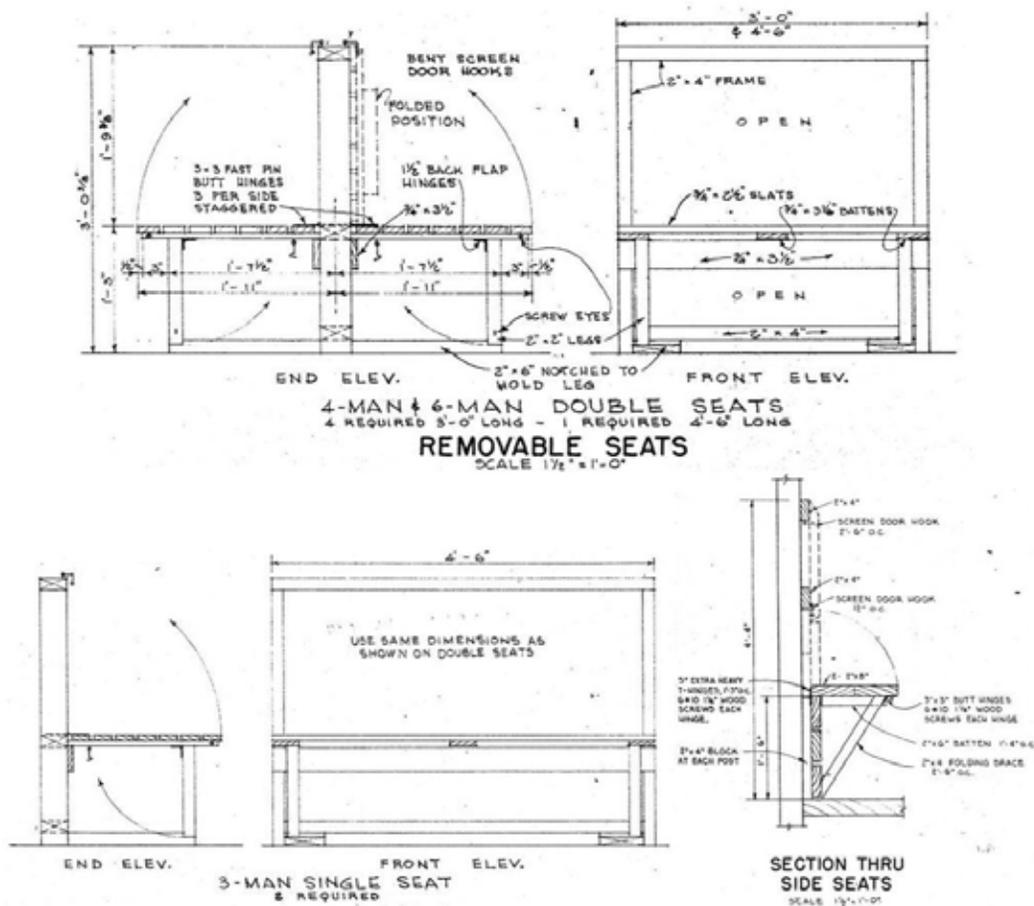


Figure 94. C-123 mock-up for airborne training, frame construction, removable seats, Fort Bragg, NC, 1951 (standard drawing 28-13-58 sheet 2 of 2; C-123 mock-up for airborne training, frame construction, details; 7 December 1951).

C-123 Concrete mock-up for air movement training (concrete alternate)

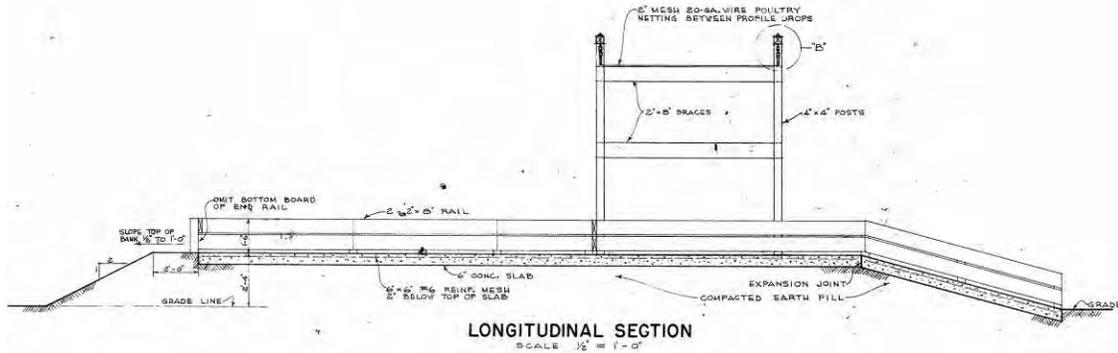


Figure 95. C-123 concrete mock-up for air movement training, ramp longitudinal section, Fort Bragg, NC, 1951 (standard drawing 28-13-57a sheet 1 of 1; C-123 mock-up for air movement training, concrete alternate, slab on fill; 7 December 1951).

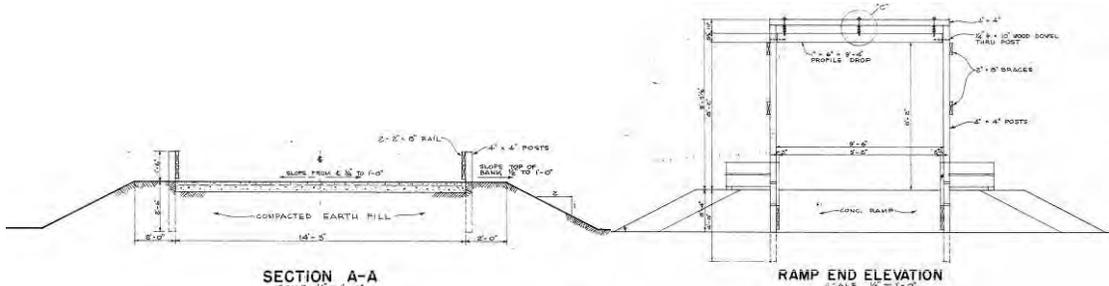


Figure 96. C-123 concrete mock-up for air movement training, ramp section a and end elevation, Fort Bragg, NC, 1951 (standard drawing 28-13-57a sheet 1 of 1; C-123 mock-up for air movement training, concrete alternate, slab on fill; 7 December 1951).

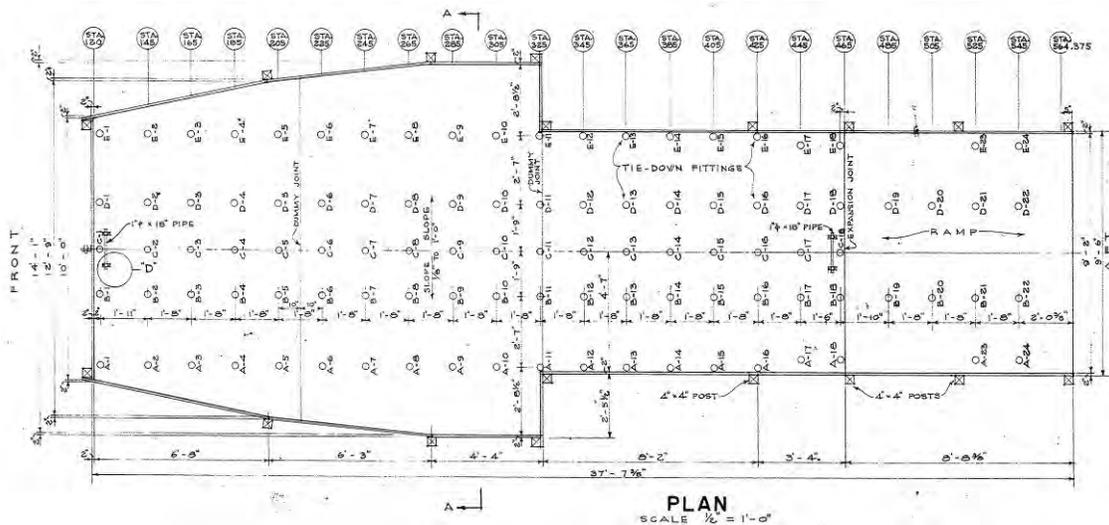


Figure 97. C-123 concrete mock-up for air movement training, ramp plan, Fort Bragg, NC, 1951 (standard drawing 28-13-57a sheet 1 of 1; C-123 mock-up for air movement training, concrete alternate, slab on fill; 7 December 1951).

C-124 Concrete mock-up for air movement training

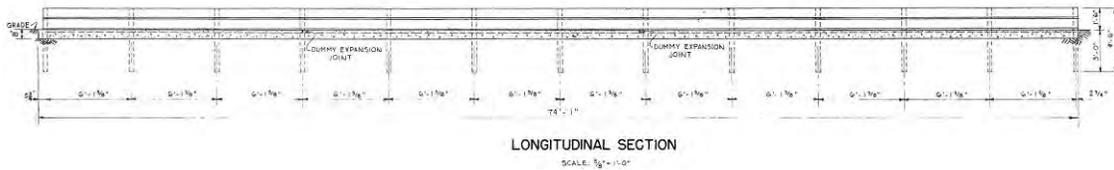


Figure 98. C-124 concrete mock-up for air movement training longitudinal section, 1951 (standard drawing 2-13-60 sheet 1; C-124 mock-up for air movement training, concrete plan, sections, and details; 7 December 1951). (NARA College Park, RG 111-SC WWII, box 241, photo SC413207).

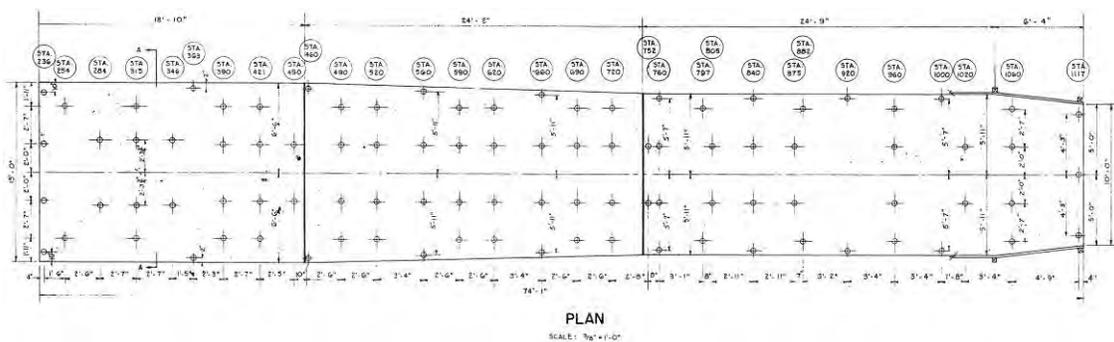


Figure 99. C-124 concrete mock-up for air movement training plan, 1951 (standard drawing 2-13-60 sheet 1; C-124 mock-up for air movement training, concrete plan, sections, and details; 7 December 1951). (NARA College Park, RG 111-SC WWII, box 241, photo SC413207).

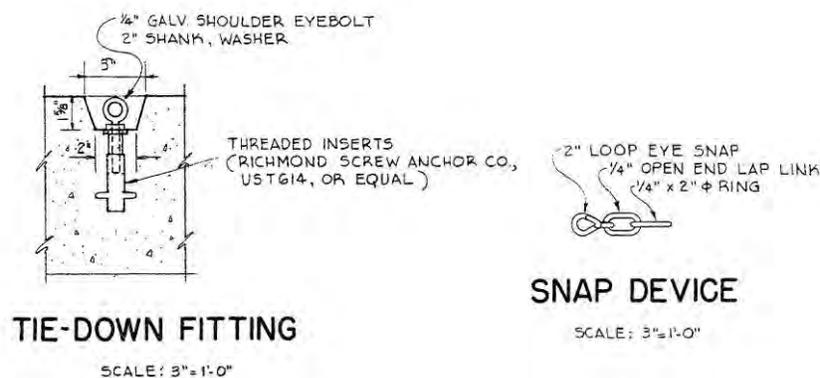


Figure 100. C-124 concrete mock-up for air movement training, snap device and tie-down fitting details, 1951 (standard drawing 2-13-60 sheet 1; C-124 mock-up for air movement training, concrete plan, sections, and details; 7 December 1951). (NARA College Park, RG 111-SC WWII, box 241, photo SC413207).

Aerial Bombing Mock-Ups

Mock buildings, ships, and cities were built as realistic targets for bomber training.

Target shack

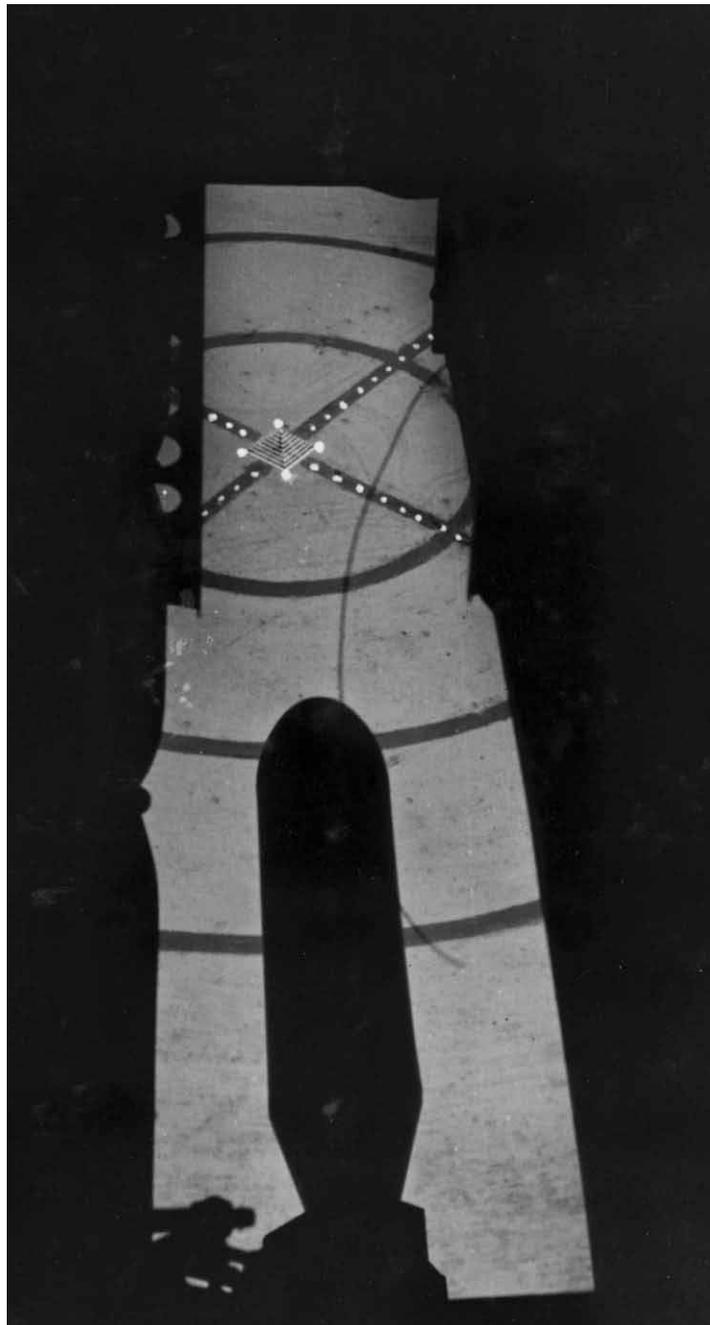


Figure 101. Bomb drops through the bomb-bay door and floats down toward the target with shack in the center; the wire is attached to the plane and releases the percussion cap that will explode on hitting the ground at Victorville Army Flying School, CA, 17 August 1942 (NARA College Park, RG 342-FH, box 2201, photo 4A-17048).



Figure 102. A bomb crashes down inside the inner circle just short of the shack at Midland Army Air Field, TX, 29 June 1942 (NARA College Park, RG 342-FH, box 2201, photo 4A-17087).

Japanese freighter skip-bomb target (Eglin Field)

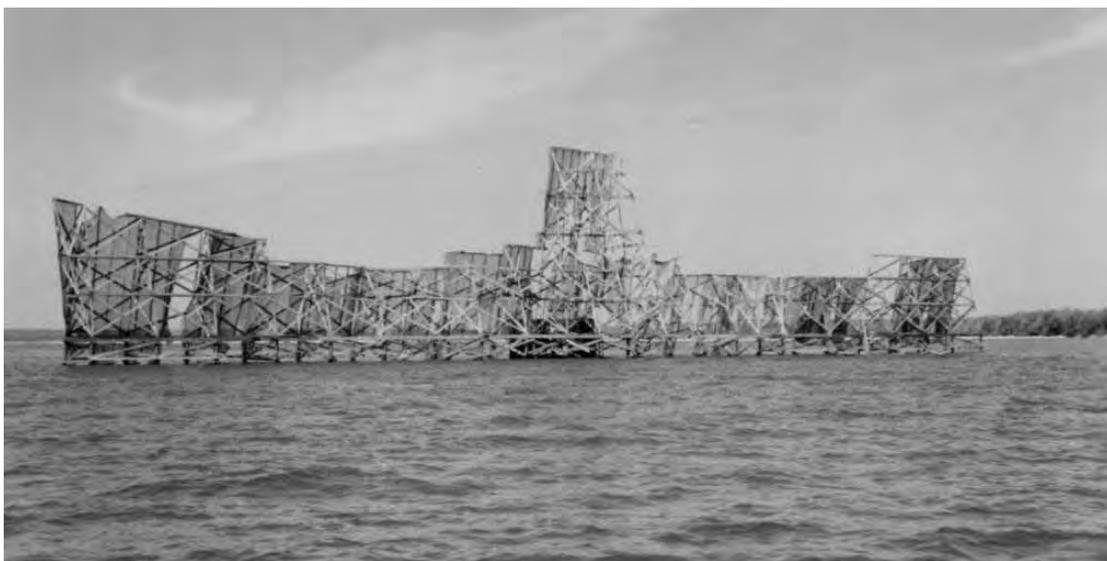


Figure 103. Skip-bomb target in silhouette of Japanese freighter at Eglin Field, FL, 30 July 1943 (NARA College Park, RG 342-FH, box 2202, photo 4A-17165).

Mock German battleship (Midland Army Air Field)

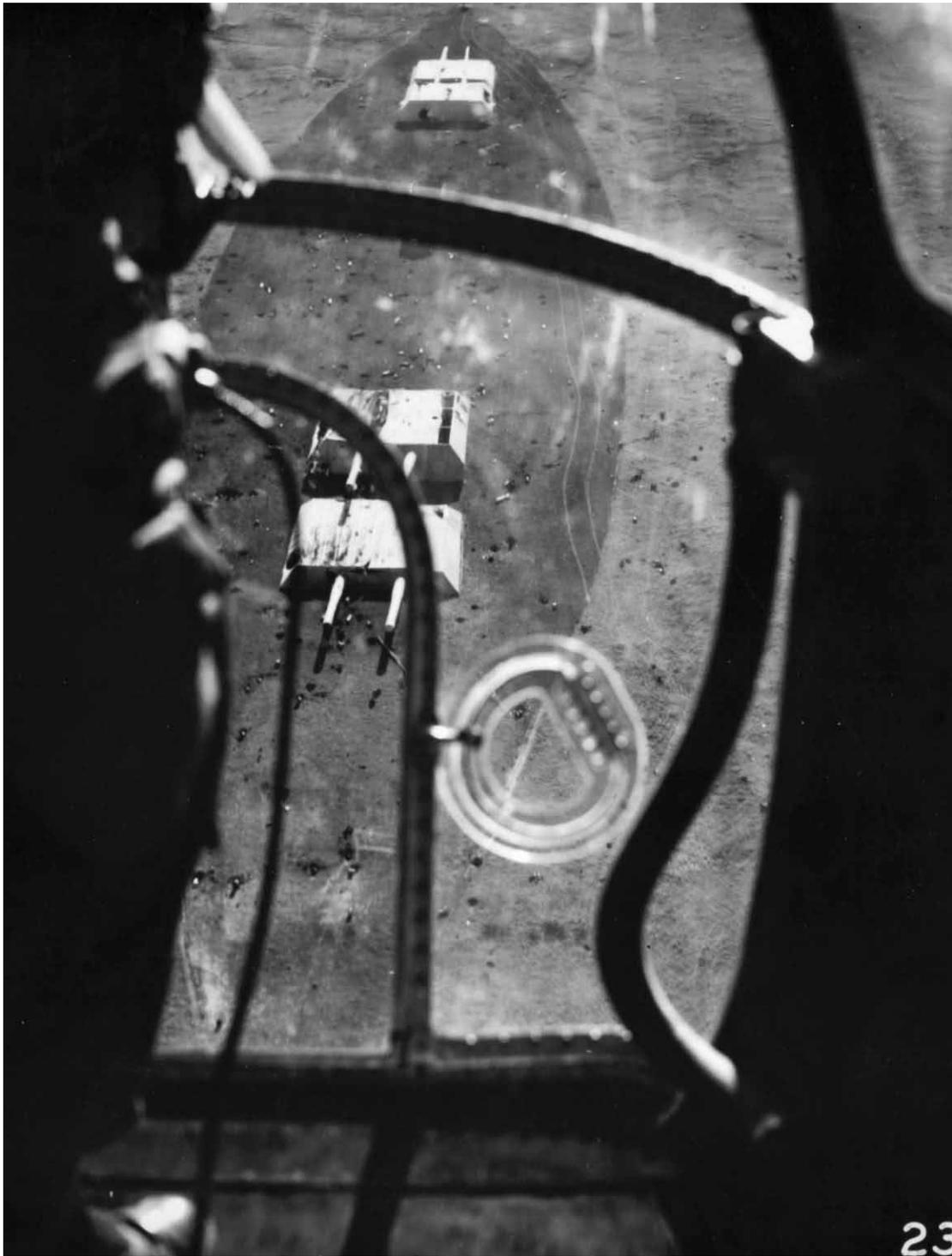


Figure 104. To give bombardier cadets added incentive in their training, a mock German battleship has been laid out with wooden replicas of gun turrets at Midland Army Air Field, TX, 26 April 1943 (NARA College Park, RG 342-FH, box 2201, photo 4A-17077).



Figure 105. To give bombardier cadets added incentive in their training, a mock German battleship has been laid out with wooden replicas of gun turrets at Midland Army Air Field, TX, 26 April 1943 (NARA College Park, RG 342-FH, box 2201, photo 4A-17081).

Mock Tokyo



Figure 106. Layout of mock Tokyo at Midland Army Air Field, TX, 4 July 1942 (NARA College Park, RG 342-FH, box 2202, photo 4A-17188).



Figure 107. Mock Tokyo bombing range at Midland Army Air Field, TX, 4 July 1942 (NARA College Park, RG 342-FH, box 2201, photo 4A-17093).



Figure 108. Oil tanks in the mock Tokyo bombing range at Midland Army Air Field, TX, 4 July 1942 (NARA College Park, RG 342-FH, box 2202, photo 4A-17188).



Figure 109. Chemists created this simulated mock atom bomb with TNT, white phosphorus, jellied gasoline, and liquid smoke at Fort Bragg, NC, 16 October 1952 (NARA College Park, RG 111-SC WWII, box 241, photo SC413207).

Bivouac

Bivouac areas gave all kinds of units practical experience in constructing temporary living quarters and practicing skills in the field.



Figure 110. Medical battalion train in bivouac area at Fort Jackson, SC, 28 April 1943 (NARA College Park, RG 111-SC WWII, box 155, photo SC137602).



Figure 111. Bivouac area during "Exercise Assembly" at Camp Campbell, KY, 27 January 1949 (NARA College Park, RG 111-SC WWII, box 659, photo SC351126).



Figure 112. Bivouac area during "Exercise Assembly" at Camp Campbell, KY, 27 January 1949 (NARA College Park, RG 111-SC WWII, box 659, photo SC351125).



Figure 113. Pitching a tent in the bivouac area at Fort Jackson, SC, 16 August 1962 (NARA College Park, RG 111-SC post-1955, box 376, photo SC598117).

Ship Mock-Ups

Mock training ships were built on the ground and in the water to give soldiers training in all aspects of amphibious warfare. In addition to learning general sea duties on these mock ships, soldiers were also trained in rowing, gunnery, using signal flags, raising and lowering lifeboats, beach landings, underwater demolition, and other subjects. Some examples of mock ships are shown below.

USS Electrician (Naval Training Station Norfolk)

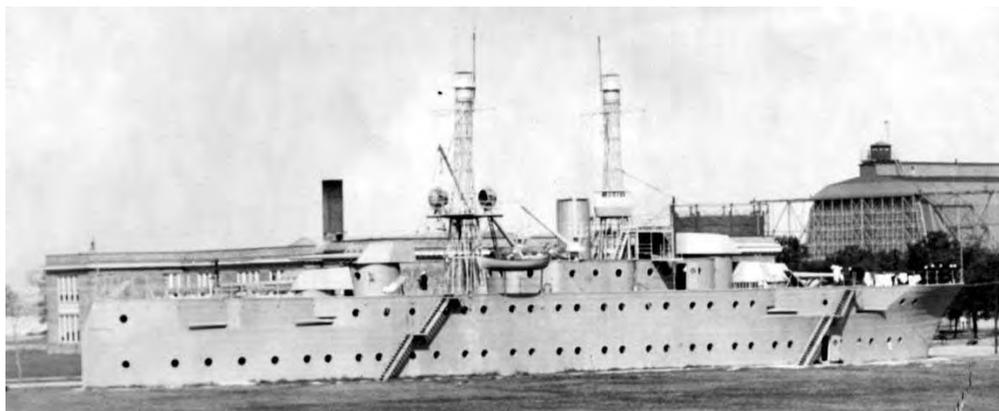


Figure 114. Mock training ship USS Electrician at Naval Training Station Norfolk, VA, 16 October 1918 (NARA College Park, RG 24-TC, box 4, folder C).

Rowing machine (Camp Wissahickon)



Figure 115. Rowing machine at Camp Wissahickon, New Jersey, no date (circa 1918) (NARA College Park, RG 24-TC, box 1, folder P).

USS Dahlgren (USNTS Great Lakes, IL)

Aboard the USS Dahlgren, the recruits stand watch, take a “turn” at the wheel, learn how to use signal flags, raise and lower the lifeboat, and practice gunnery in addition to learning general sea duties.



Figure 116. The USS Dahlgren which is a “dry-land ship” operated by recruits at USNTS Great Lakes, IL, August 1943 (NARA College Park, RG 80-G, box 193, photo 42896).

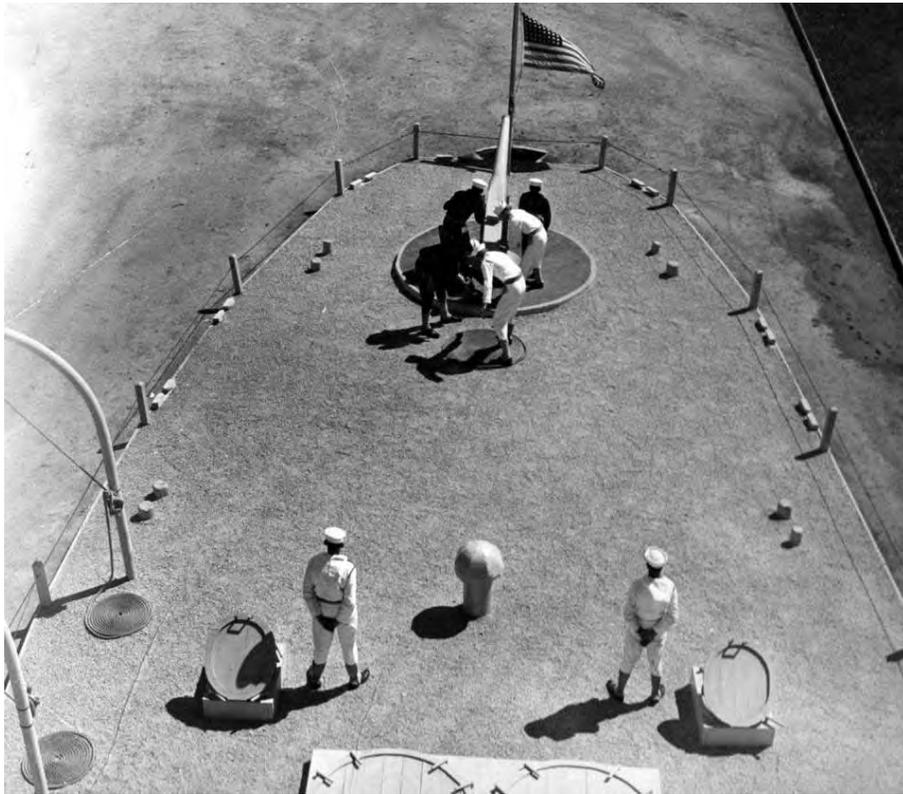


Figure 117. Gunnery practice on the USS Dahlgren at USNTS Great Lakes, IL, August 1943 (NARA College Park, RG 80-G, box 193, photo 42908).



Figure 118. A chief petty officer instructs two men on how to secure a line around a cleat on the USS Dahlgren at USNTS Great Lakes, IL, August 1943 (NARA College Park, RG 80-G, box 193, photo 42910).

Abandon ship mock-up

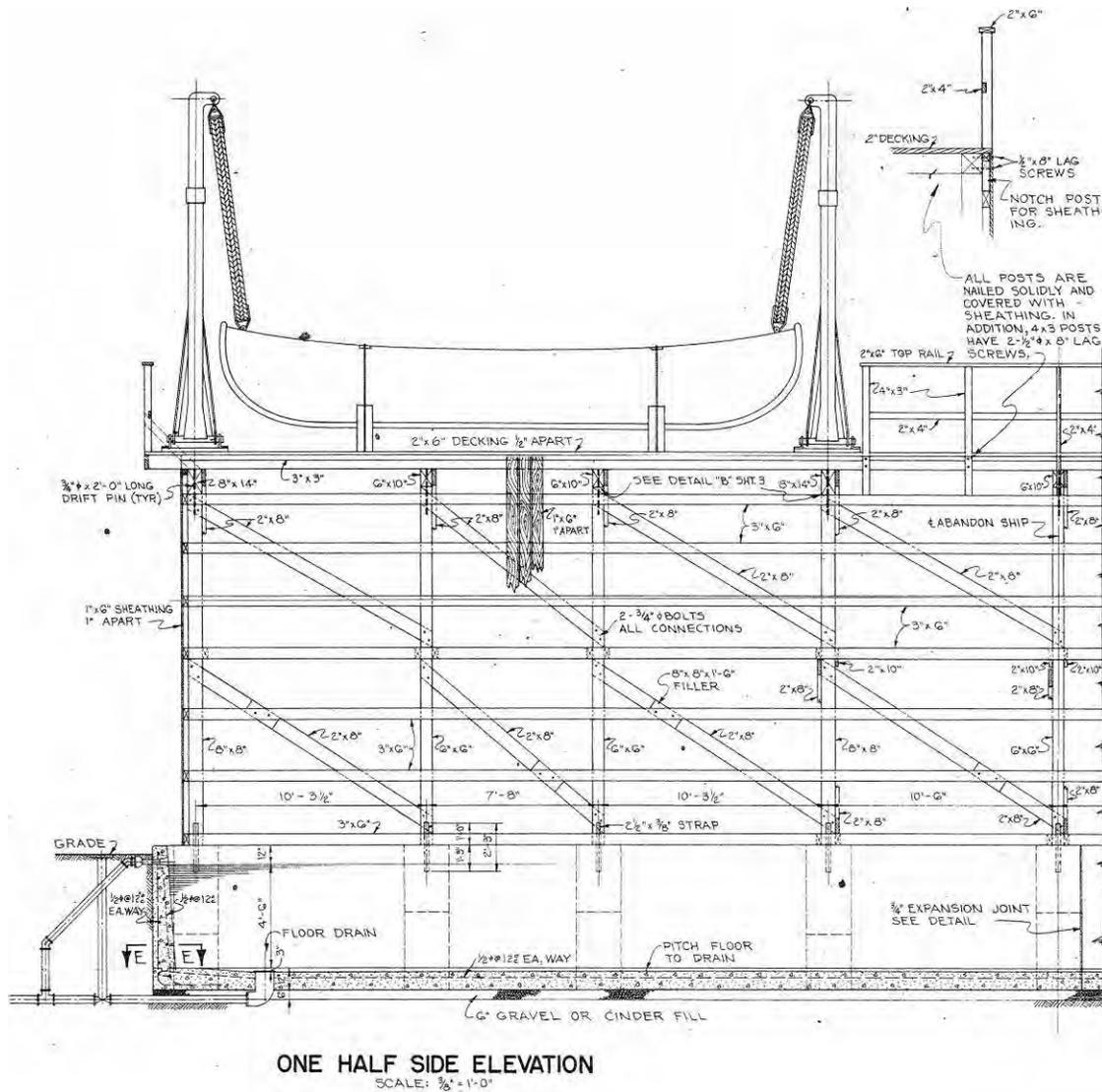


Figure 119. Abandon ship mock-up, one half side elevation, Fort Bragg, NC, 1952 (standard drawing 28-13-98 sheet 2 of 3; abandon ship mock-up, elevations and details; 20 June 1952).

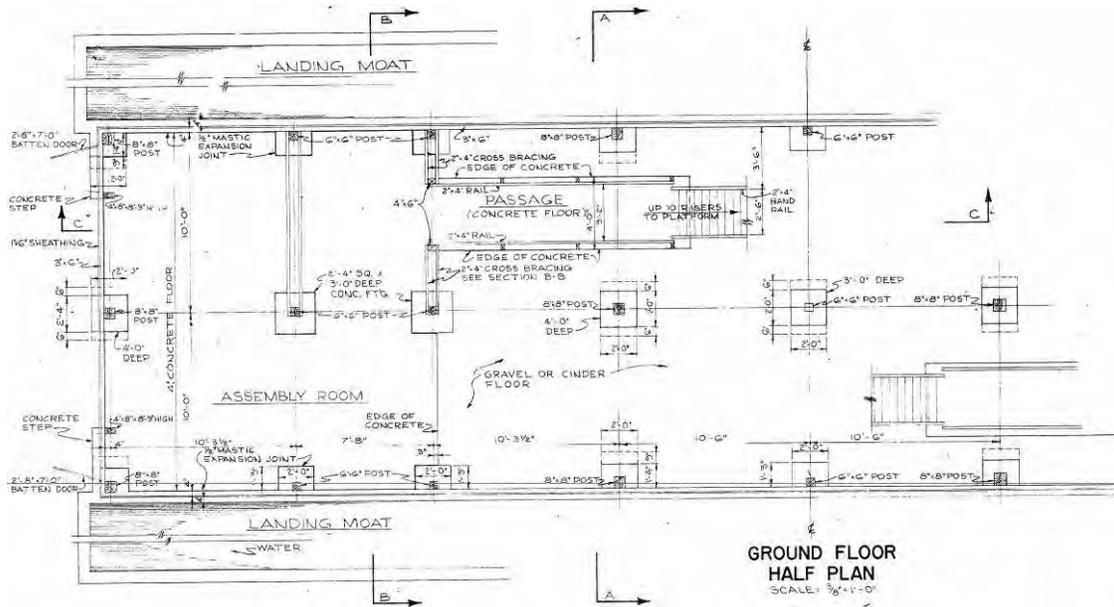


Figure 122. Abandon ship mock-up, ground floor half plan, Fort Bragg, NC, 1952 (standard drawing 28-13-98 sheet 1 of 3; abandon ship mock-up, plan and elevations; 20 June 1952).

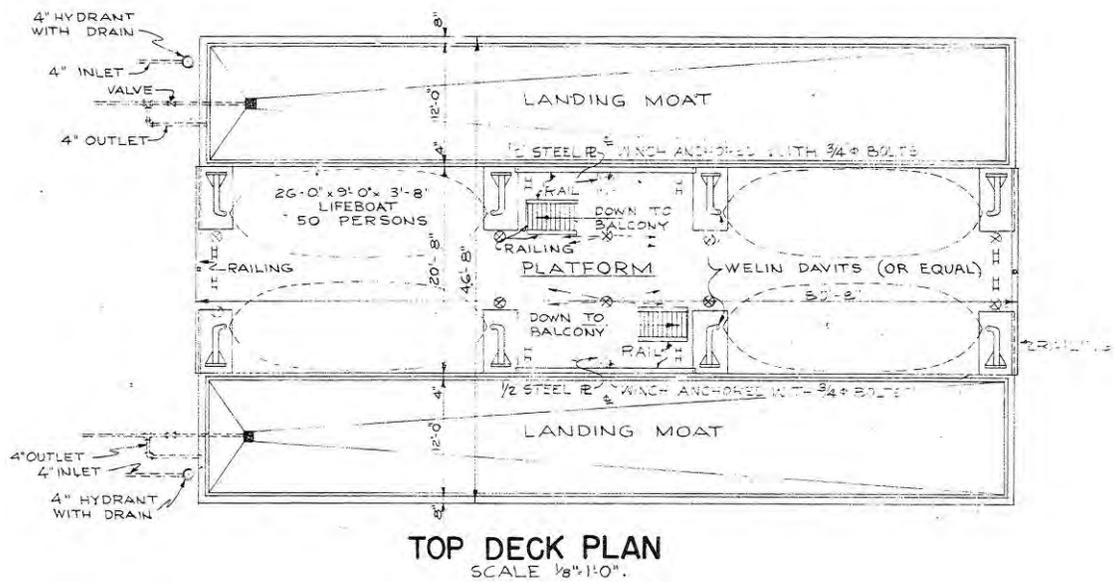


Figure 123. Abandon ship mock-up, top deck plan, Fort Bragg, NC, 1952 (standard drawing 28-13-98 sheet 1 of 3; abandon ship mock-up, plan and elevations; 20 June 1952).

Assault transport mock-up (Fort Pierce)



Figure 124. Training for amphibious operations where an Army duck receives its loading orders by wig-wag from atop mock-up of assault transport at Amphibious Training Base Fort Pierce, FL, 28 November 1943 (NARA College Park, RG 80-G, box 198, photo 43898).

Cargo net mock-ups



Figure 125. Dry net training mockups at Camp Pendleton, CA, 7 November 1949 (NARA College Park, RG 127-GC, box 5, photo 410897).



Figure 126. Marines at the individual combat training area #2 are climbing cargo nets during training at MCRD Parris Island, SC, 10 October 1975 (NARA College Park, RG 127-GG-915, box 32, photo A602637).

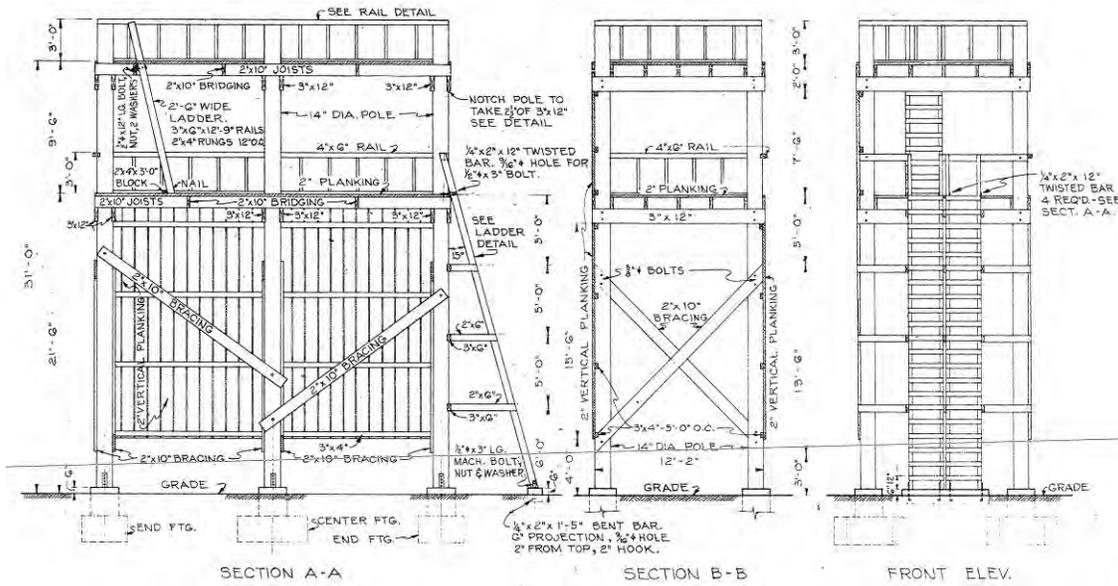


Figure 127. Cargo net mock-up, sections and elevation, Fort Bragg, NC, 1952 (standard drawing 28-13-32 sheet 1 of 2; cargo net mock up, plans and details; 1 April 1952).

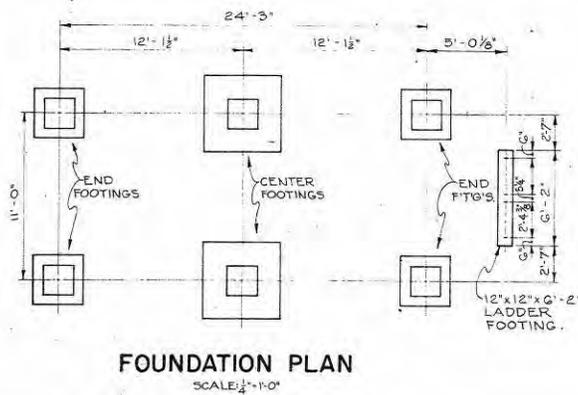


Figure 128. Cargo net mock-up, foundation plan, Fort Bragg, NC, 1952 (standard drawing 28-13-32 sheet 1 of 2; cargo net mock up, plans and details; 1 April 1952).

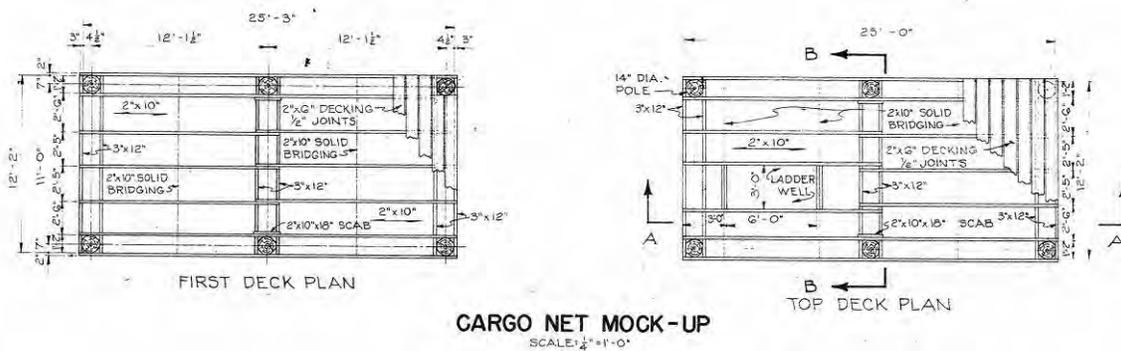


Figure 129. Cargo net mock-up, first deck and top deck plans, Fort Bragg, NC, 1952 (standard drawing 28-13-32 sheet 1 of 2; cargo net mock up, plans and details; 1 April 1952).

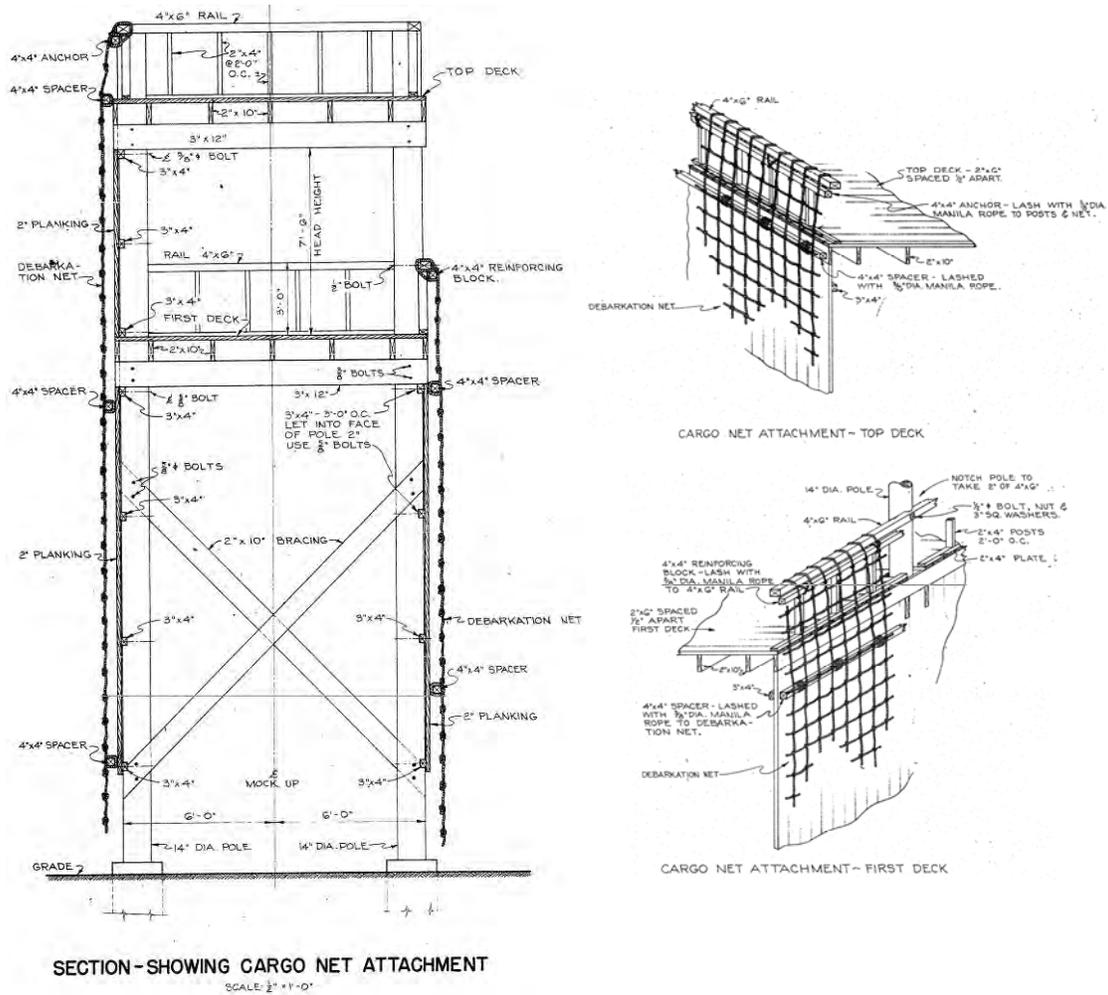


Figure 130. Cargo net mock-up, section showing cargo net attachment, and details of top and first deck cargo net attachments, Fort Bragg, NC, 1952 (standard drawing 28-13-32 sheet 2 of 2; cargo net mock-up, plans and details; 1 April 1952).

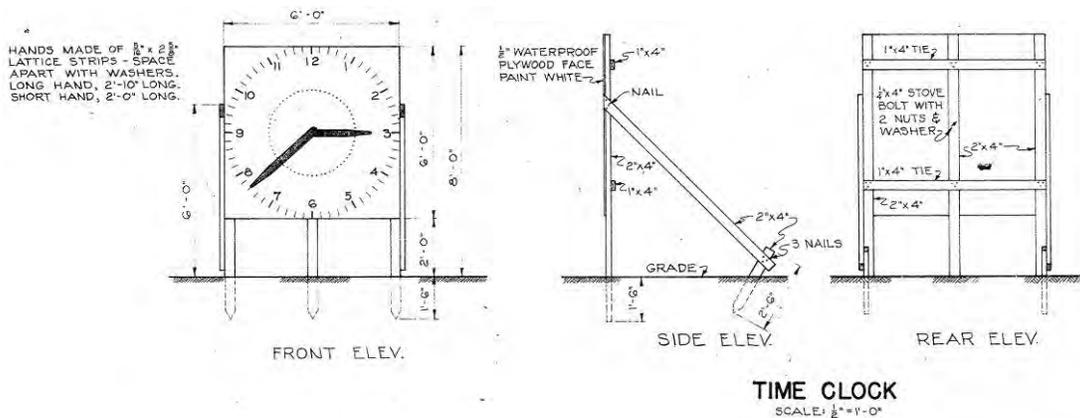


Figure 131. Cargo net mock-up, time clock, Fort Bragg, NC, 1952 (standard drawing 28-13-32 sheet 2 of 2; cargo net mock-up, plans and details; 1 April 1952).

Fortified areas

“Investigations performed at numerous closed and active installations indicate that the fortified area was an area where individuals and units learned how to construct, attack, and defend field fortifications. These facilities often consisted of bunkers, foxholes, and trenches. Operations in this area normally included small arms fire, flamethrowers, shoulder-launched rockets, grenades, and demolition materials. No targets were associated with the Fortified Area” (“RO-2” 19).



Figure 132. Digging foxhole for exposure problem at Adak Naval Air Station, Alaska, January 1947 (NARA College Park, RG 127-GC, box 1, photo 2105).

Machine gun emplacement mock-up

Mock-ups such as the machine gun emplacement shown below were constructed to give soldiers the feel of combat conditions in the field.



Figure 133. Getting the feel of combat in a machine gun emplacement at MCRD Parris Island, SC, 28 May 1946 (NARA College Park, RG 127-GC, box 34, photo A600481).

Mines and booby traps

Soldiers were trained to avoid and deal with mines and booby traps in buildings and areas such as those shown below.

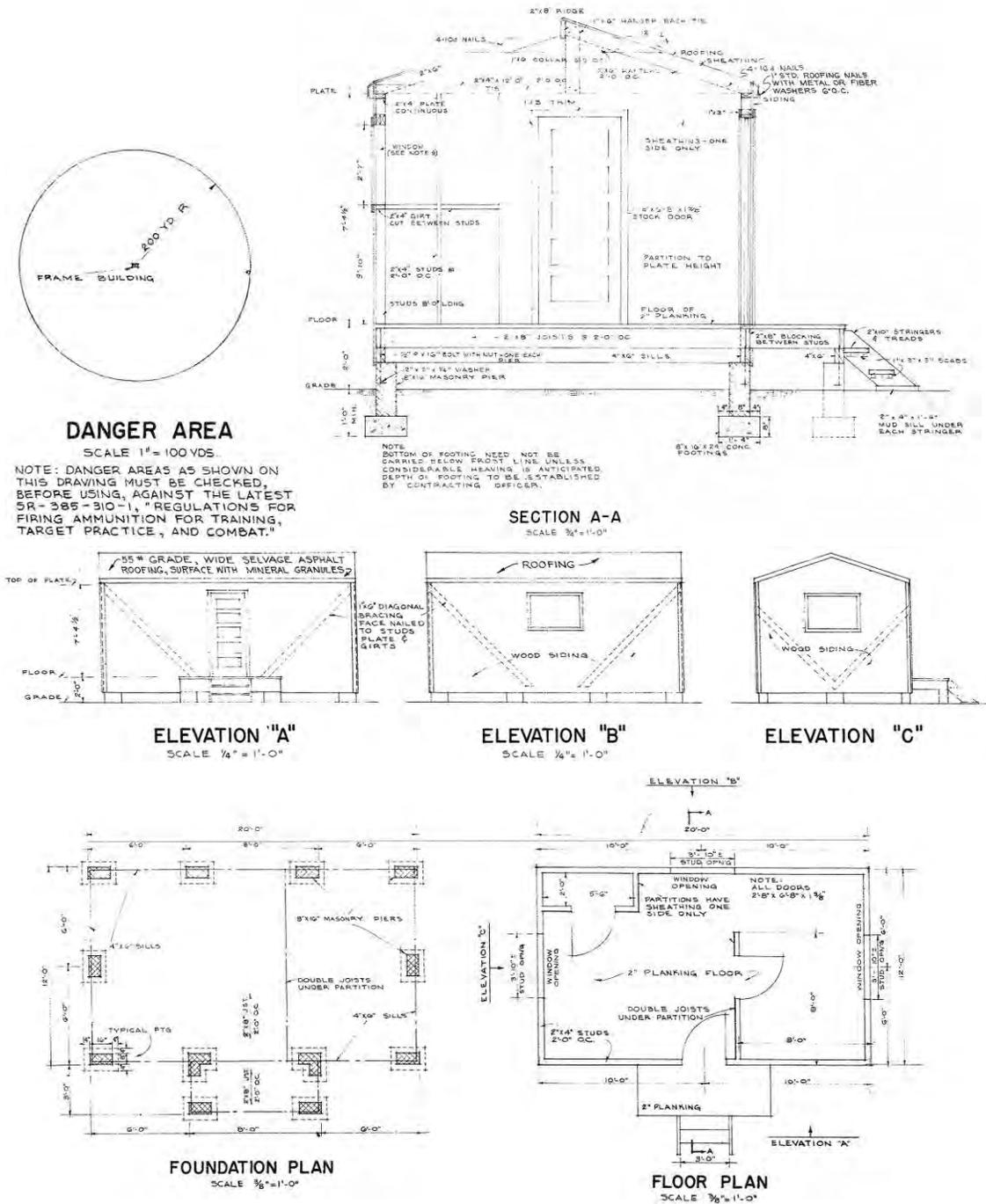


Figure 134. Mines and booby trap area, danger area and building section, elevations, and plans, Fort Bragg, NC, 1952 (standard drawing 28-13-36 sheet 1 of 1; mines and booby trap area, plans, elevations, and details; 11 November 1952).

Parachute training mock-ups

A variety of mock-ups was used for parachute training, including landing fall platforms, jump towers, and swing parachute landing trainers. Some parachute training areas constructed at Fort Bragg are shown below as examples.

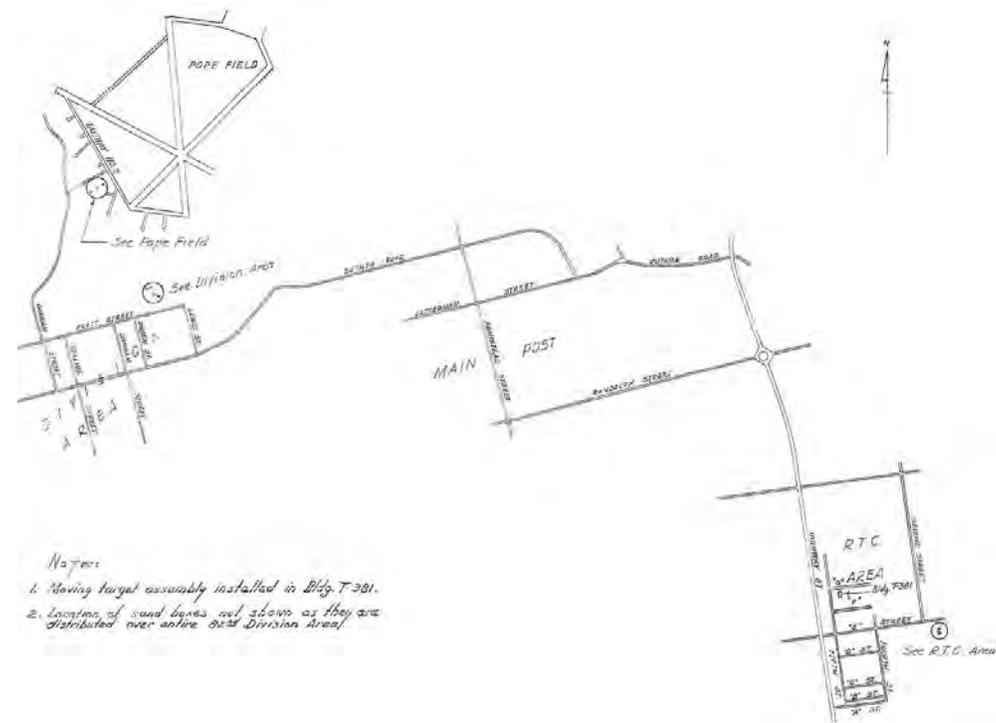


Figure 135. Vicinity map, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 1 of 8; training aids, plot plans, Fort Bragg, NC; 6 June 1949).

RTC Area

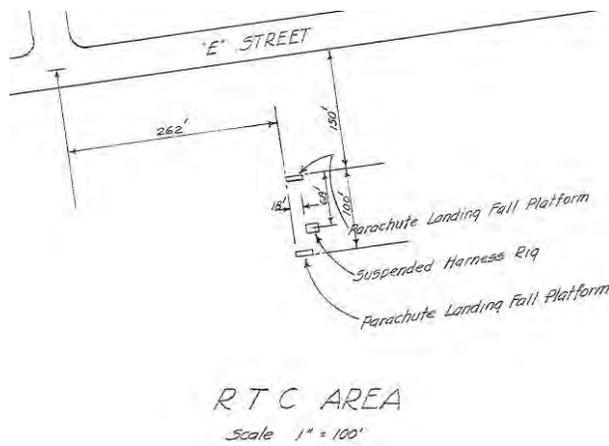


Figure 136. RTC Area, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 1 of 8; training aids, plot plans, Fort Bragg, NC; 6 June 1949).

Parachute landing fall platform



Figure 137. Jump training is practiced and perfected on the ground with soldiers waiting to board "aircraft" at Fort Bragg, NC, 29 November 1962 (NARA College Park, RG 111-SC post-1955, box 377, photo SC599313).

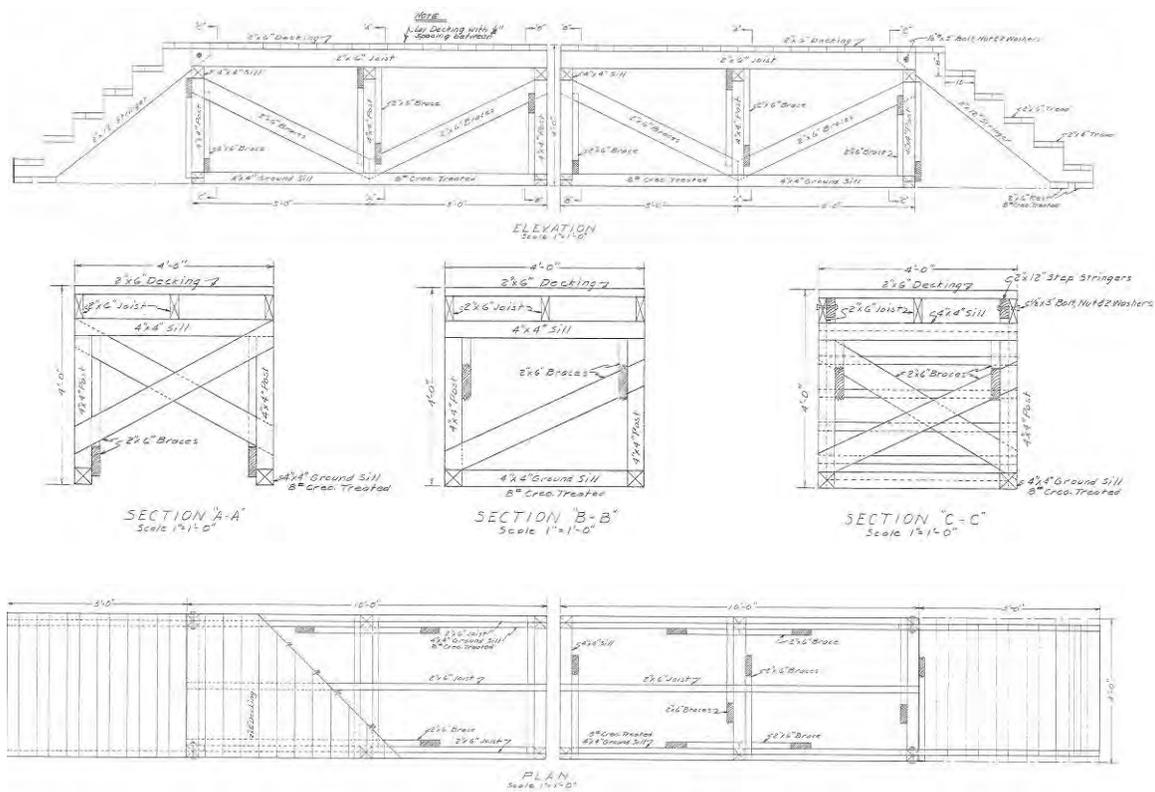
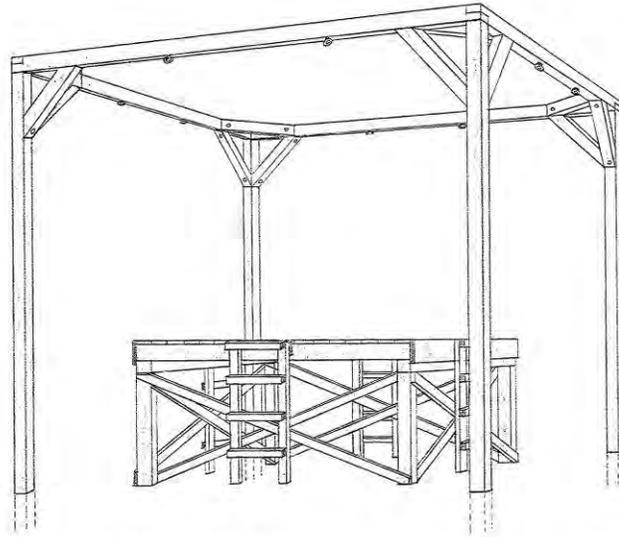


Figure 138. Parachute landing fall platform, Fort Bragg, NC, 1949 (standard drawing No. 28-09-01 Drawing 2 of 8, training aids, parachute landing fall platform, Fort Bragg, NC, 6 June 1949).

Suspended harness rig



SUSPENDED HARNESS RIG ASSEMBLY

Figure 139. Suspended harness rig assembly, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 3 of 8; training aids, suspended harness rig and knot rack, Fort Bragg, NC; 6 June 1949).

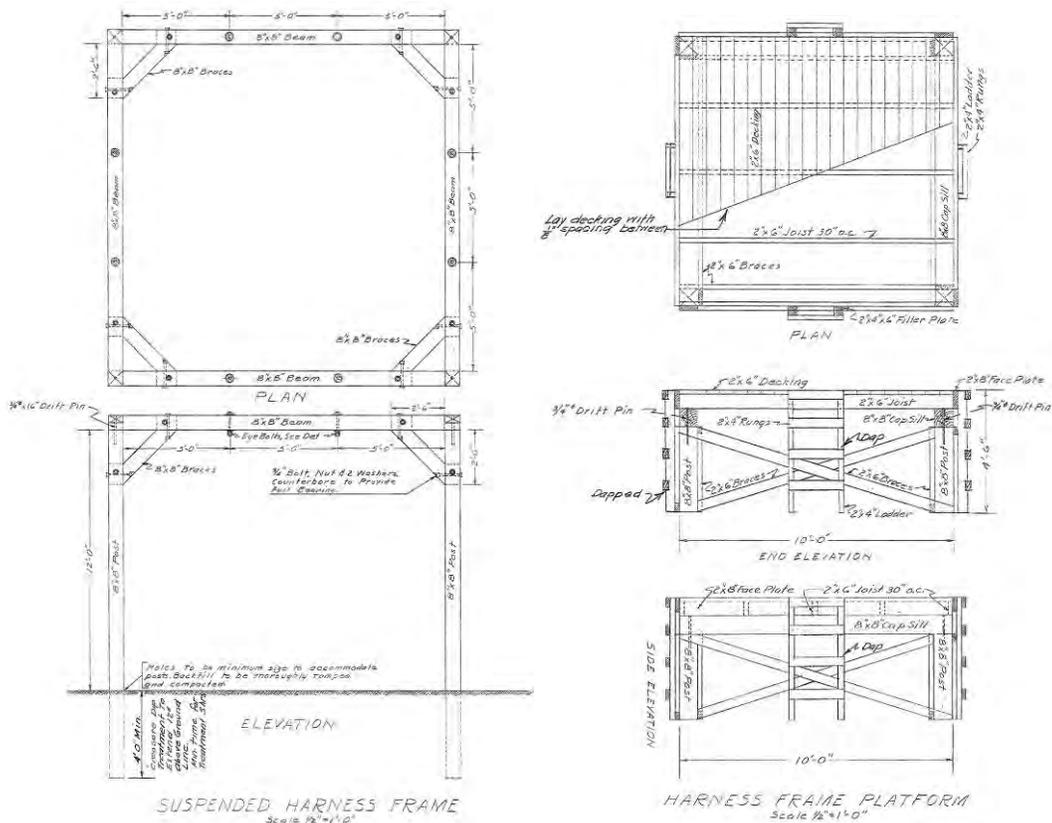


Figure 140. Suspended harness frame and platform, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 3 of 8; training aids, suspended harness rig and knot rack, Fort Bragg, NC; 6 June 1949).

Division Area, Fort Bragg

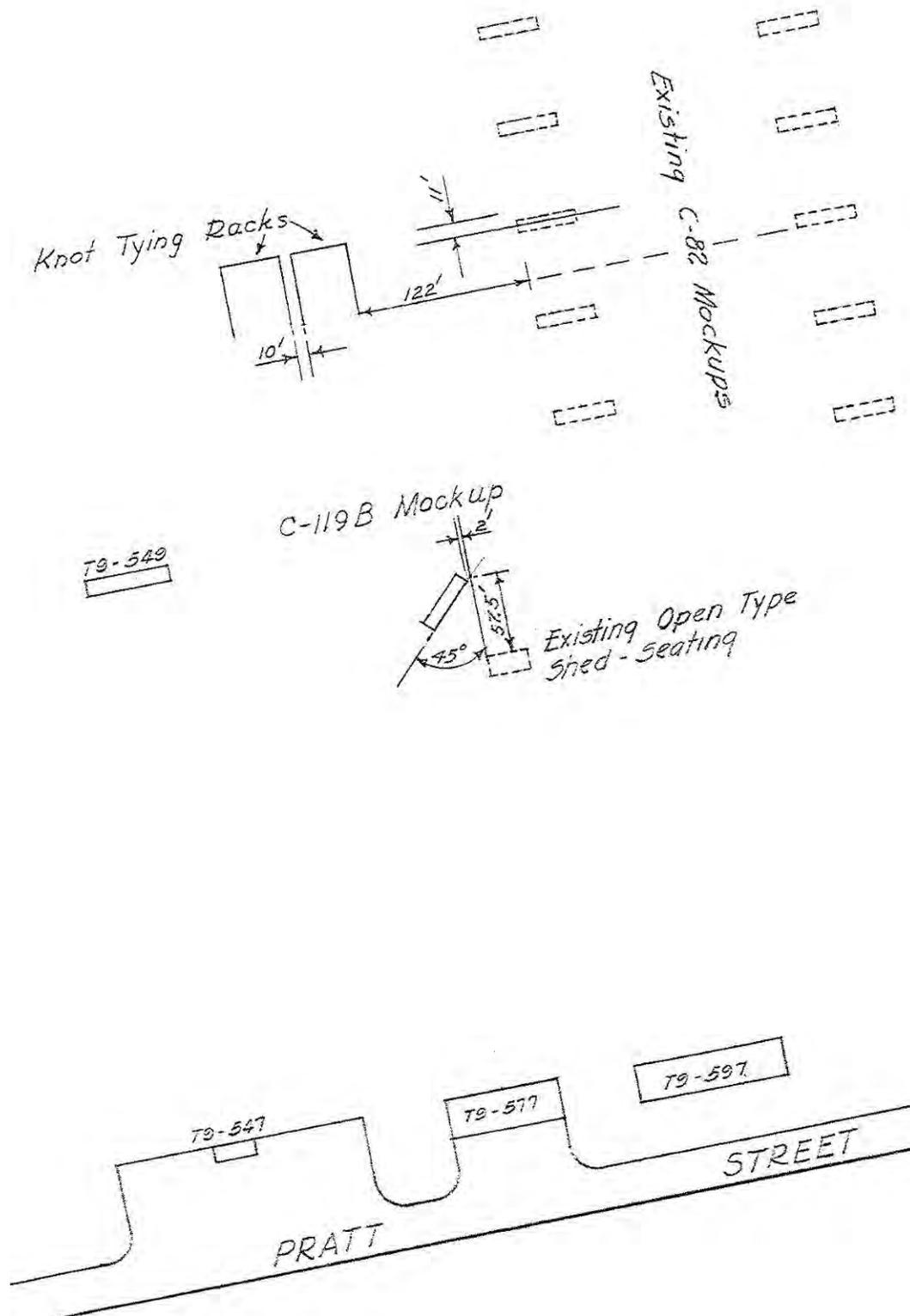


Figure 141. Division Area, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 1 of 8; training aids, plot plans, Fort Bragg, NC; 6 June 1949).

Knot tying rack

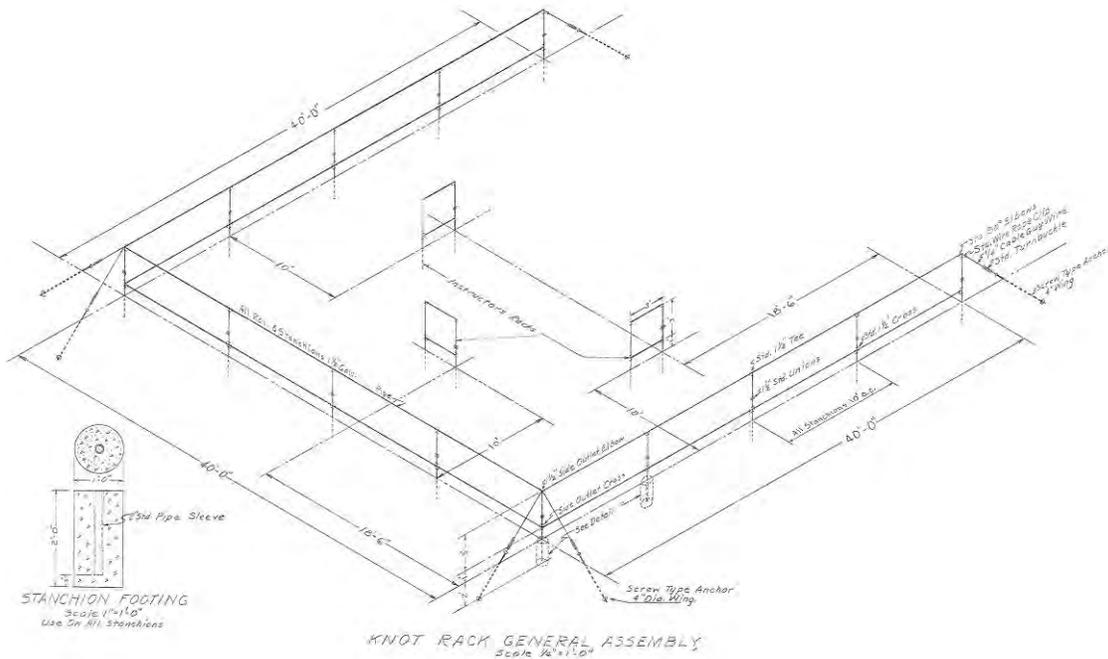


Figure 143. Knot rack general assembly, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 3 of 8; training aids suspended harness rig and knot rack, Fort Bragg, NC; 6 June 1949).

Pope Field

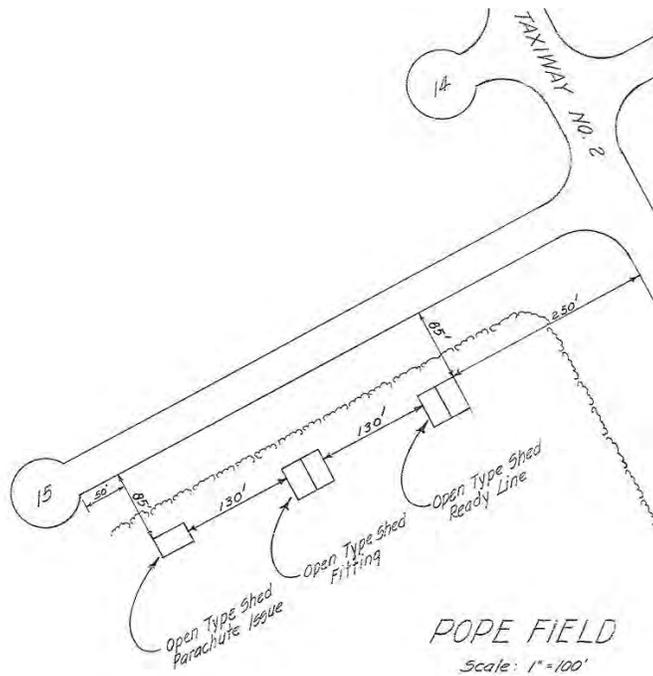


Figure 144. Pope Field, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 1 of 8; training aids, plot plans, Fort Bragg, NC; 6 June 1949).

Parachute issue shed

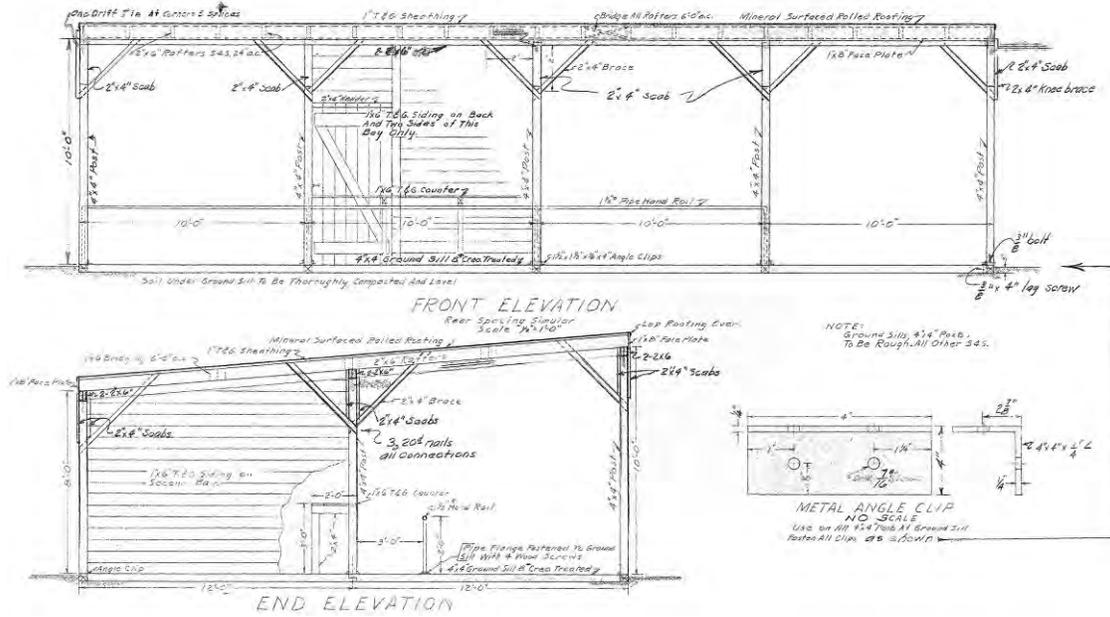


Figure 145. Parachute issue shed elevations, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 4 of 8; training aids, parachute issue shed and sand table, Fort Bragg, NC; 6 June 1949).

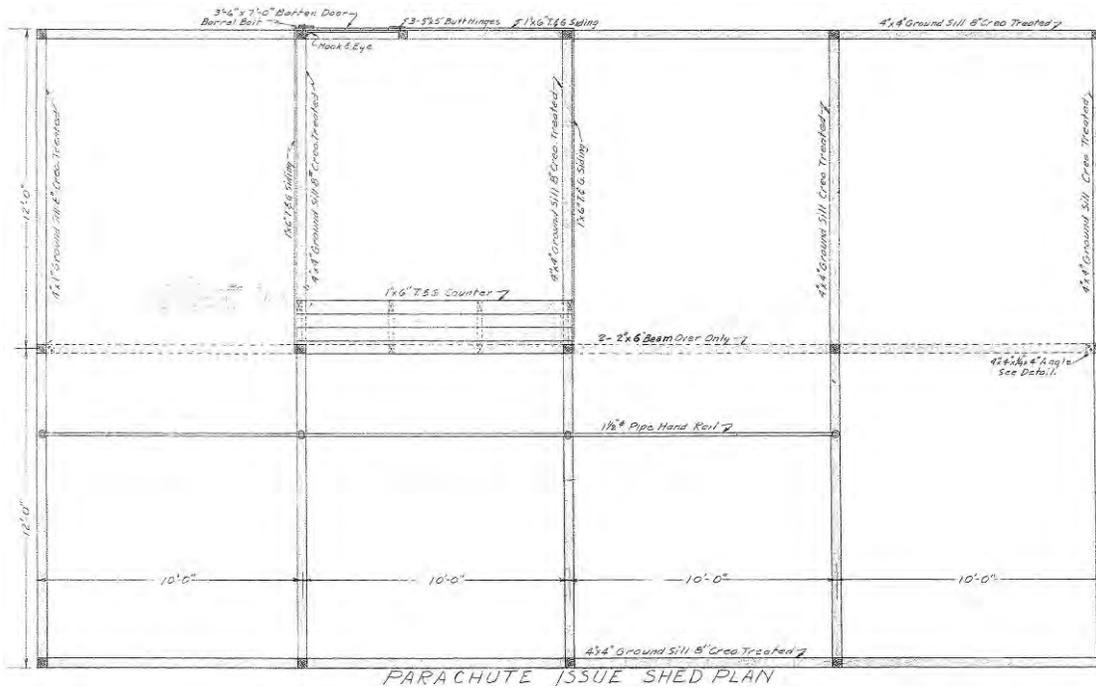


Figure 146. Parachute issue shed plan, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 4 of 8; training aids, parachute issue shed and sand table, Fort Bragg, NC; 6 June 1949).

Open type shed (ready line and fitting)

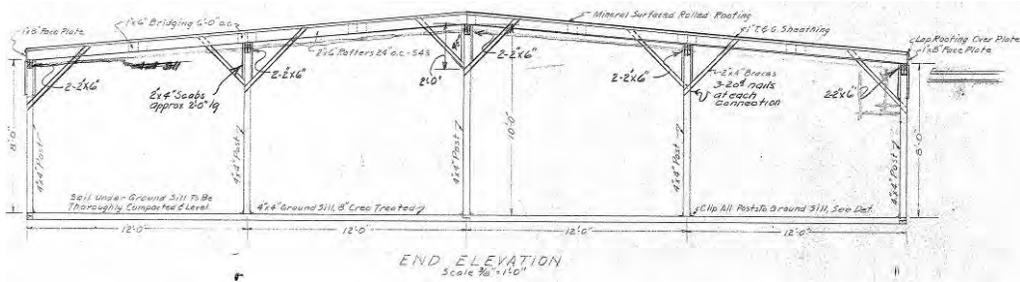


Figure 147. Open type shed (ready line and fitting), end elevation, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 5 of 8; training aids, open type shed (ready line and fitting), Fort Bragg, NC; 6 June 1949).

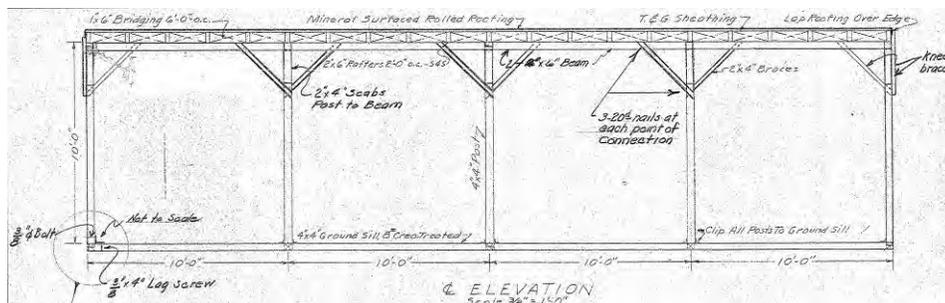


Figure 148. Open type shed (ready line and fitting), elevation, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 5 of 8; training aids, open type shed (ready line and fitting), Fort Bragg, NC; 6 June 1949).

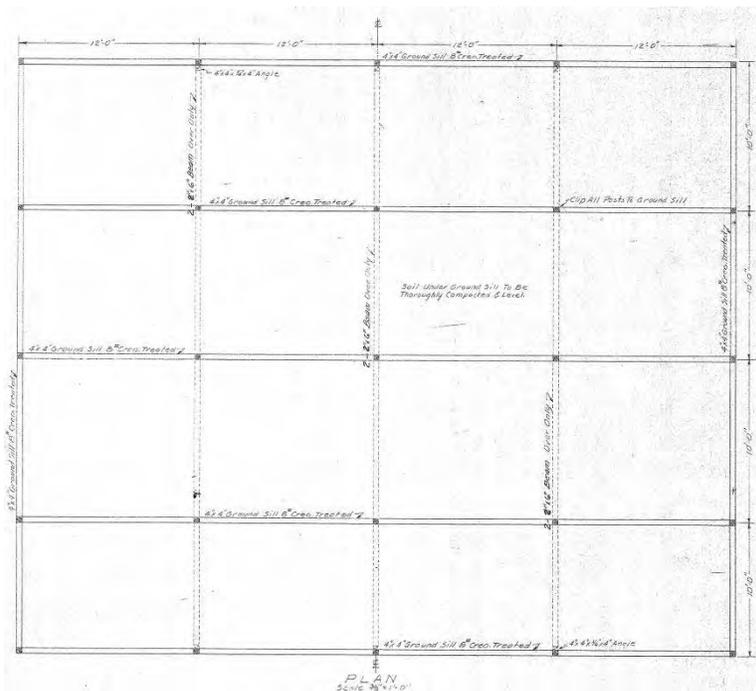
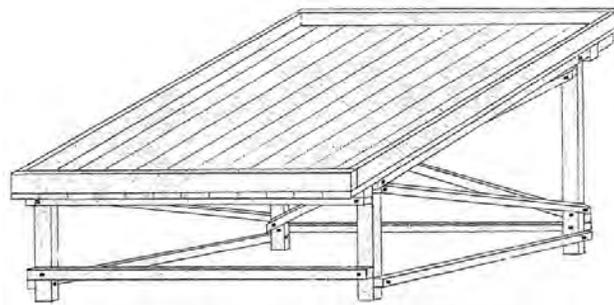


Figure 149. Open type shed (ready line and fitting), plan, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 5 of 8; training aids, open type shed (ready line and fitting), Fort Bragg, NC; 6 June 1949).

Sand table



SAND TABLE ASSEMBLY

Figure 150. Sand table stand assembly, Fort Bragg, NC, June 1949 (Standard drawing 28-09-01 sheet 4 of 8; training aids, parachute issue shed and sand table, Fort Bragg, NC; 6 June 1949).

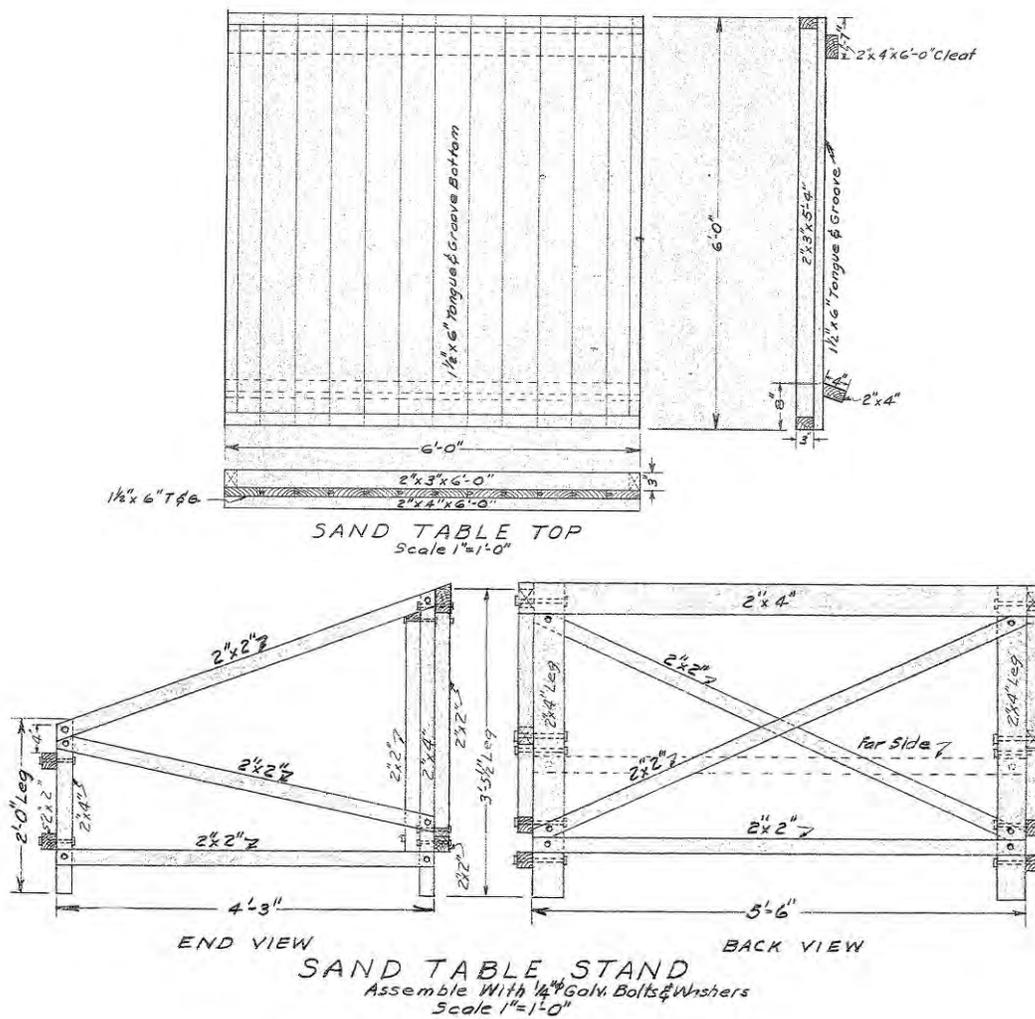


Figure 151. Sand table stand and top, Fort Bragg, NC, June 1949 (standard drawing 28-09-01 sheet 4 of 8; training aids, parachute issue shed and sand table, Fort Bragg, NC; 6 June 1949).

Mock-up tower for airborne training

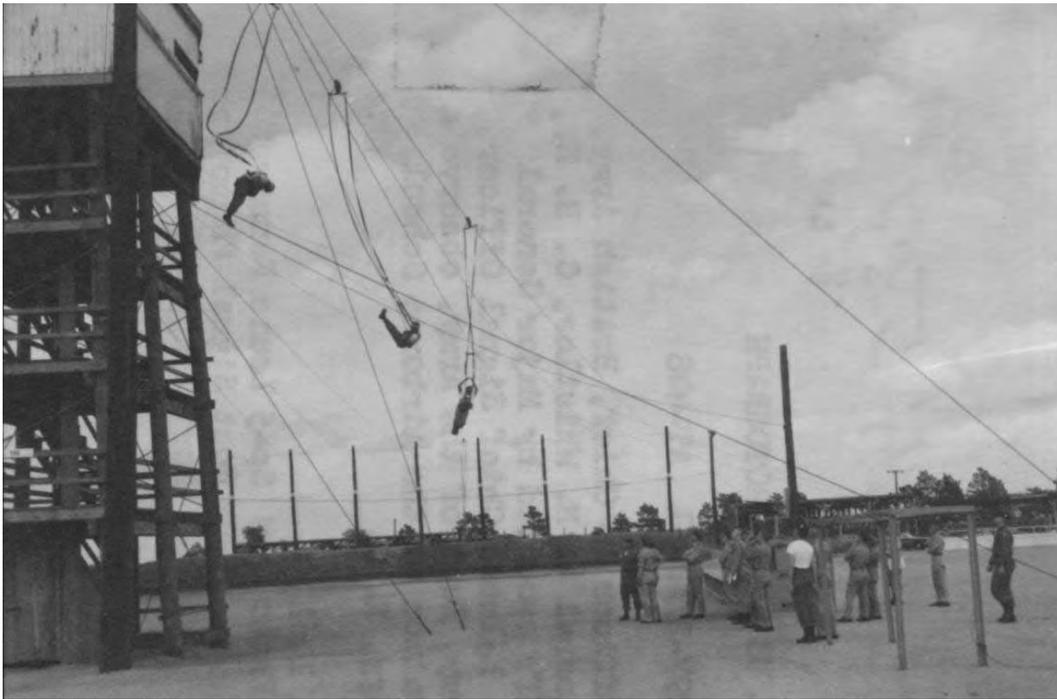


Figure 152. Mock jump tower at Fort Bragg, NC, 26 April 1961 (NARA College Park, RG 111-SC post-1955, box 365, photo SC584587).



Figure 153. ROTC cadets go through the paces of jump drill at the 82nd Airborne mock jump tower at Fort Bragg, NC, 18 June 1950 (NARA College Park, RG 111-SC WWII, photo SC345383).



Figure 154. Trainers practicing on the high tower drop to simulate opening shock at Fort Bragg, NC, December 1951 (NARA College Park, RG 111-SC WWII, box 224, photo SC391815).

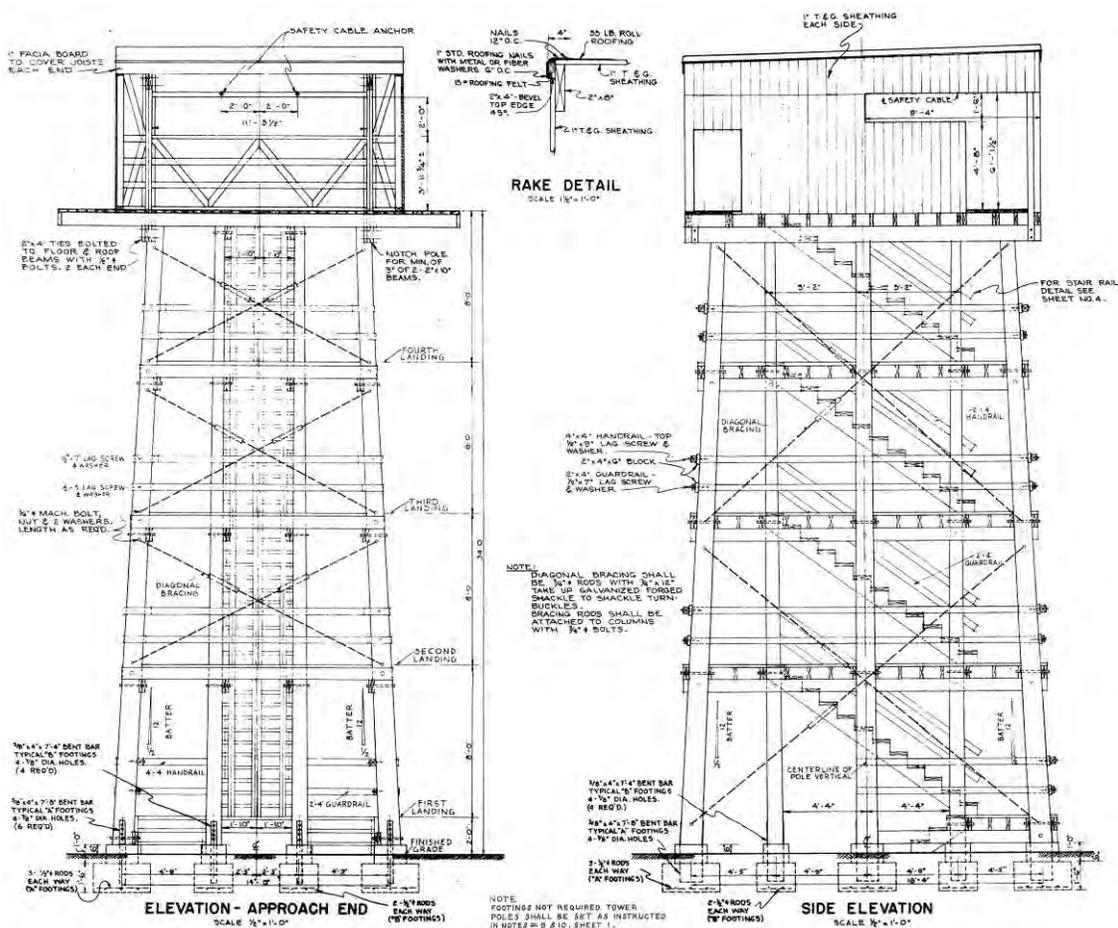


Figure 155. Mock-up tower for airborne training, elevations, Fort Bragg, NC, 1952 (standard drawing 28-13-59 sheet 5 of 6; mock-up tower for airborne training, elevations; 11 April 1952).

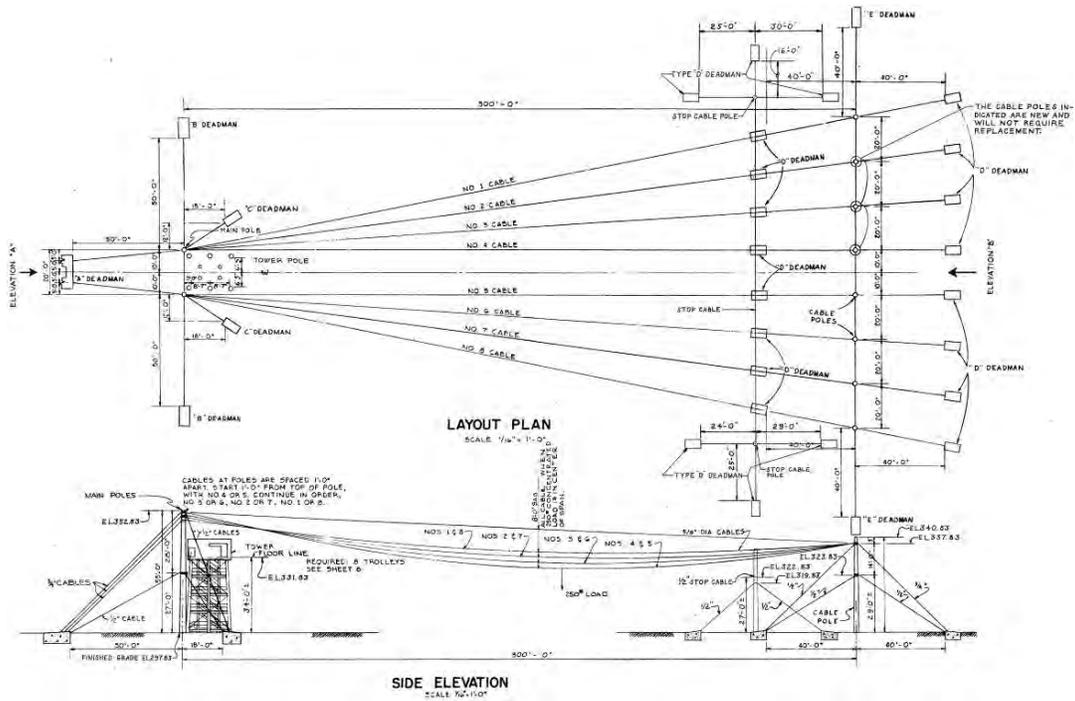


Figure 156. Mock-up tower for airborne training, layout plan and side elevation, Fort Bragg, NC, 1952 (standard drawing 28-13-59 sheet 1 of 6; mock-up tower for airborne training, layout plan and elevations; 11 April 1952).

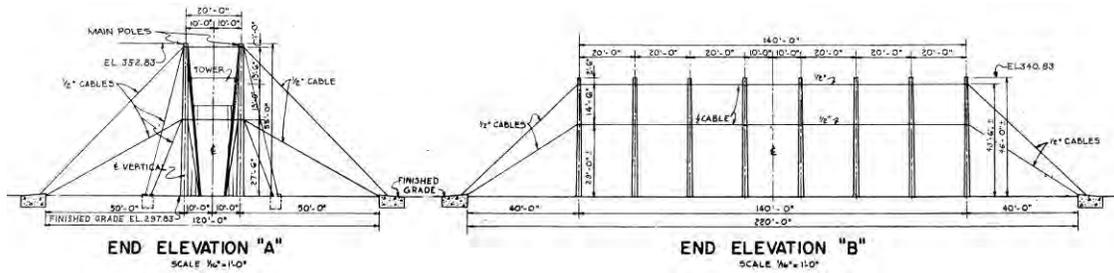


Figure 157. Mock-up tower for airborne training, elevations, Fort Bragg, NC, 1952 (standard drawing 28-13-59 sheet 1 of 6; mock-up tower for airborne training, layout plan and elevations; 11 April 1952).

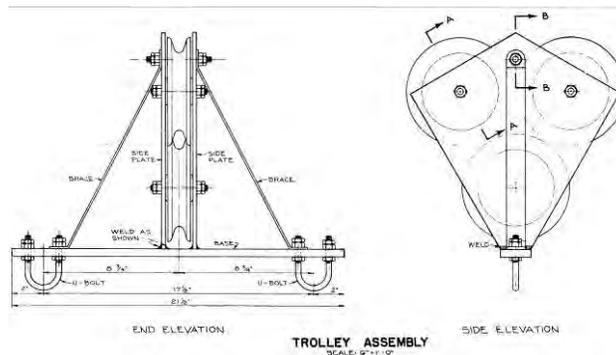


Figure 158. Mock-up tower for airborne training, trolley assembly, Fort Bragg, NC, 1952 (standard drawing 28-13-59 sheet 6 of 6; mock-up tower for airborne training, trolley assembly and details; 11 April 1952).

Swing parachute landing trainer

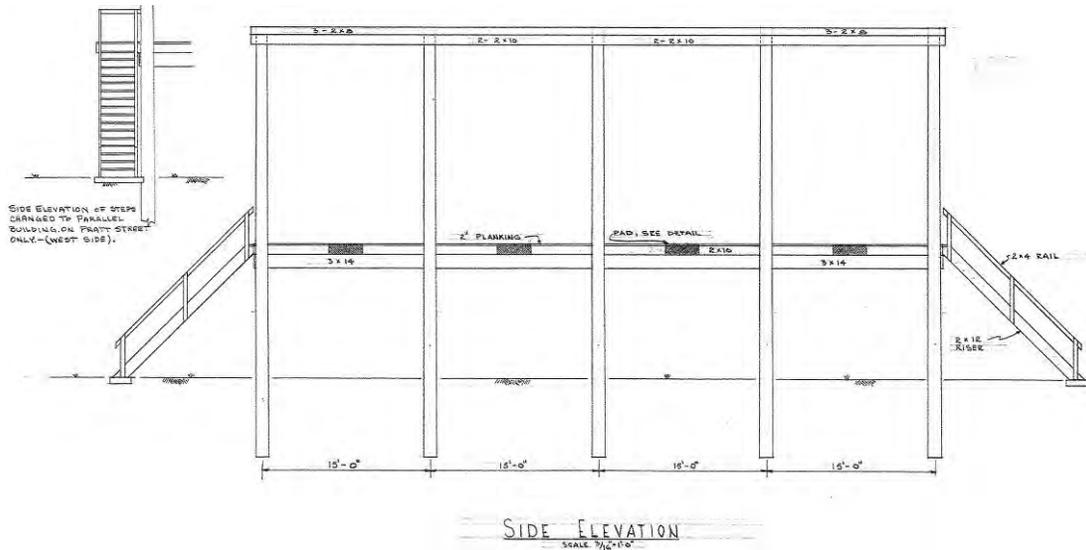


Figure 159. Swing parachute landing trainer, Canadian type, side elevation, Fort Bragg, NC, 1955 (standard drawing 28-13-109 sheet 2 of 2; swing parachute landing trainer, Canadian Type; 6 June 1955).

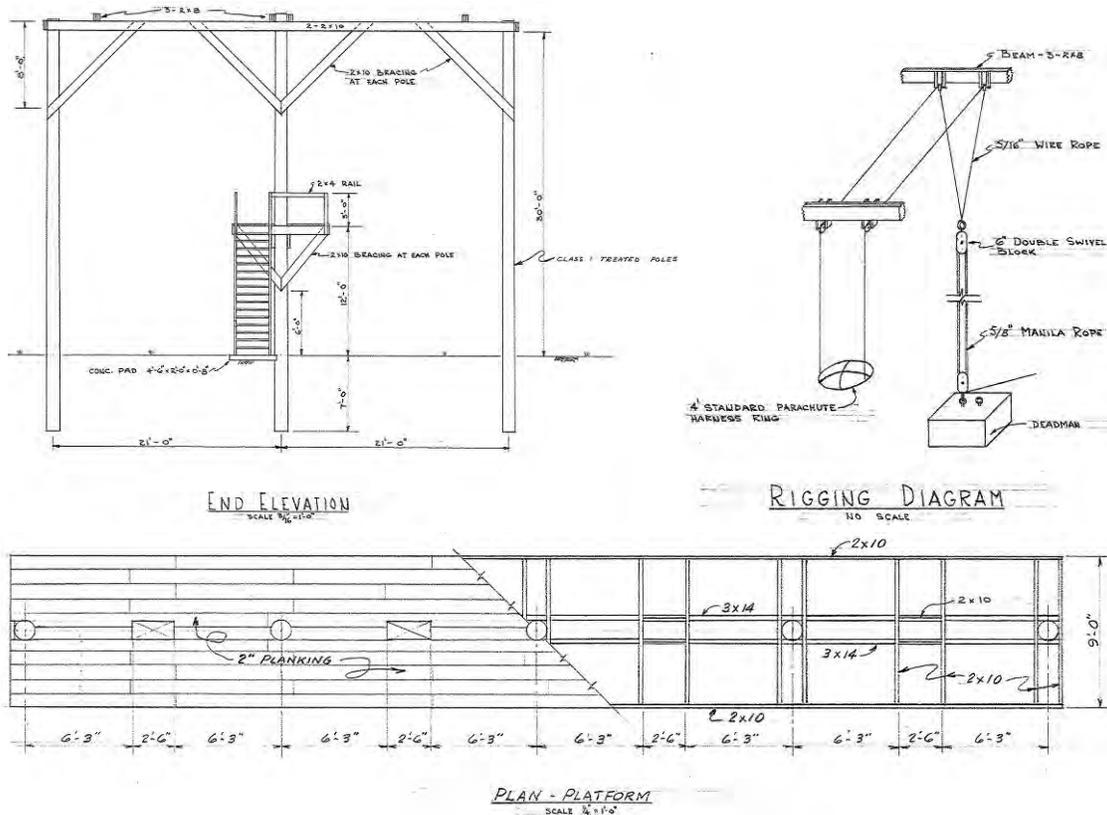


Figure 160. Swing parachute landing trainer, Canadian type, end elevation, rigging diagram, and platform plan Fort Bragg, NC, 1955 (standard drawing 28-13-109 sheet 2 of 2; swing parachute landing trainer, Canadian type; 6 June 1955).

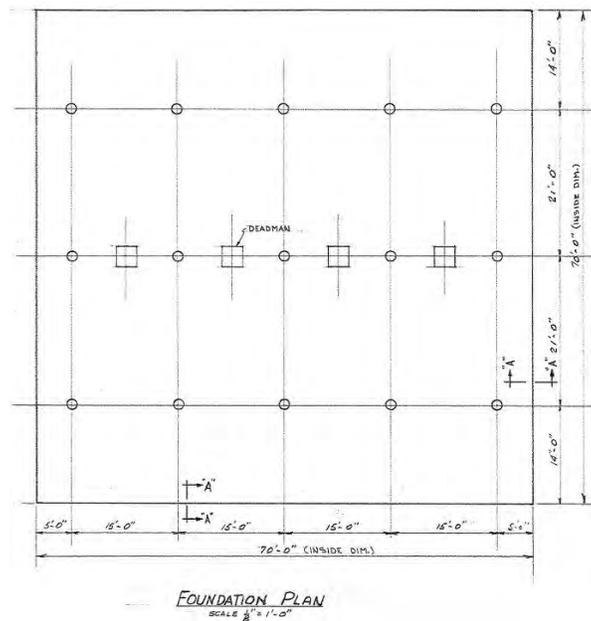


Figure 161. Swing parachute landing trainer, Canadian type, foundation plan, Fort Bragg, NC, 1955 (standard drawing 28-13-109 sheet 2 of 2; swing parachute landing trainer, Canadian type; 6 June 1955).

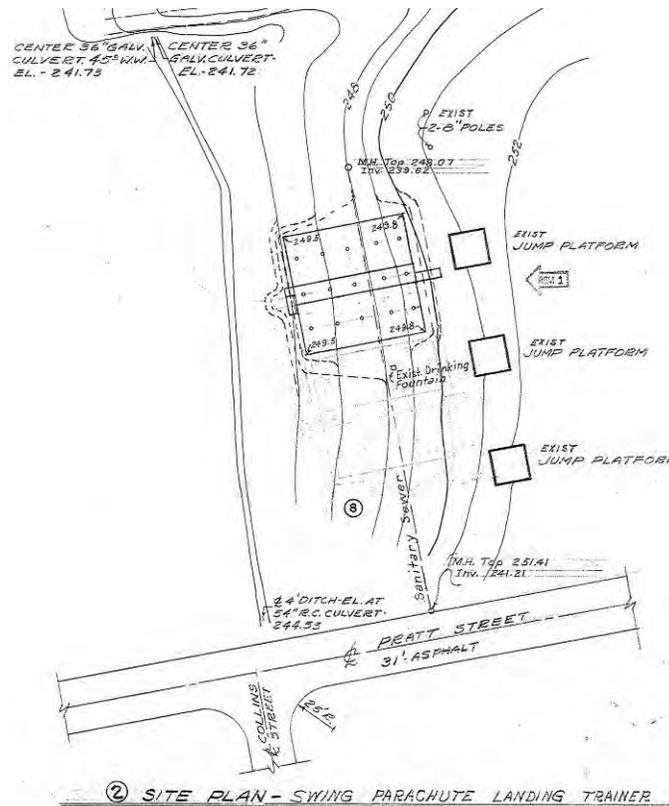


Figure 162. Swing parachute landing trainer, site plan 2, Fort Bragg, NC, 1955 (standard drawing 28-13-109 sheet 1 of 2; swing parachute landing trainer, site plan; 6 June 1955).

Rail movement mock-ups

Cargo specialists and other soldiers were trained how to load wheeled and tracked vehicles onto flatcars on a rail movement mock-up. The mock-up consisted of simulated flatcars, loading ramps, and spanning platforms (used to bridge the distance between railcars and make one continuous roadbed of the train). Soldiers were trained to be both drivers and ground guides. Ground guides were stationed on the ramp and on flatcars to direct vehicles and aid drivers, and on each side of flatcars to adjust the spanners so that the distance between them conformed to the wheel width of the various vehicles. All crewmembers were trained in blocking, bracing, securing lashings, putting spanners into place, and other basic loading procedures for a variety of rail cargo ("Rail Movement").

Simulated flatcars

Frame construction

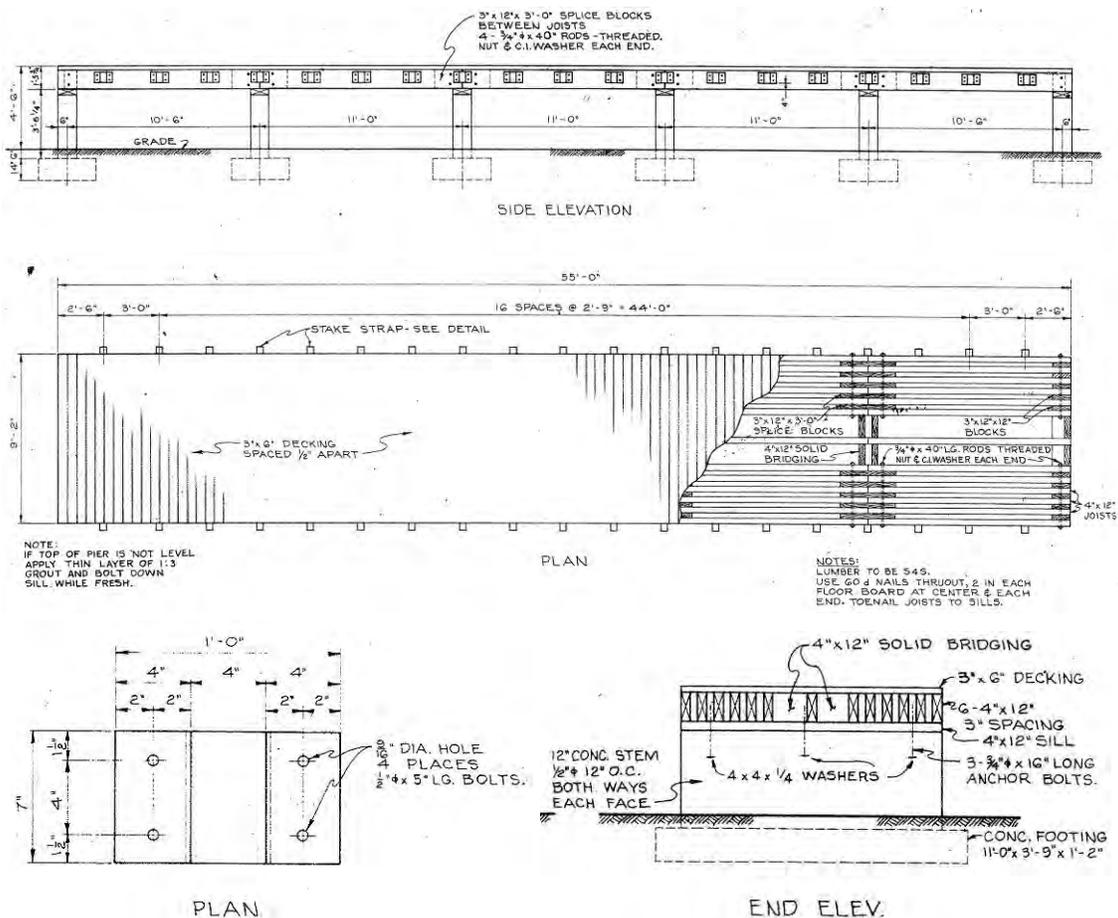


Figure 163. Rail movement mock-up, simulated flatcar (frame construction), Fort Bragg, NC, 1952 (standard drawing 28-13-52 sheet 1 of 4; rail movement mock-up, frame construction, plan, elevations, and details; 11 April 1952).

Concrete alternate

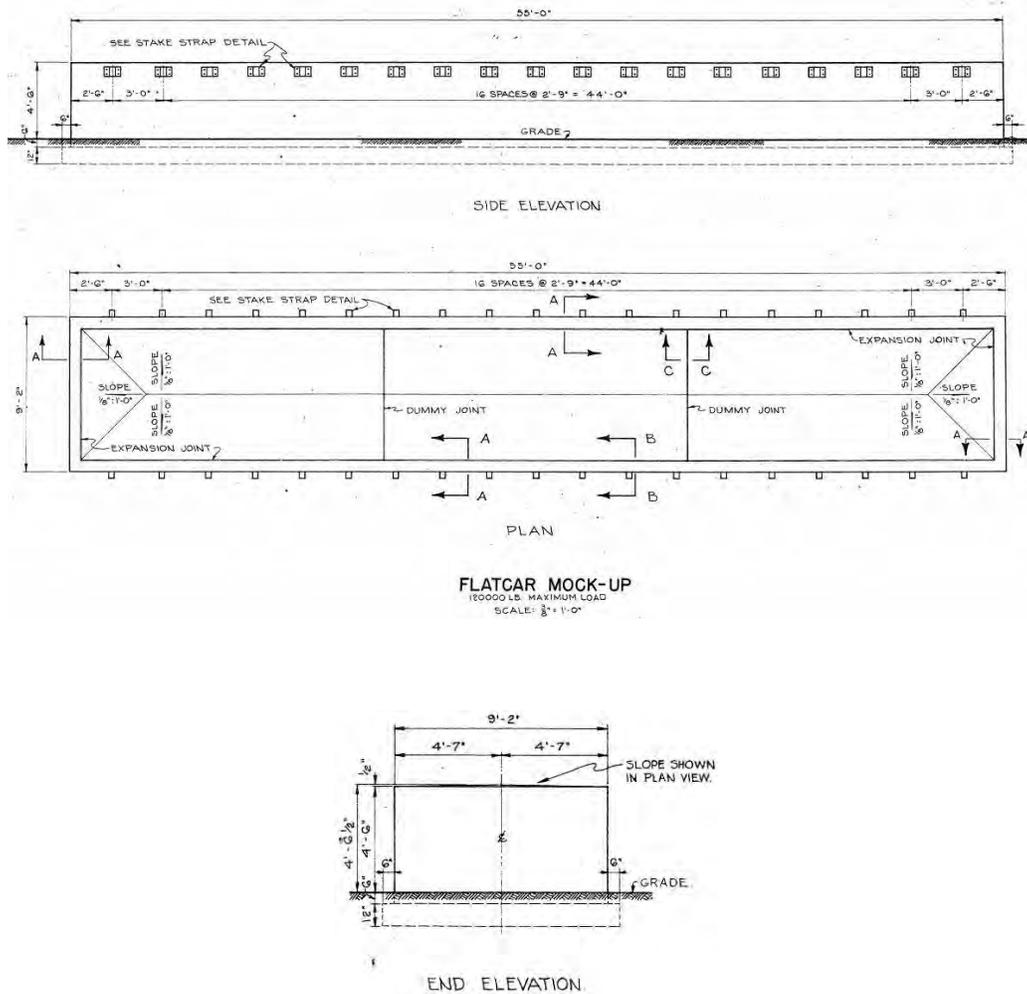


Figure 164. Rail movement mock-up, simulated flatcar (concrete alternate), Fort Bragg, NC, 1952 (standard drawing 28-13-100 sheet 1 of 4; rail movement mock-up, concrete alternate, plan, elevations, and details; 6 February 1952).

Spanning platforms

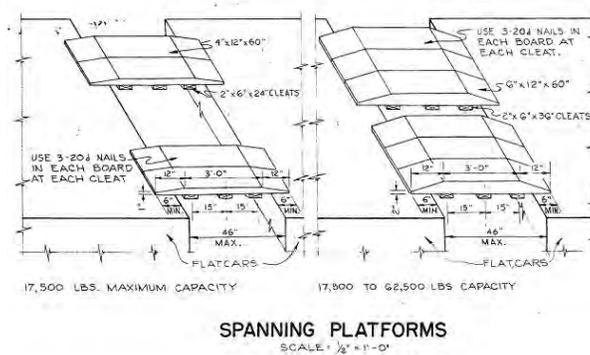


Figure 165. Rail movement mock-up, spanning platforms, Fort Bragg, NC, 1952 (standard drawing 28-13-100 sheet 1 of 4; rail movement mock-up, concrete alternate, plan, elevations, and details; 6 February 1952).