ARMY INTER-WAR ERA HOUSING HISTORIC CONTEXT (1919-1940)

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Chapter 1: Introduction

The *Program Comment for the Department of the Army Inter-War Era Historic Housing, Associated Buildings, and Landscape Features (1919-1940)* (Program Comment), adopted by the Advisory Council on Historic Preservation (ACHP) on September 4, 2020, provides the Army an alternative means of compliance with Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations (36 CFR Part 800) for the properties subject to this agreement. The Army requested the ACHP provide "program comments" on a category of undertakings that may adversely affect the historic properties associated with the Army Inter-War Era Historic Housing. The Program Comment enables the Army to fulfill its responsibilities under Section 106 following the steps set forth by the ACHP for those undertakings in lieu of individual reviews of each undertaking within the category. The Program Comment requires the Army to implement management actions for Inter-War Era housing applying the approved *Design Guidelines for Army Inter-War Era Historic Housing (1919-1940)* and the *Building Materials Catalog for Army Inter-War Era Historic Housing (1919-1940)* to ensure positive preservation outcomes. The Program Comment supersedes all previous agreements and procedures, including such documents as Programmatic Agreements (PA), Memorandum of Agreements (MOA), development agreements, lease and conveyance documents, Integrated Cultural Resources Management Plans, environmental management plans, and guidelines for Inter-War Era housing, associated buildings and structures, and landscape features (U.S. Department of the Army 2020:49).

The military assets subject to the Program Comment include all housing, associated buildings and structures, landscapes and landscape features constructed during the period 1919-1940 that are located on an Army installation or operated and managed by the Army or an Army privatized housing partner on a joint base. In Hawaii, Army Inter-War Era housing includes housing constructed from 1919-1943, in order to include housing built from 1941-1943 that are of similar design, construction, and location as Inter-War Era housing. Over 3,200 units were constructed during the Inter-War Era (1919-1940) (U.S. Department of the Army 2020:2). Army Inter-War Era housing is currently located on active installation nationwide, as depicted on the following map. The accompanying table tabulates the total number of housing units contained on each installation.

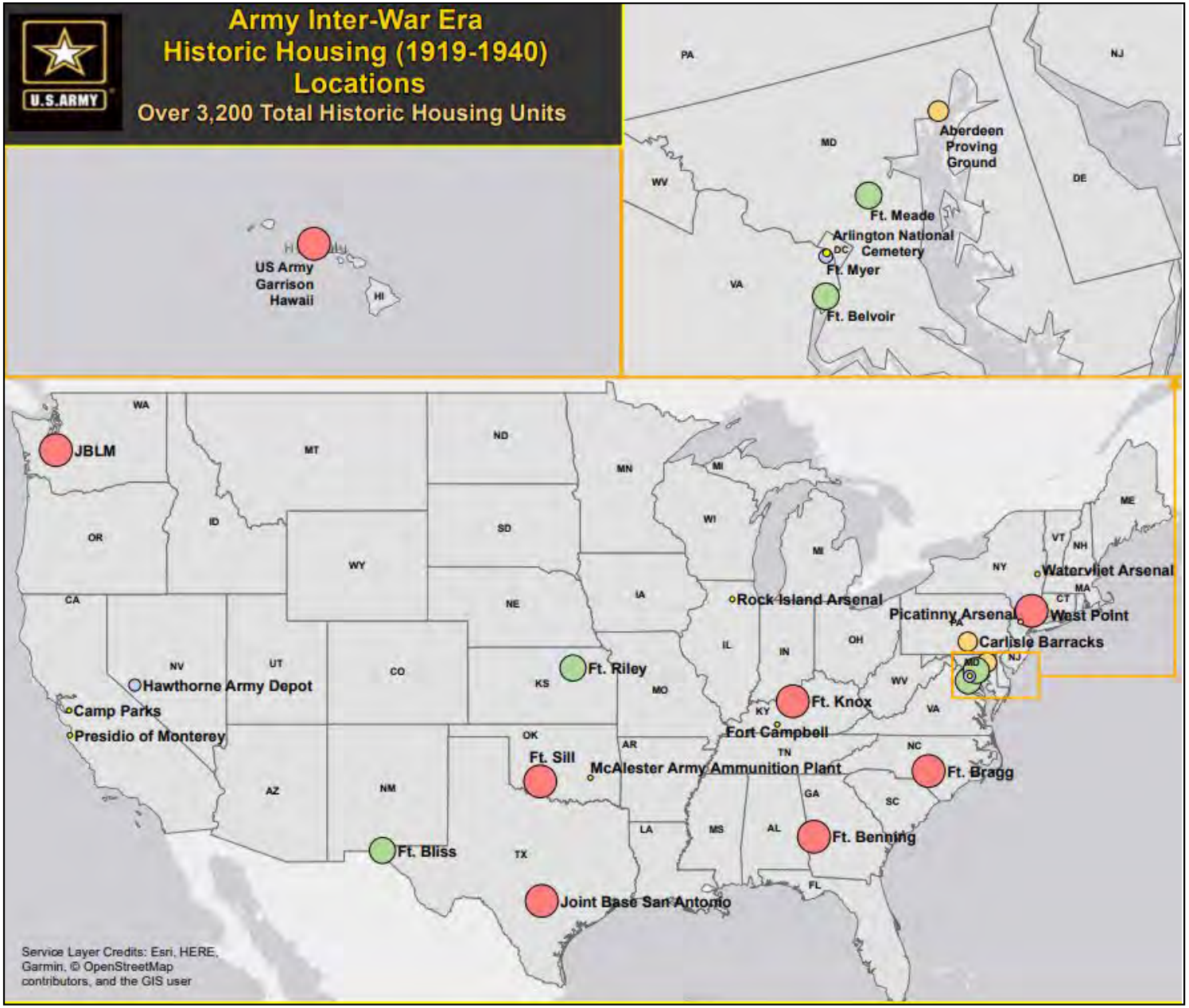

FIGURE 1.1. ARMY INTER-WAR ERA HISTORIC HOUSING (1919-1940) LOCATIONS.

Table 1.1. Locations of Army Inter-War Era Housing.

Installation	Number of Housing Units
Fort Benning, Georgia	492
USAG Hawaii	386
Joint Base Lewis McChord, Washington	330
Joint Base San Antonio, Texas	296
Fort Sill, Oklahoma	259
Fort Bragg, North Carolina	230
West Point, New York	206
Fort Knox, Kentucky	202
Fort Belvoir, Virginia	164
Fort Bliss, Texas	147
Fort Riley, Kansas	143
Fort Meade, Maryland	112
Aberdeen Proving Ground, Maryland	97
Carlisle Barracks, Pennsylvania	75
Hawthorne Army Depot, Nevada	34
Joint Base Myer Henderson Hall, Virginia	22
Camp Parks, California	9
Picatinny Arsenal, New Jersey	8
Rock Island Arsenal, Illinois	7
McAlester Army Ammunition Plant, Oklahoma	5
Presidio of Monterey, California	4
Fort Campbell, Kentucky	2
Watervliet Arsenal, New York	1
Arlington National Cemetery, Virginia	1

Housing units at USAG Hawaii; West Point, New York; Fort Meade, Maryland; and Joint Base Myer Henderson Hall, Virginia, are subject to specific provisions of the Program Comment. The Program Comment exempts Army Inter-War Era Housing units that contribute to National Historic Landmark Districts. This exemption applies to all 206 units at the West Point National Historic Landmark District, U.S. Army Military Academy, West Point, New York; six Inter-War Era housing units identified as Quarters 17, 19, 20, 21, and 28 located on Lee Avenue in the Fort Myer National Historic Landmark District, Fort Myer, Virginia; and one Inter-War Era housing unit identified as Quarters 18 located in

the Palm Circle National Historic Landmark District, Fort Shafter, Hawaii (U.S. Department of the Army n.d.; U.S. Department of the Army 2020:45-46). The Program Comment also does not apply to the 112 housing units at Fort Meade, Maryland, that are subject to a Deed of Easement dated 27 March 2003, between Meade Communities LLC (limited liability corporation) and the Maryland Historical Trust (U.S. Department of the Army 2020:47).

Army Inter-War Era Housing Historic Context

Among the Additional Treatment Measures (3.2) specified in the Program Comment is the development of a focused historic context to supplement previous investigations into Army Inter-War Era housing. The Department of the Army has previously completed five major studies related to housing constructed during the era. This body of work includes:

- *National Historic Context for Department of Defense Installations, 1790-1940*, Volumes I-4, DoD Legacy Resource Management Program Project 92-0075 (R. Christopher Goodwin & Associates, Inc. 1995),
- *A Study of United States Army Family Housing Standardized Plans*, Volumes 1-5 (Grashof 1986),
- *Context Study of the United States Quartermaster General Standardized Plans 1866-1942*, (U.S. Army Corps of Engineers, Seattle District 1997),
- *Historic Context Study of Historic Military Family Housing in Hawaii*, DoD Legacy Resource Management Program Project 115 (Mason Architects Inc. 2003), and
- *Design Guidelines for Department of Defense Historic Buildings and Districts*, DoD Legacy Resource Management Program Project 07-382 (McDonald and Michael 2008).

The current Army Inter-War Era Housing Historic Context was designed to complement and to build upon previous work to address the five research objectives contained in Section 3.2.1 of the Program Comment. These objectives are:

- To expand the existing Inter-War Era housing historic context information;
- To address precedents for Army Quartermaster Corps Inter-War Era housing styles;

- To examine Army Inter-War Era housing design in the context of architectural design in the civilian sector;
- To further describe the architectural styles present in the Army's inventory of Inter-War Era housing; and
- To examine Army Inter-War Era housing in the context of social and economic changes during the Inter-War Era.

An historic context is a theoretical framework used to organize information on related properties based on a theme, geographic area, and chronological period. This current study provides a framework for understanding the history and significance of Army Inter-War Era Housing. Data has been synthesized from previous investigations and expanded through additional research and analysis to more fully explore the design and construction of military housing within the historical events and cultural changes that characterized the nation during the era.

This historic context was prepared by R. Christopher Goodwin & Associates, Inc. on behalf the Cherokee Nation Management and Consulting, LLC, for the U.S. Department of the Army. All work was undertaken by historians and architectural historians experienced in the history of military design and construction and who exceed the Secretary of the Interior's Professional Qualifications in their respective fields (36 CFR Part 61).

Chapter 2: Methodology

The current Army Inter-War Era Housing Historic Context was designed to complement and to expand previous work on military housing during the Inter-War Era to address the five research objectives contained in Section 3.2.1 of the *Program Comment for the Department of the Army Inter-War Historic Housing, Associated Building and Structures, and Landscape Features (1919-1940)*. These objectives are:

- To expand the existing Inter-War Era housing historic context information;
- To address precedents for Army Quartermaster Corps Inter-War Era housing styles;
- To examine Army Inter-War Era housing design in the context of architectural design in the civilian sector;
- To further describe the architectural styles present in the Army's inventory of Inter-War Era housing; and
- To examine Army Inter-War Era housing in the context of social and economic changes during the Inter-War Era.

The objectives of the investigation were achieved through a progressive program of archival research, data analysis, and report preparation. Data compiled in previous studies and existing installation-level documentation was utilized to the maximum degree possible. All work was completed in accordance with the standards and guidelines developed by the Department of the Interior and best cultural resource management practices by historians and architectural historians with specialized experience in the history of military design and construction. All personnel assigned to this project exceed the professional qualification standards established by the Secretary of the Interior in their respective fields.

All research was completed on-line due to the restrictions imposed during the COVID-19 pandemic. Libraries, archives, and research repositories were closed to the public during the period of the current investigation. A comprehensive literature search first was undertaken to identify previous studies relevant to the investigation. These sources included the five major studies completed by the Army:

- *National Historic Context for Department of Defense Installations, 1790-1940*, Volumes 1-4, DoD Legacy Resource Management Program Project 92-0075 (R. Christopher Goodwin & Associates, Inc. 1995),
- *A Study of United States Army Family Housing Standardized Plans*, Volumes 1-6 (Grashof 1986),
- *Context Study of the United States Quartermaster General Standardized Plans 1866-1942* (U.S. Army Corps of Engineers, Seattle District 1997),
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The above studies were supplemented by data contained in nominations to the National Register of Historic Places (NRHP) and National Historic Landmark (NHL); and documentation maintained by the Historic American Buildings Survey (HABS) and the Historic American Engineering Record (HAER) for resources located within the 16 states containing Army installations subject to the Program Comment. In addition, survey data maintained by the State Historic Preservation Offices in the 16 states were reviewed. Recent literature relevant to the topic was reviewed and included articles; manuscripts; newspapers and magazines; architectural, engineering, and academic journals; as well as academic theses and dissertations.

Directed research was conducted into the themes of general housing trends; demographics, social, and economic conditions during the Inter-War Era; government policies towards housing and home ownership; and the Army's response to housing its service members. Primary source materials consulted included architectural drawings and plans; published Federal and state laws, regulations and guidelines; government and professional association housing reports; census data; housing surveys; civilian market house plans; historic photographs and postcards; advertisements and promotional brochures; and historic maps.

Historical and site-specific data then were analyzed applying the research objectives established for the study. The resulting report is organized into seven chapters.

- Chapter 1 summarizes the purpose and administrative context for the current investigation.
- Chapter 2 presents the methodology for the investigation.
- Chapter 3 presents an historic overview of the Army during the Inter-War Era, the development of the Army housing program during the early 1920s, and the implementation of the program between 1929 and 1940.
- Chapter 4 explores the social and economic changes related to U.S. housing during the period.
- Chapter 5 explores government intervention into the housing market and government programs and policies to improve housing conditions.
- Chapter 6 examines key housing trends, house construction in the civilian market and on Army installations, and compares Army housing to that offered on the civilian market.
- Chapter 7 provides a summary of major similarities and differences between housing in the civilian market and the military during the Inter-War Era.
- Report preparer resumes are presented in Appendix A.

Chapter 3: THE ARMY INTER-WAR HOUSING PROGRAM 1919-1940: An Expanded Historic Context

During the Inter-War Era, the Army embarked on a major family housing program during a time of peace. Americans welcomed peace after World War I and did not want to repeat the experience of international conflict. This chapter provides a brief overview of international policy in relation to U.S. military history and discusses the major Army reorganization that occurred after the passage of the National Defense Act of 1920. The Army housing program was a direct result of the implementation of the Army reorganization, which affected the number of personnel serving in the Regular Army, the Army's military mission, the locations of installations, and family housing requirements. A discussion of the Army housing program follows and includes the program's beginning between 1919 and 1926 and the evolution of the program from 1926 to 1932. The chapter ends with a discussion of the New Deal programs that funded the construction of Army family housing during the 1930s.

Overview of Military History in the Inter-War Era

The Inter-War Era in American military history is defined by the period during the twentieth century bracketed by U.S. involvement in two world-wide conflicts: World War I (1917-1918) and World War II (1941-1945). Following the Armistice ending World War I on November 11, 1918, the United States entered a period of peace. Americans had no wish to repeat the experiences of a world war and nationwide political sentiments were deeply isolationist. The pervasive thinking was that the U.S. was insulated from foreign conflicts by the Atlantic and Pacific oceans. Thus, U.S. support for participating in foreign military affairs waned. As the economic downturn known as the Great Depression of the 1930s replaced the general prosperity of the 1920s, popular support for isolationism increased as the U.S. government turned inward to deal with the domestic effects of the Great Depression under President Roosevelt (U.S. Department of State "American Isolationism". . . n.d.).

During the Inter-War Era, the U.S. military comprised the Army and the Navy. The War Department oversaw the Army and Army Air Service, which was renamed the Army Air Corps in 1936. The Department of the Navy oversaw both the Navy and the Marine Corps. The Army and Navy underwent

major reorganizations during the early 1920s, as the roles of the Army and the Navy were redefined and personnel numbers for peacetime military were established. Military budgets appropriated by the U.S. Congress remained low during the early 1920s. In addition, the location and number of Army installations and Navy bases were adjusted to meet peacetime requirements. World leaders at the end of World War I did not expect the cataclysm of a second world war. The rise of international tensions during the 1930s proved that the hope for permanent peace was illusory.

The following explores U.S. international diplomacy conducted to ensure peace, the factors that led to the Army reorganization and effects, and the missions and roles of the Army during the Inter-War Era. U.S. efforts in international diplomacy influenced the country's policies related to the War Department and to development in the peace-time military.

U.S. International Diplomacy to Ensure Peace

The U.S. government worked to promote world peace through participation in the peace talks following the end of World War I. The U.S. government also participated international pacts and naval conferences to protect the country against aggressors.

After the Armistice of November 11, 1918, U.S. President Woodrow Wilson joined with the Allied Powers (i.e., Great Britain, France, Russia, Italy, Romania, and Japan) in peace negotiations with the Central Powers (i.e., Germany, Austria-Hungary, Bulgaria, and the Ottoman Empire). Among the many provisions of the Treaty of Versailles was one provision mandating the formation of the League of Nations as a forum to preserve international peace. Although the League of Nations was proposed by President Wilson, the Congress did not ratify the Treaty of Versailles and declined to join the League of Nations (U.S. Department of State "The Paris Peace Conference…" n.d.).

During the early Inter-War Era, U.S. international diplomacy focused on advocating for peaceful relations among nations. U.S. international diplomacy mostly revolved around naval issues since the U.S. believed that the Atlantic and the Pacific oceans protected the country. After World War I, the three dominant Naval powers were the U.S., Great Britain, and Japan. Japan and Britain maintained a treaty of friendship that was not scheduled to expire until 1921, and this agreement was a matter of some

concern to the U.S. The rapid rise of U.S. as a world Naval power also raised British concerns over their loss of Naval preeminence (Hagan 1991:263-264).

To preclude a Naval armament race among the three powers, the U.S. proposed the Washington Naval Disarmament Conference of 1921 and 1922. At the conclusion of the conference, the three powers fixed a tonnage ratio in capital ships of 5: 5: 3 for the U.S., Britain, and Japan, respectively. As part of the treaty, the U.S. and Japan agreed not to fortify islands in the western Pacific. Hawaii was not covered in agreement, but the Philippines, Guam, and Samoa were left unfortified. A second disarmament conference at London in 1930 reaffirmed the provisions of the Washington Conference, and added a five-year moratorium on capital ship construction (Hagan 1991:266-267, 278-279). The Washington Naval Disarmament Conference of 1921 - 1922, followed by the London Naval Disarmament Conference of 1930, provided the U.S. with confidence that future conflicts could be avoided through limiting Pacific fortifications and the ratio of capital ships.

Another effort to ensure world peace was the negotiation of the Kellogg-Briand Pact of 1928. The pact included fifteen nations who renounced wars of aggression - but not military acts of defense - as an instrument of national policy. Signatories to the non-binding pact included France, the U.S., the United Kingdom, Ireland, Canada, Australia, New Zealand, South Africa, India, Belgium, Poland, Czechoslovakia, Germany, Italy, and Japan (U.S. Department of State "The Kellogg-Briand Pact, 1928" n.d.).

For the American public, the disarmament conferences were viewed as an indication of a peaceful future. Yet the Navy was concerned about the growing Japanese threat to U.S. territories (i.e., the Philippines, Samoa, and Guam) in the western Pacific. The prohibition of fortifications meant that these islands probably would be captured early in a future conflict, and the U.S. would be forced to fight its way across the Pacific. As Japan became increasingly aggressive towards its neighbors, Navy war planners concentrated efforts on a potential war scenario against Japan.

The Navy's forces historically were concentrated along the Atlantic Ocean, with most of its installations located on the Atlantic or Gulf coasts. The new focus on a possible war with Japan led the Navy to shift forces to the Pacific. The Navy correspondingly expanded its shore facilities to support a Pacific fleet. New bases were established at San Diego, California, and Pearl Harbor, Hawaii (Coletta 1985:509;

Wheeler 1963:75-82). During the 1920s and 1930s, the Navy developed Pearl Harbor into a major repair and supply facility. The Army also built a complex of Army coastal artillery, an army airfield, and garrisons to protect the fleet. In 1940, Roosevelt ordered the Pacific Fleet to remain in Hawaii after the conclusion of its fleet maneuvers. With Pearl Harbor safe from Japanese attack, the only conceivable threat to the base was a carrier-based air attack, which the leading Naval admirals at the time considered a highly unlikely scenario (Coletta 1985:431-463; R. Christopher Goodwin & Associates, Inc. 1995 Vol. 1:84, 87-88).

Army Reorganization of 1920

After the end of World War I, the U.S. military underwent a major downsizing as troops were demobilized from active duty and returned to civilian life. Military appropriations languished immediately after the end of World War I and into the early 1920s. Army planners reviewed fundamental questions about the role of the future Army, its size, and its structure. As a result of internal studies, Army leaders proposed a major reorganization to Congress, which was adopted into law under the National Defense Act of 1920. The National Defense Act of 1920, and subsequent amendments, established the parameters for Army operations during the Inter-War Era.

The National Defense Act of 1920 defined and clarified the Army's peacetime roles. The Regular Army's role was defined as the defense of the borders of the continental U.S. and its overseas territories; planning for the mobilization of personnel and industrial procurement when needed; training to sustain the "knowledge of the military arts"; and training for the National Guard and Army Reserve components (Stewart 2010:55, 59). The Army further was tasked to ensure "the organized peace establishment, including the Regular Army, the National Guard, and the Organized Reserves, shall include all of those divisions and other military organizations necessary to form a basis for a complete and immediate mobilization for the national defense in the event of a national emergency declared by Congress" (U.S. Congress 1924:7). The organizational hierarchy was established as brigades, divisions, and army corps. The largest entity was an army which was constituted as necessary by the U.S. President (U.S. Congress 1925:55).

The Army's primary role was to defend the continental U.S. In case of future war, civilian and military leaders anticipated that the Navy would provide the first line of defense against attack by sea, while the Air Service would provide the second line of defense to protect the coasts from attack within aircraft range. As a result, a small standing Regular Army was deemed sufficient to guard the continental U.S. home front and to serve as the nucleus of a larger military organization in the event of full-scale mobilization. The National Defense Act capped Army personnel at 296,000 men comprising 280,000 enlisted personnel and 17,717 officers. The strength of the National Guard was capped at 435,000 men. The Organized Reserve of officers and enlisted personnel was not unrestricted (Secretary of War 1920:12; Wilson 1998:87). Army personnel numbers never reached the personnel caps established by Congress (Johnson 1968:3).

The National Defense Act of 1920 reorganized the Army into nine corps areas within the continental U.S. Each corps area contained one active Army division plus one National Guard or Reserve division (*The National Defense Act* 1927:9). In late 1920, the infantry division was defined as 19,385 men while a cavalry division was defined as 7,463 men (Wilson 1998:92-93, 95-96). In actuality, the peacetime infantry division numbered about 11,000 men and the cavalry division numbered 6,000 (Wilson 1998:95). The National Defense Act of 1920 also established an Air Service, a Chemical Warfare Service, and a Finance Department (Matloff 1969: 406-409).

The effects of the National Defense Act of 1920 had ramifications for the Army's physical installations. The number of Army personnel authorized represented the largest peacetime Army in the history of the U.S. More officers and men needed permanent housing than ever before. The creation of the nine corps areas necessitated the redistribution of Army installations across the U.S. Military planners conducted a review of the Army's real estate holdings by the new corps areas. Some pre-World War I Army installations were retained and expanded, while other installations were closed. Installations constructed as World War I temporary mobilization training camps for the Army and the Air Service also were reviewed for their potential to support personnel in the new corps areas. Dependent on location, these properties represented valuable real estate; however, the temporary buildings built for rapid military mobilization required replacement with permanent construction support permanent, peacetime installations.

The number of Army personnel during the Inter-War Era fluctuated constantly and complicated Army planning for permanent housing. In 1920, Army personnel numbers dropped from nearly 2.4 million in 1918 to 204,725 in 1920 (U.S. Department of Defense 1997:50). By 1922, the number of Army personnel was reduced to 12,000 commissioned officers and 125,000 enlisted personnel (Stewart 2010:57, 61). Between 1922 and 1936, Army personnel numbers ranged between 133,000 and 148,000 (U.S. Department of Defense 1997:50-51). Army personnel numbers rose to 167,816 in 1936 and continued to climb to 269,023 in 1940. In 1941, Army personnel numbered over 1.4 million and exceeded 8.2 million in 1945 (U.S. Department of Defense 1997:50-51) (Table 3.1).

During the Inter-War Era, approximately 10,000 African Americans served in the Regular Army; it was the same level of enlistment as the pre-World War I period (Franklin and Moss 1988:293). Despite serving with distinction during World War I, most African Americans were demobilized at the end of the war. African Americans in the Regular Army served in two cavalry and two infantry regiments. In 1922, the 10th Cavalry and the 25th Infantry were assigned to serve along the southern border. The 9th Cavalry was assigned to the Cavalry School at Fort Riley, Kansas, and the 24th Infantry was assigned to the Infantry School at Fort Benning, Georgia (Wilson 1998:99). During the Inter-War Era, African Americans accounted for 2 percent of servicemen in the Army and National Guard (Smith and Zeidler 1998:182). African Americans served as enlisted personnel and were housed in segregated barracks. The Army had no African American officers serving during that period.

Inter-War Era Missions

Under the National Defense Act of 1920, the Army was mandated to train Regular Army troops, the National Guard, and Reserve components. As a corollary to training, the military needed to adopt changes in military technology and new weapons to keep the fighting forces up-to-date.

Training the Regular Army required the development of personnel with up-to-date skills, who were proficient in new technology, such as tanks and aircraft. With limited budgets and large quantities of stockpiled World War I surplus material, the Army limited investment in new equipment during the 1920s. Even though semi-automatic rifles were available, the bolt-action Springfield ‘03 remained the standard Army issue rifle until 1936, when it was replaced by the Garand semi-automatic. The Army

Table 3.1 Selected Statistics Showing Army Manpower between 1915 and 1943.

Year	Army Officers	Army Enlisted
1915	4,948	101,806
1916	5,175	103,224
1917	34,224	387,243
1918	130,485	2,265,257
1919	91,975	759,649
1920	18,999	185,293
1921	16,501	214,224
1922	15,667	133,096
1923	14,021	119,222
1924	13,784	128,889
1925	14,594	122,454
1926	14,143	120,795
1927	14,020	120,809
1928	14,019	122,065
1929	14,047	125,071
1930	14,151	125,227
1931	14,159	126,357
1932	14,111	120,846
1933	13,896	122,651
1934	13,761	124,703
1935	13,471	126,015
1936	13,512	154,304
1937	13,740	166,228
1938	13,975	171,513
1939	14,486	175,353
1940	18,326	250,697
1941	99,536	1,362,779
1942	206,422	2,869,186
1943	579,576	6,414,896

SOURCE: DOD 1997:59-60, 67-68

experimented with tanks at Fort Meade in 1928 until General MacArthur allowed armored developments to lapse under the indifferent direction of infantry and cavalry branches. Although the Army incorporated motor transportation into its inventory, the horse cavalry and horse-drawn artillery remained active in the Army until World War II (Stewart 2010:69-70).

The airplane was one new technology adopted by both the Army and the Navy for future warfare. Army aviation performance during World War I ensured that aviation remained a vital part of the Army. Regular Army and Air Corps officers were divided about the potential role of aviation. Leading Air Corps officers argued for the use of air power as a strategic weapon and the deployment of bomber formations to strike into enemy territory, thus limiting or avoiding ground warfare. Regular Army leadership generally viewed aviation as a tactical weapon to support ground operations. The Air Corps Act of 1926 enacted by Congress authorized a five-year expansion program for the Air Corps that increased personnel numbers and the number of aircraft. Correspondingly, the act led to an increase in the number of installations required to accommodate the expansion.

The Navy also studied the potential of aviation in warfare though Navy leadership believed that the battleship and cruiser would dominate any future conflicts. Many admirals recognized the full destructive power of aircraft, but others considered aircraft primarily valuable for reconnaissance. Aircraft were described as the "eyes of the fleet" (Hagan 1991:272-275; Reynolds 1978:17). Nevertheless, in 1922, the Navy built the first U.S. aircraft carrier, which was a former collier converted to an aircraft carrier by adding a flight deck on the superstructure. The first American ship constructed from the keel up as an aircraft carrier was commissioned the *Ranger* in 1934 (Hagan 1991:272-273). Naval aviators also experimented with lighter-than-air craft, especially the rigid airships. With their steel frame superstructures, these huge airships could carry crews of up to 75 personnel, and conduct long-range patrols. The Navy established Moffett Field Naval Air Station, now known as Moffett Federal Airfield/Camp Parks, California, as the West Coast home for the dirigible *USS Macon.*

The Regular Army was charged with the mission of training citizen soldiers who could be mobilized in case of future manpower needs. Training of the Army's "civilian components" became an important activity on military installations during the Inter-War Era. In 1933, a survey of buildings at Army posts identified approximately 63 installations where summer training was conducted. Summer training

camps have been documented at Fort Meade, Maryland, and Fort Knox, Kentucky. At both installations, Regular Army soldiers were assigned to train National Guard units, Reserve Officers Training Corps (ROTC) cadets, and Civilian Military Training Camp (CMTC) volunteers. The ROTC program trained college students to receive an Army Reserve commission upon graduation. The CMTC accepted young men of high school age to undergo voluntary military training. At both Fort Meade and Fort Knox, CMTC training became elaborate affairs, with a combination of military training and recreational opportunities (Weigley 1967:401; National Archives and Records Administration [NARA] 1933; NARA n.d.).

The Army also was involved in the direction of the Civilian Conservation Corps (CCC) during the 1930s. The CCC was created by the Emergency Conservation Work Act passed by Congress on March 31, 1933, and by Executive Order 6101 issued on April 5, 1933; the CCC was active until 1942 (Lacy 1976). The CCC was a nationwide, Federally administered work relief program to employ young men between the ages of 18 to 25 who were U.S. citizens, healthy, and physically able to perform manual labor. In addition, they or their families had to be on the relief rolls (Kansas Emergency Relief Committee [KERC] 1932-1933). CCC enrollees worked primarily on environmental projects, described as "planting of trees, thinning of timber, tree trimming, wood cutting, insect and tree disease eradication, fire prevention and firefighting, park trail and road building, flood control, and soil erosion work" in national and state parks and forests and parks (KERC 1932-1933; Goodfellow et al. 2009).

The War Department was joined with the Departments of Labor, Interior, and Agriculture to direct the CCC program. The role of the War Department was to receive CCC enrollees, to assemble and organize the 200-man companies, to transport companies to their work areas, and to clothe and equip enrollees from the time of their induction into the CCC until the end of their service (Goodfellow et al. 2009:18). By April 1933, the War Department was charged to set up and administer the CCC camps dispersed throughout the U.S. Each camp typically required two Regular Army officers, one Reserve officer, and four enlisted men (Secretary of War 1933:3-6). As the years, progressed more Reserve officers were assigned to administer the camps (Killilae 1940:456). The CCC was a civilian organization. Even though the camps were administered by the Army, CCC enrollees were assured that there would be no military training (KERC 1932-1933).

Between 1933 and 1935, the War Department hosted a few CCC camps on military reservations. In 1935, 13 CCC camps were located on military reservations. However, as the CCC program expanded, the War Department was willing to host more CCC camps. The purpose of the CCC camps remained strictly limited to conservation work. Officially, CCC work on "barracks, permanent buildings, and fortifications was forbidden", but unofficially enrollees may have participated in post building repairs (Johnson 1968:206-207). The number of CCC camps on military reservations expanded to 60 by 1936 and was reduced to 46 in 1937 (Johnson 1968:209). A governmental directive directed the closure of all CCC camps operating on military posts by July 1, 1938 (Johnson 1968:209-210).

Isolationism and Rising World Tensions During the 1930s

In the U.S., the general sentiment of the American people was isolationist and opposed to engagement in foreign external conflicts. The impacts of the Great Depression of the 1930s also turned the U.S. government inward to deal with domestic issues (U.S. Department of State "The Great Depression and U.S. Foreign Policy" n.d.). The Congress reflected the isolationist feeling of the country by passing a series of neutrality acts in 1935, 1936, 1937, and 1939. The purpose of the laws was to ensure U.S. neutrality in the event of armed conflict in Europe and Asia. The laws essentially forbade the export from the U.S. of "arms, ammunition, and implements of war" to foreign nations at war (1935); loans to belligerent nations (1936); and use of U.S. merchant ships to transport arms to belligerent nations (1937). The Neutrality Act of 1939 lifted the arms embargo and allowed nations to acquire goods on a "cash and carry" basis, but no loans were allowed and no U.S. ships could transport goods to belligerent ports (U.S. Department of State "The Neutrality Acts, 1930s" n.d.).

Military leaders during the 1930s monitored the actions of the German and Japanese governments. When Douglas MacArthur became the Army Chief of Staff of the Army in 1931, he directed the Army General Staff to focus strategic planning on "probable conflicts," especially a war with Japan. He sought to shift the emphasis of Army planning from defense of the continental U.S. towards an "Immediate Readiness Force" that might be called upon in the event of war. When General Malin Craig succeeded MacArthur in 1936, he placed even greater emphasis on near-term preparations for war. By this time, Nazi Germany had emerged as a real threat to European peace, and Japan had entered

into war with China. Craig developed the "Protective Mobilization Plan" for using Regular Army and National Guard forces in a war (Millet and Maslowski 1984:378).

The rise of Adolf Hitler as the head of the Nazi party that gained control of Germany in 1933 proved a particularly dangerous menace to world peace. Hitler initiated a program to re-arm and equip Germany for war. He then began systematically annexing neighboring countries beginning with Austria in 1938. Germany under Hitler continued its expansionist activities unchecked until the invasion of Poland in September 1939 prompting Britain and France to declare war on Germany (R. Christopher Goodwin & Associates, Inc. 1997:30).

In early September 1939, the British sent an expeditionary force to France to join with French troops against a probable invasion by the German army. The German army continued to attack its neighbors, including Denmark (April 1940), Norway (April 1940), Belgium (May 1940), and the Netherlands (May 1940). On May 10, 1940, German troops attacked France with such swiftness and force that the British and French troops were forced to withdraw. British troops retreated to the French coast and were evacuated from Dunkirk between May 26 and June 4, 1940. The Germans entered Paris on June 14, 1940. The French government surrendered on June 25, 1940 (R. Christopher Goodwin & Associates, Inc. 1997:30; Hart 2021).

Against this backdrop, a complete German victory seemed imminent. The European situation appeared dire and led the U.S. to take its first tentative steps toward direct involvement in the war. In September 1940, President Franklin Roosevelt approved the transfer of 50 destroyers to Britain in return for a lease on British bases in the Caribbean. The president also initiated a peacetime Selective Service and a partial mobilization of the National Guard. In December 1940, Roosevelt announced his idea for a "lend-lease" program. Under this program, the U.S. would provide military supplies and food "to assist in the defense of nations whose security was deemed vital to the security of the U.S." The Congress passed the Lend-Lease Act in March 1941 (U.S. Department of State "The Lend-Lease Act" n.d.).

In the Pacific, Japanese leaders invaded the Manchuria Province of China in 1931, resulting in a full-scale war. The Japanese continued their invasion of China proper in 1937 and captured most of Chi-

na's large coastal cities. As Japanese troops continued the war in China, Japan broke an existing commercial treaty with the U.S. that allowed the U.S. to restrict shipments of oil, steel, and iron to Japan and to offer aid to China. In September 1940, Japan signed the Tripartite Pact with Germany and Italy. The U.S. responded by placing an embargo on exports to Japan, freezing Japanese assets in U.S. banks, and sending aid to China (U.S. Department of State "Japan, China, the United States . . ." n.d.).

Reasoning that war with the U.S. was inevitable, the Japanese government decided to initiate hostilities with a decisive offensive action. On December 7, 1941, it launched an attack upon the U.S. fleet anchored in Pearl Harbor, Hawaii, sinking four battleships, badly damaging four others, and destroying over 200 aircraft. This attack triggered direct U.S. involvement in the World War II. The U.S. declared war with Japan on December 8, 1941. As allies of Japan, Germany and Italy declared war on the U.S., and the U.S. reciprocated with a declaration of war on December 11, 1941. Thus, the U.S. simultaneously joined the war in Europe and the war in the Pacific (R. Christopher Goodwin & Associates, Inc. 1997:30-31).

Development of the Army Inter-War Era Housing Program

The Army Inter-War Era housing program was the result of several events in the aftermath of World War I. In 1920, the Army underwent a major structural reorganization. The National Defense Act of 1920 defined the Army's role for the Inter-War Era, established ceilings for personnel numbers, and determined the geographic distribution of installations based on corps areas. The Army undertook a review of housing needs at the existing permanent installations and at the World War I temporary mobilization training camps that the Army planned to retain.

The following discussion provides an overview of the installations in the Army inventory at the end of World War I and explores the need for additional permanent family housing. The beginning of a program to provide permanent Army family housing is discussed, as well as the Army housing program enacted by Congress in 1926. An exploration of the evolution of the program developed by the Quartermaster Corps Construction Service and funding through congressional appropriations and New Deal emergency relief work programs are discussed in detail.

The Status of Army Installations during the Inter-War Era

The following discussion of Army installation types focuses on the installations subject to the *Program Comment for the Department of the Army Inter-War Era Historic Housing, Associated Buildings and Structures and Landscape Features (1919-1940)* (Program Comment). Table 3.2 identifies these installations, dates of establishment, and primary missions during the Inter-War Era based on the Program Comment Database. Figure 3.1 illustrates the locations of the installations within the Inter-War Era corps areas.

At the end of World War I, the Army occupied a varied collection of installations. Some installations were permanent facilities that the Army had occupied since the nineteenth and early twentieth centuries. Other installations were established during World War I as large temporary mobilization and training camps constructed to prepare enlisted personnel and officers to serve in the conflict. During the Inter-War Era, the Army expanded its real property inventory through the development of existing installations and through the addition of new installations to support the execution of the peacetime mission. In the case of Fort Campbell, Kentucky, the installation was established in anticipation of mobilization for World War II.

The Army's pre-World War I permanent installations comprised facilities established during the nineteenth and early twentieth centuries designed to house and to support the activities of the infantry, cavalry, artillery, coastal artillery units, and the ordnance department. The installations were located throughout the U.S. to support military objectives. The quantity of family housing at these installations was sufficient to house the numbers of pre-World War I Army officers and NCOs, but was insufficient to house the number of personnel associated with the expanded missions at active installations during the Inter-War Era.

Existing installations, such as Fort Bliss, Texas; Fort Riley, Kansas; Fort Sill, Oklahoma; and Fort Sam Houston, Texas, were established historically to keep peace in the West or along the border with Mexico. Many of these installations, including Fort Riley and Fort Sill, added training to their mission in the Inter-War Era. In the eastern U.S., Fort Myer, Virginia, served as a cavalry garrison. The U.S.

Table 3.2 Installations Covered under Program Comment With Date Established and History.

Installation	State	Date Established/ Aquired	History and Use during Inter-War Era
Aberdeen Proving Ground/ Edgewood Arsenal	MD	1918	Proving ground and chemical warfare
Carlisle Barracks	PA	1879; 1918	Originally Carlisle Indian School; converted into WWI temporary hospital; became Medical Field Service School
Fort Belvoir	VA	1910, but built 1918	WWI training camp for engineers, became Engineer school
Fort Benning	GA	1918	WWI training camp for infantry; became infantry school
Fort Bliss	TX	1890	Cavalry post; WWI recruitment and training center; became Eighth Corp Area, First Cavalry Division, patrolled border
Fort Bragg	NC	1918	WWI mobilization training camp for artillery, became artillery training installation
Fort Campbell	KY	1941	World War II mobilization training camp
Fort Knox	KY	1918	WWI artillery training mobilization camp, became mechanized cavalry training installation
Fort Meade	MD	1917	WWI mobilization training camp; became center for civilian training and tank school
Fort Riley	KS	1852	Cavalry post; 1887-school for cavalry and light artillery; training cantonment 1918; became cavalry school
Fort Sill	OK	1869	Cavalry post with African American 10th Cavalry; 1901-field artillery field school; WWI training cantonment; became field artillery school
Fort Shafter	HI	1903	Infantry post; became Headquarters of Hawaii Department
Schofield Barracks	HI	1908	Established as cavalry post; became garrison for infantry division and training installation
Wheeler Army Airfield	HI	1922	Army Air Corps airfield
Hawthorne Army Depot	NV	1928	Ammunition storage built by Navy
Joint Base Lewis McChord (Fort Lewis)	WA	1917	WWI mobilization training camp; became Headquarters Ninth Corps Area
Joint Base Myer Henderson Hall (Fort Myer)	VA	1869	Signal Corps, Cavalry post in 1886, remained cavalry post
Joint Base San Antonio (Fort Sam Houston)	TX	1870	Quartermaster depot; WWI training camp; became Second Division and Headquarters of Eighth Corps Area
McAlester Army Ammunition Plant	OK	1943	Ammunition storage built by Navy
Moffett Federal Airfield / Camp Parks	CA	1931	Airfield built by Navy for dirigibles
Picatinny Arsenal	CA	1881	Ammunition arsenal
Presidio of Monterey/Naval Postgraduate School	CA	1926, ca. 1942	Resort hotel built in 1926; leased by Navy in WWII for Military Intelligence Service Language School
Rock Island Arsenal	IL	1804	Army arsenal
Watervliet Arsenal	NY	1813	Army arsenal
West Point	NY	1802	U.S. Military Academy-cadet education and training

Sources: U.S. Department of the Army Program Comment Database; R. Christopher Goodwin & Associates, Inc. 1995: Vol. 3; HABS Schofield Barracks Military Reservation (HI-307); Thompson 1986.

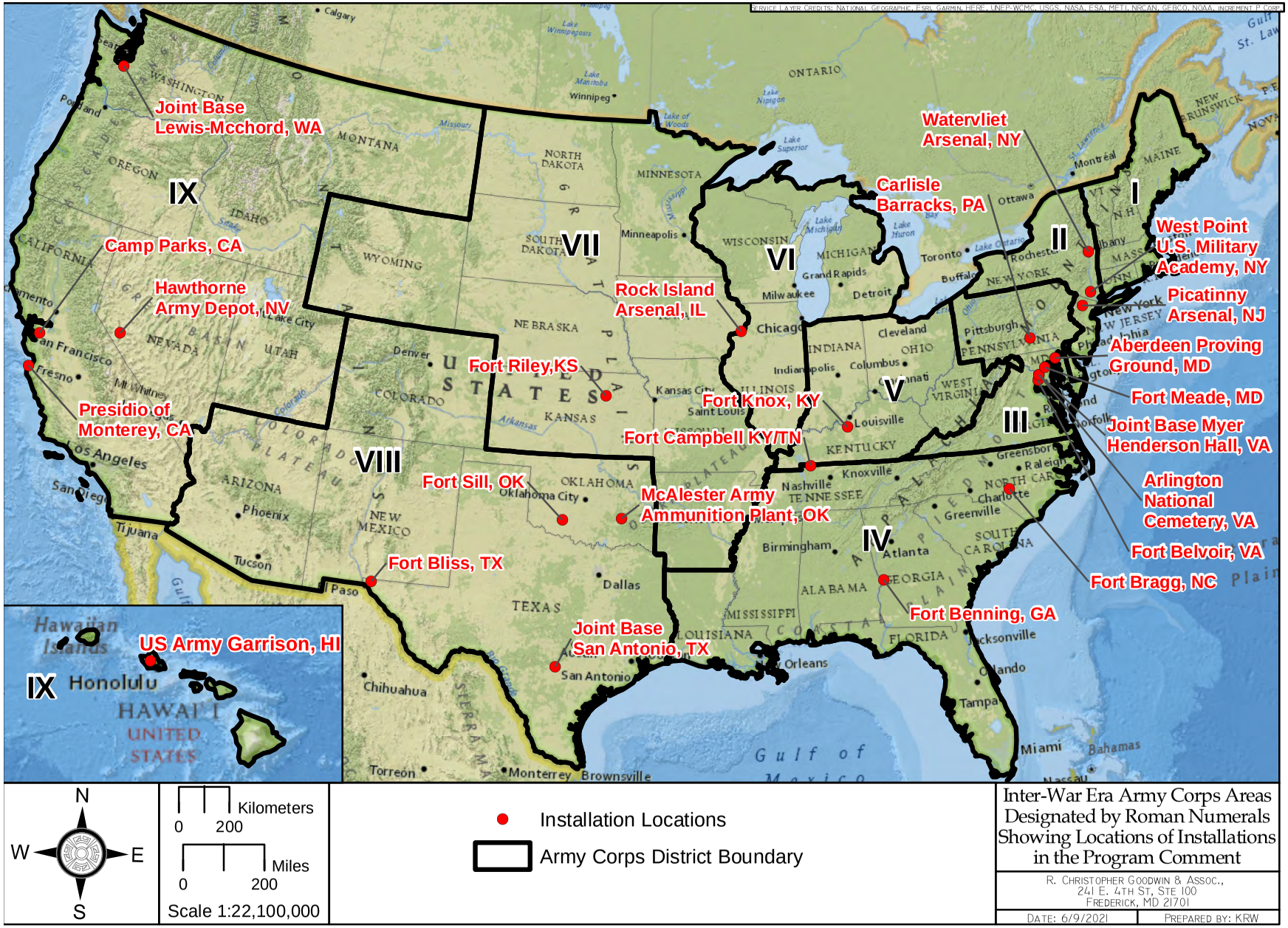


Figure 3.1. Inter-War Era Army Corps Areas Designated by Roman Numerals Showing Locations of Installations in the Program Comment.

Military Academy at West Point, New York, was the Army's premiere school for training Army cadets. These permanent installations featured family housing constructed of brick and stone.

Watervliet Arsenal, New York; Rock Island Arsenal, Illinois; and Picatinny Arsenal, New Jersey, were established during the nineteenth century under the Ordnance Department. The role of the arsenals was to produce ammunition, guns, and other munitions support items. During the Inter-War Era, the arsenals managed the wartime surplus of materiel, but engaged in few production activities due to the stringent economy of the period. During the Inter-War Era, the roles of arsenals evolved into areas of research and development. Watervliet Arsenal continued as the only plant in the U.S. to produce big cannon munitions (i.e., 155mm and larger). Rock Island Arsenal specialized in improving artillery carriages to absorb firing recoil. This arsenal pioneered the use of welding and fine machine work to improve recoil mechanisms. Picatinny Arsenal produced smokeless powder and high explosives until 1926, when a massive explosion at the adjacent Lake Denmark Navy ammunition depot damaged the Army's production facilities. The War Department rebuilt Picatinny Arsenal, but shifted its missions towards research and development of explosives (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:181-183, 169-170; 155-156).

During World War I, the Army established temporary training camps for officers and enlisted personnel. These camps included mobilization training camps, specialized services training camps, aviation training camps, and ordnance proving grounds. Most camps occupied leased land, while other mobilization camps were located at permanent installations, as was the case at Fort Riley and Fort Sill. Wood-frame temporary buildings built from standardized plans were constructed at the mobilization camps. Temporary buildings were intended to last the duration of the emergency, or at most five years. The buildings were constructed rapidly using unseasoned lumber and light materials (U.S. Congress 1925:40; 57). At the end of the war, the Army owned two mobilization camps: Camp Funston at Fort Riley and Camp Lewis, Washington. The Army decided to acquire the land of other World War I temporary mobilization and training camps, including Fort Benning, Georgia; Fort Bragg, North Carolina; Fort Knox, Kentucky; and Fort Meade, Maryland.

The Army training camps were in various stages of completion at the end of World War I in 1918. Approximately $1 million worth of construction was completed at Camp Benning out of a total project

budget of $14.1 million. At Fort Knox, four cantonments of the temporary camp were near completion before construction was stopped. Construction of Camp Bragg was almost complete at the end of the war. After the war, the Army proposed to purchase 14 of the temporary training camps and to decide which camps to retain based on post-war need. In 1919, the final decisions were made to retain Fort Benning as the permanent home of the infantry, and Forts Knox and Bragg as permanent training posts for the artillery (U.S. House of Representatives 1919:13-14, 25-27; Secretary of War 1921:147). Once the mobilization camps were acquired and reprogrammed for peacetime use, the Army faced the task of converting the temporary camps into permanent installations. Since the former mobilization camps were built for expediency and a short service life, all lacked permanent construction. Long-term use required rebuilding using permanent plans and materials to provide housing for personnel assigned to the installation, as well as administrative buildings, training buildings, and other support buildings. Until permanent housing was constructed, personnel continued to live in World War I temporary mobilization buildings (Figures 3.2 and 3.3).

Aviation flying fields also were constructed with temporary mobilization buildings during World War I. Langley Field, Virginia, and Rockwell Field, California, were in existence prior to World War I, and these two fields had little permanent construction. Aviation fields constructed during of World War I, such as Post Field at Fort Sill, had temporary mobilization wood-frame buildings. Personnel stationed at these installations continued to live in World War I temporary mobilization buildings until permanent quarters were constructed.

Carlisle Barracks, Pennsylvania, originally established as the Carlisle Indian School in 1879, became a temporary general hospital during World War I. During the war, the Army adapted the former permanent school buildings as the hospital and constructed additional World War I temporary buildings to augment the increased numbers of Army personnel and patients. During the Inter-War Era, Carlisle Barracks became a permanent installation. The installation became the Army's Medical Field Service School in 1920 and served in that role throughout the Inter-War Era (R. Christopher Goodwin & Associates, Inc. 1996:85-87).

The Ordnance Department acquired the land for Aberdeen Proving Ground and Edgewood Arsenal in Maryland in 1918. These two installations were constructed with both permanent buildings for

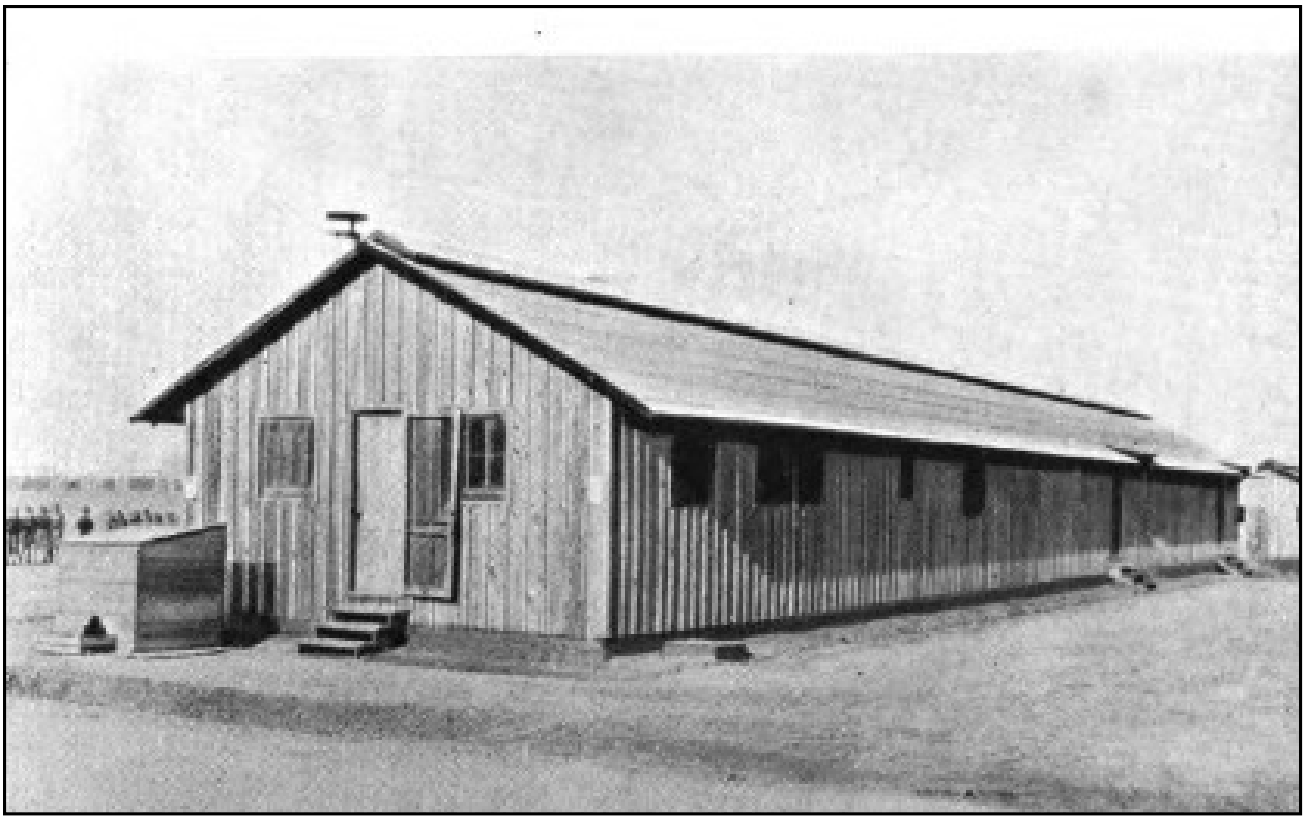


Figure 3.2. World War I mobilization officer housing (Source: Who's Who in the Construction Division 1920).

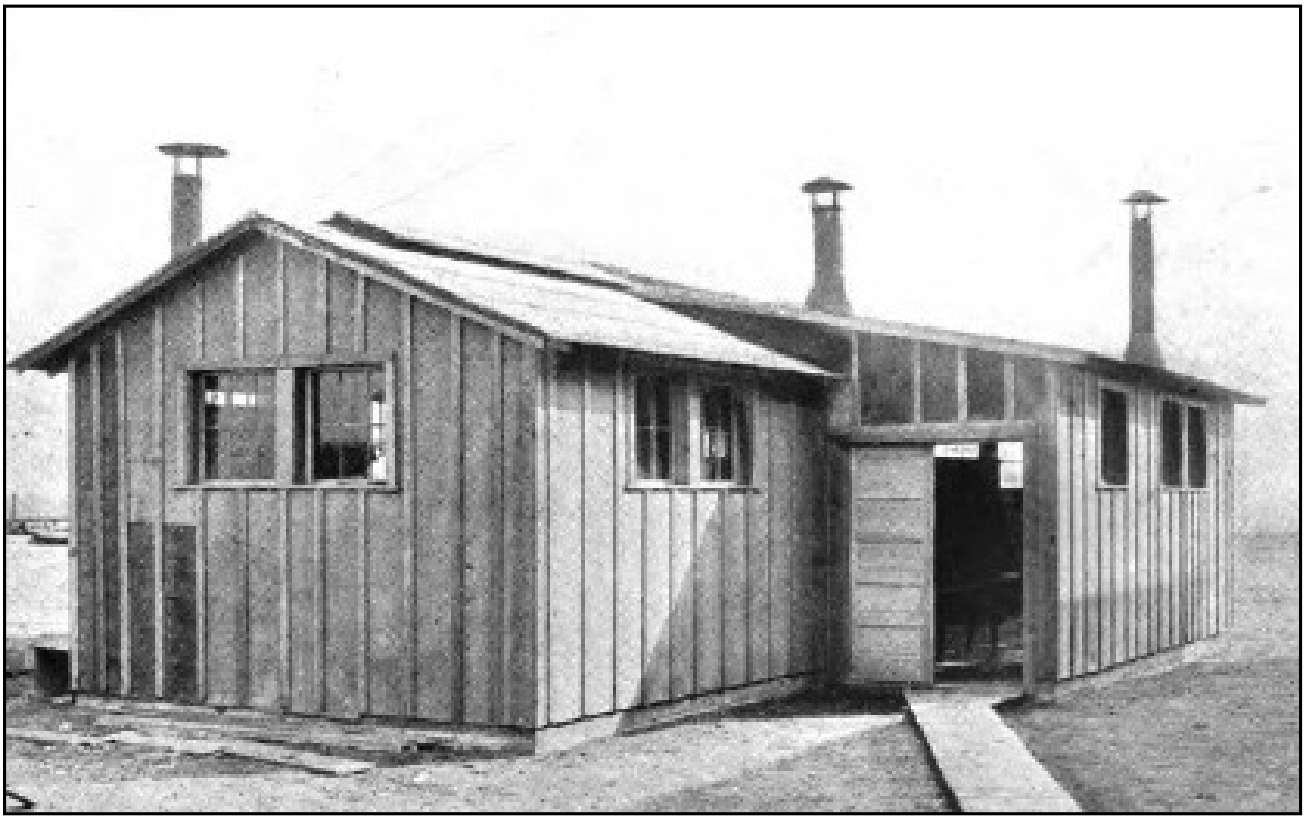


Figure 3.3. World War I mobilization lavatory (Source: Who's Who in the Construction Division 1920).

testing and industrial activities. Most personnel, however, were housed in temporary wood-frame mobilization buildings. Both Aberdeen Proving Ground and Edgewood Arsenal were planned to become permanent installations after World War I. Aberdeen Proving Ground became the Army's major ordnance and ammunition test range, and Edgewood Arsenal became the center for the development and production of chemical weapons used during World War I. Both installations required the construction of permanent family housing during the Inter-War Era (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:3-5).

The U.S. Army Garrison Hawaii includes Fort Shafter, Schofield Barracks, and Wheeler Army Airfield. The Army's mission in Hawaii was to protect the Naval forces stationed there, primarily at Pearl Harbor. Fort Shafter was constructed beginning in 1905. It was the first permanent U.S. installation in Territory of Hawaii and eventually became the headquarters of the Hawaii District (Thompson 1986). Schofield Barracks was established in 1908 as the location for mobile troops to defend the Island of Oahu. Construction of the permanent post began in 1913. Wheeler Army Airfield was established in 1922. The airfield supported aviation defenses to protect Pearl Harbor (Mason Architects Inc. 2003:3-29ff; 3-51ff).

Fort Campbell, Kentucky, was acquired by the Army as a mobilization camp during the buildup for World War II. The Army selected the site in 1941, and the temporary cantonment was constructed beginning in early 1942. The installation became permanent during the 1950s. Two houses in Cole Park subject to the Program Comment date from the 1930s before the Army acquired the land (Chanchani 2003; U.S. Department of the Army Program Comment Database 2021).

Three installations originally constructed by the Navy are subject to the Program Comment. These installations are Moffett Federal Airfield, California; Hawthorne Army Depot, Nevada; and McAlester Army Ammunition Plant, Oklahoma. Moffett Federal Airfield was established in 1931 to house the Navy's dirigible program on the West Coast (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:205-206; Bamburg 1991). The Army used the installation during between 1935 and 1942. The installation was returned to the Navy in 1942 and used for jet aviation after World War II (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:205-206). After the station was closed in 1994, the housing was transferred to the Army in 2000 (Shettle 2016).

Hawthorne Army Depot was constructed in 1928 as a large ammunition depot in the U.S. interior to replace the Navy's Lake Denmark depot in New Jersey (R. Christopher Goodwin & Associates, Inc. 2008:6). The ammunition depot at McAlester was established in 1943 to meet expanding ammunition storage needs during World War II (Mack and Fey 1985:1). These types of installations required only small numbers of officer family housing as reflected in the number of units recorded in the Program Comment Database (2021). Management of both installations was transferred to the Army during the 1970s (Mack and Fey 1985:41).

One special naval installation that is now the Naval Postgraduate School in California was constructed 1926 as the Hotel Del Monte, a resort hotel on 18,000 acres near Monterey, California (Naval Postgraduate School n.d.). The hotel was closed in 1942 and leased to the Navy for use during World War II. The hotel became the Naval Postgraduate School in 1951. The housing currently is managed through the Presidio of Monterey, California and is subject to the Program Comment.

The Army also manages Lodge No. 1 at the Arlington National Cemetery in Virginia. This building was constructed in 1932 and is an example of the Colonial Revival style (Smith et al. 2013:7-10, photo 29).

Housing Conditions at the Start of the Inter-War Era

The Army's Inter-War Era permanent housing program was developed in response to several factors. One major factor was that the size of the Inter-War Era standing Regular Army was larger than the pre-World War I Army. Another factor was the effect of the 1920 Army reorganization on structure of the Army and the locations of Army installations. The reorganization of the Army occurred during a period of low military funding levels and greater family housing need. Faced with limited funding for new construction, the Army repaired temporary buildings, a practice that many high-ranking Army personnel criticized as inefficient.

In the immediate aftermath of World War I, troops were demobilized from active duty and returned to civilian life. Army funding was cut drastically as the military moved towards peacetime operations. "Rigid economy in the employment of Government funds" were the watch words of the War Department during the period from 1919 to 1925 (Secretary of War 1921:19). The War Department annual

reports between 1920 and 1925 repeatedly lament shortages, including personnel, housing, clothing, supplies, transportation, and funds for building maintenance and new construction. Limited funding precluded construction of new housing. Military personnel continued to live in the World War I temporary mobilization buildings designed and constructed with a maximum life expectancy of five years. As early as 1921, the Secretary of War noted that the, "shortage of funds for repairs to existing structures and utilities and the condition under which officers and enlisted men live in temporary camps and cantonments, due to lack of funds for new construction, tends seriously to reduce the morale and efficiency of both officers and men" (Secretary of War 1921:3).

Prior to 1920, the Army's installations were distributed throughout U.S. in territorial departments based on geography. The implementation of the nine corps areas represented a tactical reorganization of the Regular Army based on the division as a complete unit. The authorized divisions of the Regular Army and of the National Guard were assigned to corps areas, and actually organized into corps, with the result "that the creation of field armies can be accomplished by merely adding the corps from several areas together under an Army commander" (Secretary of War 1920:9-10). Each corps area was established based on military population and was assigned the task of administering and training the Army and National Guard units located in the corps area (*The National Defense Act* 1927:9). Each corps area maintained "one Regular Army, two National Guard, and three Reserve infantry divisions, all to be sustained by combat support and combat service support units" (Wilson 1998:87). These units could be combined for "inspection, mobilization, maneuver, and demobilization" to simulate Army field conditions (Wilson 1998:87).

The selection of the locations of installations across the U.S. to accommodate the planned tactical organization and the new roles assigned to those installations became major factors in determining where personnel were assigned and where new housing was needed. In 1927, Secretary of War Dwight Davis summed up the impacts as follows, "The changes in duty of the Regular Army, created by the Act of 1920, have made the geographical position of many of our posts unsuitable" ("On the Housing Situation" 1927). Davis further noted that additional permanent housing would be required because the "technical requirements for the training of the new arms, developed by the War, have

required special locations for such new units. This is particularly true of the Air Service" ("On the Housing Situation" 1927).

The Army's new organizational structure allowed planners to continue to eliminate small Army posts, particularly coastal artillery posts in the East and small posts in the western interior, and to concentrate personnel on larger installations "consistent with economic administration and with the efficient performance of allotted duties" (U.S. Congress 1925:56). One headquarters installation was selected for each corps area in the U.S. and the Hawaii Division. Installations selected as headquarters installations included Fort Lewis in the Ninth Corps, Fort Sam Houston and Fort Bliss in the Eighth Corps, and Schofield Barracks in the Hawaii Division (Wilson 1998:98-100). Other installations were retained and expanded as training schools, such as Fort Riley, Kansas, and Fort Sill, Oklahoma. Several World War I training camps also were retained as permanent installations, often as training schools. These installations included Fort Belvoir, Virginia (engineers); Fort Benning, Georgia (infantry); Fort Meade, Maryland (tank); Fort Knox, Kentucky (artillery); and Fort Bragg, North Carolina (artillery).

While restructuring, the Army maintained a large active duty force during the period. The number of military personnel in 1920 was approximately 20 per cent larger than the peacetime Army in 1916 ("On the Housing Situation" 1927). From the very beginning of the Inter-War Era, an insufficient number of permanent family housing was available to house the larger peacetime Army. The Army's response to address the potential housing shortage was delayed due to the continuous fluctuation of military personnel numbers, the military organization of divisions between 1920 and 1922, and the delay in the final selection of permanent installations. By the mid 1920s, the Regular Army strength was authorized at 125,000, approximately divided between 96,500 in the continental U.S. and 28,500 overseas (U.S. Congress 1925:56). Consequently, over 40,000 troops and 2,000 officers were housed in temporary World War I mobilization structures constructed in 1917-1918 ("On the Housing Situation" 1927; U.S. Congress 1925:56). With the end of World War I, wives and families again could accompany commissioned officers and upper grades of non-commissioned officers (NCOs) at their postings. Wives and children further added to the numbers housed in World War I mobilization temporary housing.

The implementation of the Army reorganization occurred over the next several years. Meanwhile, living conditions at existing permanent Army installations deteriorated due to low funding for maintenance and repair. Complaints about living in the World War I mobilization buildings were recorded in the Secretary of War's annual reports and presented in hearings before Congress regularly during the early 1920s. At Fort Sam Houston, Texas, housing for officers and enlisted personnel was described as "deplorable." Common complaints included shrunken lumber, rotting foundations, and leaking roofs to the extent that "bunks have to be moved or covered during rainstorms" (U.S. Congress 1925:40, 57-59). Fire also was a major concern since the wood buildings were heated with stoves, and the roofs were sheathed in tar paper (U.S. Congress 1925:59). Inhabited quarters were continuously being repaired by salvaging materials from uninhabited buildings. "But", as Maj. Gen. W.H. Hart, Quartermaster General opined in 1925, "the time is fast approaching when only occupied structures will be left, and then losses from dilapidation, fire, and storm would leave the troops with no other alternative than to go into tents, as there is not sufficient permanent barrack space in any locality to take care of them…" (U.S. Congress 1925:40). Hart concluded "This has a very decided and undesirable effect upon the morale of the troops" (U.S. Congress 1925:40, 59).

The conditions at Fort Benning, Georgia, were representative of housing issues plaguing the Army. At the end of World War I, Fort Benning was retained as a permanent training installation for the infantry. The World War I temporary cantonment was only partially complete when the war ended, but the installation welcomed 250 officers, some with families, and 1,500 troops in June 1919. Wood-frame buildings continued to be constructed to house personnel assigned to the camp until July 2, 1919, when a stop work order was received. Materials were salvaged and lumber was cut and milled on the installation. Officers with families were quartered in substandard one-story, two-room, wood-frame buildings before the first permanent quarters were constructed beginning in 1923 (Robinson Fisher Associates 1987:8-10; Grashof 1986 Vol. 1:41; "Housing the Army" 1931:12).

Similar conditions were reported at Fort Lewis, Washington. Fort Lewis was constructed to train 50,000 troops during World War I. Approximately 2,000 wood-frame temporary mobilization buildings were constructed at the camp over an eight-week period. After the war, personnel assigned to the camp initially was reduced to 1,000. Personnel numbers increased when the installation was

reclassified as a permanent installation. Construction of permanent housing was delayed for several years. Officer housing continued to deteriorate, and became "so bad that to make them habitable at all[,] the officers have had to pay for repairs out of their already inadequate salaries. Flimsy walls and warped doors and windows afford free entry to wintry blasts; buildings have to be propped up to keep them from falling down, and the fire hazard is present day and night" (BTI Incorporated 1986:11, 14-16, 22).

Secretary of War Dwight Davis in a 1927 article in *The Quartermaster Review* summarized the inadequate housing situation:

> Forty thousand American soldiers are now living in shacks. Married officers with children are being lodged in houses which would be condemned in any progressive American municipality. The men are living under leaking roofs and upon rotting floors. The situation has gotten so bad that altogether apart from the unnecessary discomfort and hardship imposed upon the troops, the maintenance of this system of structures has become an extravagance. All the money the War Department can spare for the purpose is not sufficient to preserve these old buildings from further continuous deterioration. We are throwing good money after bad ("On the Housing Situation" 1927).

Early Efforts to Provide Family Housing: 1919-1926

During the early 1920s, the Quartermaster Corps began to address the permanent family housing deficiencies for the peacetime Army. As the impact of the Army reorganization on installation requirements became clearer, the Quartermaster Corps developed a plan for a nationwide housing construction program.

Until July 1920, the Construction Division of the Army oversaw construction of the World War I mobilization training cantonments, industrial facilities, proving grounds, storage facilities, and all construction needed for the war effort. The Secretary of War established the Construction Division in October 1917 as a separate organization apart from the Quartermaster Corps and the Army Corps of Engineers specifically to build the World War I installations. Led by Brigadier General R.C. Marshall, a staff of 4,000 military and civilian personnel worked in the division. When World War I ended, the Construction Division re-evaluated the projects that were then under construction. Some projects

ceased immediately; other projects were reduced in size and scale. Still other projects continued to completion (Marshall 1919).

Some of the construction projects completed in 1919 included family housing. Family housing units were built at Aberdeen Proving Ground, Maryland (21 units); Schofield Barracks, Hawaii (94 units); and U.S. Military Academy West Point (17 units). These units represented single houses, duplex houses, and apartments. The single family officer units at Aberdeen Proving Ground are wood-frame, two-story buildings that featured wood shingle siding and intersecting hipped roofs with overhanging eaves (R. Christopher Goodwin & Associates, Inc.1993:Appendix XI:7-2,3). The family housing units in Hawaii are one-story, wood-frame buildings with board and batten siding and feature Craftsman-style detailing and a lanai (i.e., porch) (Historic American Buildings Survey [HABS] HI-307 1997a, b, c) (Figure 3.4). Two, eight-family apartment houses and one single family house were constructed at West Point (U.S. Department of the Army Program Comment Database 2021).

Figure 3.4. Family housing at Schofield Barracks, Hawaii (Source: U.S. Department of the Army 2021).

On July 14, 1920, the Construction Division was transferred to the Office of the Quartermaster General and was renamed the Construction Service (Secretary of War 1921:9). Under the Quartermaster Corps, the Construction Service assumed responsibility for overseeing peacetime construction, and repairs and maintenance at military installations. Construction Division personnel were charged with studying ways to transform the temporary mobilization camps into permanent installations. One important aspect of this planning process included correlating the assigned role and the numbers of personnel allotted to each installation. These assessments determined the numbers of housing units required for officers, NCOs and enlisted personnel (Secretary of War 1921:143; 1924:19).

The Construction Service prepared designs and estimates for the range of buildings, including housing, required at permanent installations. Cost limits for officer housing established by Congress in 1909 were $12,000 for a field officer quarters constructed of brick or reinforced concrete with slate or tile roof, and $9,000 for a similar building for a captain. A general officer quarters was capped at a cost of $15,000 (U.S. House of Representatives 1926:30-31). The cost of a brick duplex captain quarters was limited to $16,000, while one duplex lieutenant quarters was limited to $15,000 (Gashof 1986 Vol. 1:33). The Secretary of War reported in 1921, “The important matter of the proper housing of officers and their families has been studied, both in preliminary form for the purpose of estimates, and for the purpose of developing standard types adapted for general use” (Secretary of War 1921:143-144).

Among the options studied in 1921 was housing military families in apartment buildings. Each building contained two apartments per floor, could be either two or three stories high, and designed to house four or six families. Designs and complete working drawings for each type of apartment were prepared (Secretary of War 1921:144). The Construction Service judged apartment buildings to be desirable because of their cost effectiveness. Apartment buildings also reduced the costs of supporting infrastructure such as utilities and roads. “The high cost of living and the servant question, as well as the somewhat transitory existence of a man in the service, will undoubtedly eliminate to a large extent the construction of individual residences at Army posts just as these same factors are developing the apartment house in civilian life” (Carson 1921:71-72). The Quartermaster Corps prepared apartment building designs for 4 families, 12 families, and 18 families (Carson 1921:72). A suggestion also was floated that families living in apartments would not need kitchens, but would eat in the officers mess,

"thus relieving the housewife of all labor and responsibility in connection with the preparation of meals which, due to the difficulty of getting and keeping servants at the present time, is no simple matter" (Chambers 1928:24-25).

Major General B.F. Cheatham, Quartermaster General of the Army from 1925 through 1930, solicited the advice of Army wives to determine "the best and most suitable type of Army home to erect." Cheatham published a letter in select military journals requesting the opinions of Army wives on their preferences for living in apartments versus single family houses. The opinions of all Army wives, including both commissioned officers and NCOs, expressed a preference for individual houses over apartments and "one and all condemned the idea of a central mess" (Chambers 1928:25; U.S. Army Corps of Engineers [USACE] Seattle District 1997:48). "Therefore, in the planning of new quarters, the general principle of providing single sets or, where the exigencies of the site demand, double houses, will be adhered to" (Chambers 1928:25).

From 1921 through 1924, the Quartermaster Corps requested funding to construct new housing on a case-by-case basis or as part of special projects through Regular Army appropriations. During that period the annual average yearly construction budget was $755,893 (Grashof 1986 Vol. 1:42; Fine and Remington 1989:44). Most of the construction budgets for those years were expended on repairs and maintenance for existing buildings.

Two projects receiving funding for new construction of permanent housing during the early 1920s were Fort Benning, Georgia, and Edgewood Arsenal, Maryland. The housing units constructed at these two installations were very different from each other in their designs and their materials. The construction projects were completed before the Quartermaster Corps issued the fully developed Inter-War Era standardized designs.

Part of transforming Fort Benning from a temporary mobilization camp into a permanent installation was the construction of permanent officer housing. Funding for the permanent housing was included in appropriations during the early 1920s (Secretary of War 1924:20). In 1925, it was reported that 70 sets of permanent officer quarters had been constructed. These two-story brick buildings with double front gables reflected the Dutch Colonial Revival style (Robinson Fischer Associates 1987:23) (Figure

Figure 3.5. Duplex officer family housing constructed at Fort Benning in 1923 (Source: U.S. Department of the Army 2021).

3.5). This was the first permanent officer housing constructed at the installation. Additional officer housing was needed as 151 officers remained without acceptable living quarters on the installation and lived in rented housing in Columbus, Georgia, and commuted to work (U.S. Congress 1925:42).

At Edgewood Arsenal, Maryland, no family housing was constructed for the original installation. During the early 1920s, an area of the installation was assigned to the Artillery and became known as Fort Hoyle. In 1923, the first officer housing was constructed to accommodate officer families in residence at Edgewood Arsenal and at Fort Hoyle. Ten houses for company grade officers were constructed at Fort Hoyle. These buildings are wood-frame, two-story, three-bay houses reflecting the Dutch Colonial Revival style. These small buildings measured 27 x 29 ft and contained a living room, dining room, and kitchen on the first floor and three bedrooms and one bathroom on the second floor (R. Christopher Goodwin & Associates, Inc. 2006a:Section 7:drawing) (Figure 3.6).

The examples of housing constructed between 1919 and 1925 at Fort Benning, Georgia; Aberdeen Proving Ground and Edgewood Arsenal, Maryland; and Schofield Barracks, Hawaii, suggest that Construction Service personnel were experimenting with housing types, forms, and styles. The bungalow houses with Craftsman-style detailing constructed at Hawaii were designed for the hot climate. The use of the Dutch Colonial Revival style suggests that Construction Service planners and architects

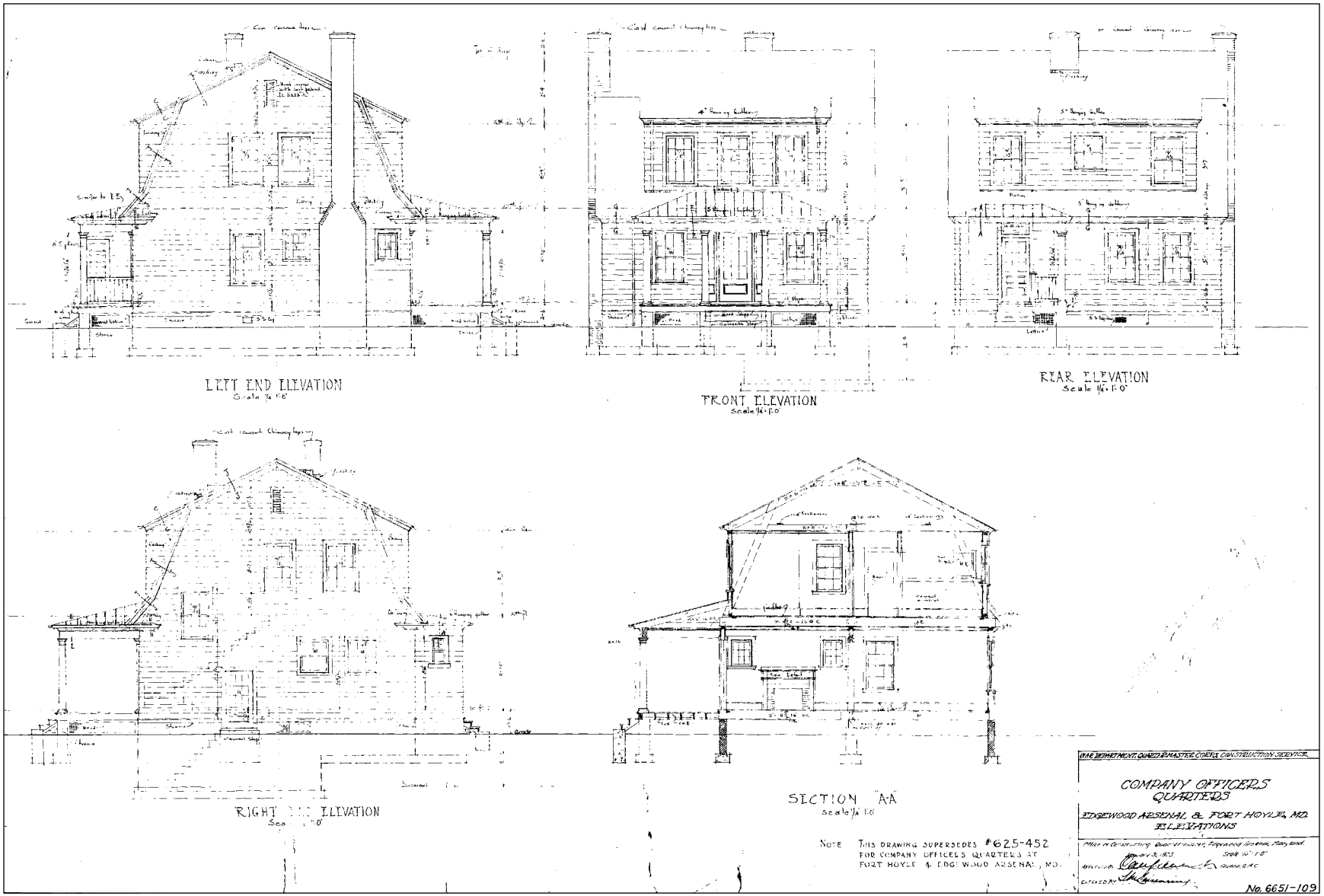


Figure 3.6. Single-family housing for company officer at Edgewood Arsenal, 1923, drawn by Construction Service, Quartermaster Corps (Source: R. Christopher Goodwin & Associates, Inc. var.).

were cognizant of the popularity of the Colonial Revival style in the civilian sector. In all cases, these houses were simply ornamented and within Army funding limitations of the time period. The building floor plans are compact within a rectangular footprint. These simplified forms of the Inter-War Era contrast with the more architecturally elaborate two-story, front gable houses with the rear wings that dominated standardized plans for officer quarters for the 1890 to 1917 period (Grashof 1986 Vols. 3 and 4).

The design for the double gable quarters constructed at Fort Benning in 1923 was not successful. The buildings were ill-suited for the climate and were described as "sweat boxes" (U.S House of Representatives 1926:30). In a hearing before a subcommittee, Lieutenant Colonel H.R. Casey of the Quartermaster Corps blamed the restrictive cost limitations imposed on officer family housing for the design flaws in the quarters. Lieutenant Colonel Casey reported to Congress:

> We are charged with not knowing how to build them [the quarters at Fort Benning] – for building wrong quarters at the wrong place. We knew perfectly well when we started those quarters that we could not get what they [i.e., the occupants] and what we considered the minimum accommodation, within $9,000; that we could only build three-quarters of a house. They are objecting to those houses because the bed rooms are cut up by the roof and are up in the roof. We did not have sufficient money to carry the walls high enough so as to have the bed rooms down below the roof (U.S House of Representatives 1926:30-31).

Casey continued his testimony by acknowledging that the quarters were indeed "sweat boxes" (U.S House of Representatives 1926:30-31).

Appropriate designs for family housing that incorporated climate considerations were discussed in the *Quartermaster Review* during the years 1923 through 1925. Major William Draper Brinckloe of the Quartermaster Reserve Corps and Architectural Editor of *The Farm Journal* contributed several articles entitled "Construction Helps and Hints". Brinckloe was a proponent of incorporating regional styles into designs for Army family housing. He expounded the appropriateness of the Spanish-style for buildings constructed in California, Arizona, Florida, and other installations located in hot climates. He recommended a house design with a second-story sleeping porch and a floor plan that incorporated a breakfast nook. His articles also contained a recommendation that the Quartermaster

Corps decentralize and delegate its design procedures to local quartermasters who would know the best design for the climate and locale (Brinckloe 1925:53-55; Grashof 1986 Vol. 1:42).

The Quartermaster Corps also experimented with a new method for soliciting proposals for the construction of commissioned officer and NCO quarters. The usual method of soliciting proposals required the Office of the Quartermaster General to prepare detailed building plans and specifications for all buildings. The specifications detailed the types of materials used in the building plans, and the materials were standardized for construction nationwide. One deficiency in that method was that "not enough regard has…been given to the varying character of materials in different parts of the country" ("Proposals for Construction" 1925:41). In contrast, the proposed new bid soliciting method required that the Construction Division provide only basic information about the quarters, such as numbers of rooms and amenities, and let the bidders submit their own plans and specifications for materials to match the requirements and the cost limits. Several advantages were possible under this procedure:

- Building types would match the local community and be responsive to the regional climate.
- Specifications for materials would allow use of local materials commonly found in the region.
- Costs of materials will be reduced.
- House plans will reflect regional construction patterns ("Proposals for Construction" 1925:41).

In summation, "Buildings constructed at the various Army posts will be suitable to the climate, in keeping with the general style of architecture used in that particular community or section of the country, and should result in the newer Army posts eventually becoming attractive, suburban additions to the cities or town in which they are located" ("Proposals for Construction" 1925:41).

Through this proposed bidding method, the Construction Service planned to keep abreast of the housing trends in different regions throughout the U.S. However, the new solicitation method did not prove to be successful. For the housing constructed at Edgewood Arsenal, the Quartermaster Corps advertised for bids for officer quarters three or four times, but the bids were too high. The house designs were cut down in size and the use of cheaper materials was authorized. "Finally we had to eliminate

any idea of putting up a fire-resisting structure and had to come to a wooden structure of a size that we will be criticized for as long as they last"… (U.S. House of Representatives 1926:31). As Lt. Col. Casey explained,

> In order that we may not be charged with putting up quarters of excessive size or with having specified expensive fixtures or a class of material not commonly and ordinarily used in civil life for like construction, we went to an organization in New York known as "Good Homes," which puts out this booklet of a thousand homes. It is an organization for the encouragement of home ownership….They go out through the country and select these plans from various architects and put them in these books, and they prepare the plans so that they can be bought cheaply. We selected four types of houses and we sent them out, down at Edgewood to get bids on them, using the various kinds of material (stucco, of concrete block, and of wood), of the minimum accommodations that a man can live in; that is, three small bedrooms, one bath, dining room, sitting room, and kitchen. There are no servants' quarters or facilities provided. We felt three bedrooms were just as small as we possibly could go (the census gives the average American family as 5.1), with a master bedroom and two others for three children. I have checked up the (sic) officers in the Army in the married class with families, and the two, three, and four-children class are away in the majority. So that we can not (sic) get along with less than three bedrooms. The lowest bid I could get on a concrete block or stuccoed tile, permanent, for the three bedrooms as stated, was $11,520" [i.e., $9,000 cost limit] (U.S. House of Representatives 1926:31).

When the Army submitted a request to fund permanent construction at Fort Lewis, Washington, for FY 1925, Congress declined to fund any new construction for permanent housing until the Secretary of War presented "a comprehensive plan for necessary permanent construction at military posts, including Camp Lewis… based on using funds received from the sale of surplus War Department real estate, and for (sic) the sale of such property now owned by the War Department as, in the opinion of the Secretary of War, is no longer needed for military purposes" (Secretary of War 1924:19; U.S. Senate 1926:2a, 1926b:1-2). Secretary of War Weeks had conducted a major effort to divest the War Department of surplus land, and he proposed the idea that the sale of these lands should be credited to the Army to fund construction of new housing (Secretary of War 1924:16; Fine and Remington 1989:44).

During summer and fall 1924, the Army Chief of Staff requested data from the Army's operations and training division and the supply division on how many units and what types of housing were required to provide adequate housing for Army officers and men based on tactical requirements and the geo-

graphical distribution of the installations in each corps area. Important considerations were the costs of the housing, economy of construction, and simplicity of administering the program (Secretary of War 1924:19). The collected data were compiled into a report detailing all Army installations, number of extant permanent officer and NCO housing at each installation, numbers of housing required for the proposed garrison, number of new housing required, and cost of providing the housing (U.S. Congress 1926a: Table 1).

In November 1924, the Secretary of War presented to Congress the recommended comprehensive housing program for new construction on military installations in the U.S., Hawaii, and Panama; a list of surplus military reservations proposed for disposal to pay for the new construction; and draft legislation entitled "A Bill Authorizing the use for permanent construction at military posts of the proceeds from the sales of surplus War Department real property, and authorizing the sale of certain military reservations, and for other purposes" (H.R. 47, Sixty-Ninth Congress, first session) (U.S. Senate 1926a:2; U.S. Congress 1926a:1). House and Senate hearings were held on the proposal in December 11, 1924, in February 1925, and again in January 1926 (U.S. Congress 1926b).

Secretary of War John Weeks proposed a ten-year Army housing construction program totaling $110,000,000 with approximately $84.6 million for installations in the continental U.S., $11.7 million for Hawaii, and the remaining $13.7 million for Panama (U.S. Congress 1924:24; Secretary of War 1926:35-36). Weeks emphasized that the Army housing program adhered to "strict economy and the most efficient utilization of existing permanent buildings and utilities consistent with the effective employment of our Regular Army as tactical units. The program permits of ready rearrangement to meet conditions that may exist when any of the construction projects included therein are brought up for consideration by Congress. Furthermore, it will permit an orderly utilization of such funds as may be made available…" (U.S. Congress 1924:7).

The total personnel lacking permanent shelter in the continental U.S. in 1924 numbered 1,980 officers; 1,392 NCOs; and 43,244 enlisted personnel. In Hawaii, those numbers comprised 406 officers; 301 NCOs; and 4,782 enlisted personnel (U.S. Congress 1924:21, 24). The total cost of providing housing, auxiliary buildings and utilities for the continental U.S. initially was estimated in 1924 to be

$84.5 million. The estimated cost for Hawaii was $11.7 million. The sale of the surplus property was estimated to realize $19.9 million, leaving a shortfall of $96 million to complete the Army housing project (U.S. Congress 1924:24-25).

While no construction priorities were established, expenditures for housing was planned to be equitably distributed among the installations in all nine geographic corps areas since installations in each corps area required "some new permanent shelter to replace the temporary barracks and quarters now occupied, or to house troops which will be transferred to them in a readjustment of stations to enable them to better perform their duties as well as to utilize existing permanent shelter to best advantage" (U.S. Congress 1924:20). In addition, expenditures were planned to be distributed equitably among services and branches.

In a hearing in February 1925, Brig. Gen. Fox Conner, Assistant Chief of Staff, urged action on the proposed bill. General Fox reported that the Director of the Budget ruled that no appropriation requests for any new construction could be forwarded to Congress until Congress acted on the bill. The internal ruling meant that the Army was unable to request funding for new Army family housing construction until the Congress acted. The result was that, since Congress did not pass the legislation until March 1926, appropriations to construct new housing were delayed for two years until FY 1927. Meanwhile, the Army continued to spend money on repair and maintenance of World War I temporary housing and tentage. In FY 1925, the Army spent $615,000 of repair and maintenance funds at Camp Lewis, Fort Bliss, Fort Benning, and Fort Bragg on substandard mobilization buildings to repair roofs and floors; to replace rotten underpinnings; and to house personnel in tents at Fort Benning (U.S. Congress 1925:41).

The Army Housing Program: 1926-1932

On March 12, 1926, the Sixty-Ninth Congress enacted Public Law No. 45, which authorized the Secretary of War to dispose of 43 military installations, or portions thereof, and to deposit the money received from sales into a special fund held by the Treasury designated the "Military Post Construction Fund" to pay for new permanent construction at the remaining posts. None of the proceeds from transfers of surplus Army posts that occurred prior to enactment of the legislation were realized by

the War Department. The Military Post Construction Fund was to be "expended for permanent construction at military posts in such amounts as may be authorized from time to time by the Congress." Congress required an annual accounting of estimates for new construction and a statement of specific construction projects included in the estimates (U.S. Congress 1924:2).

The Construction Service

The Construction Service of the Quartermaster Corps was the organization within the Quartermaster Corps that oversaw and implemented all aspects of the nationwide Army permanent housing program. The Construction Service assembled an "impressive" group of military and civilian architects, engineers, planners, designers, and landscape architects to oversee the program during the late 1920s and 1930s (Grashof 1986 Vol. 1:54; Thomas 1940:27).

In 1920, when the Construction Service was joined with the Office of the Quartermaster General, the organization retained personnel who had served in the Construction Division in World War I, including 90 technically trained officers and a staff of trained civilians (Fine and Remington 1989:43). Minimal new work in the early 1920s had an effect on the organization. By 1924, the number of officers working in the service numbered 24.

When Major General B.F. Cheatham became Quartermaster General in January 1926, he played a leading role in the Army housing program. General Cheatham had served as a Constructing Quartermaster during the planning and development of Fort Benjamin Harrison, Indiana (Ford 1929:19). He also served a similar role in San Francisco and "was placed in charge of all construction at the Office of the Quartermaster General" (U.S. Army Quartermaster Corps 2020). General Cheatham oversaw the implementation of the program to improve the Army's permanent bases by combining "military tradition with the design concepts of city planning and landscape architecture" (USACE Seattle District 1997:55). He worked with the Construction Service to recruit a group of talented architects, engineers, planners, designers, and landscape architects (USACE Seattle District 1997:55). He conferred with representatives from the American Institute of Architects (AIA) and incorporated the advice of outside consultants, including George B. Ford, a noted city planner (Secretary of War 1926:36).

During the 1920s, the Construction Service was organized into three divisions: the Engineering Division, the Administrative Division, and the Real Estate Division. The Engineering Division was charged "with the duty of preparing all estimates, plans and specifications for the various construction projects needed for housing the personnel… and stores, and the construction plants for manufacture and maintenance" (Horton 1928:5). The first Chief of the Engineering Division of the Construction Service was Lt. Col. Francis B. Wheaton. Wheaton had architectural training and had worked as an architectural draftsman for the firms of Van Brunt & Howe; Chamberlin & Whidden; McKim, Mead and White; and Longfellow, Alden & Harlow. He advanced from senior draftsman to designer, and attained the position of assistant chief of drafting in the office of the supervising architect of the Treasury. He then joined the Quartermaster Corps where he oversaw the preparation of plans for buildings required at camps and Regular Army installations (*Who's Who in The Construction Division* 1920:251).

The Engineering Division was divided into the Design Branch, the Building Branch, and the Maintenance and Operation Branch. The Design Branch was in charge of scoping construction projects, collecting data on user requirements, and preparing estimates, plans and specifications for new construction projects. First Lieutenant H.B. Nurse was the Chief of the Design Branch in 1929. This division had a staff of civilian architects employed under the civil service (U.S. Congress 1925:117; Horton 1928:5-6; U.S. House of Representatives 1928:38). The Building Branch under Chief Major J.D. Kilpatrick worked with the Constructing Quartermasters in the field during construction activities. The Maintenance and Operation Branch supervised and provided oversight of installation utilities and the disbursement of funds for repairs and maintenance (Horton 1928:5-6; Bash 1929:19).

As Maj. General B.F. Cheatham described the procedures for new construction in a hearing before the House of Representatives Subcommittee No. 2 of the Committee on Military Affairs in December 1926,

> Our first step is to develop a plan. We have taken the construction that the War Department has [planned] of $110,000,000 and we have drawn up detailed buildings for each post affected and are preparing complete layouts to the last building. Those layouts are based upon reasonable concentration. The steps so far have been to start with the post commander and we have asked him to give us his views as to what should be done at that particular post. That goes to the Corps Area Commander and comes back to us. We either agree or disagree. Generally we disagree and

> send it back with our views for a further expression of opinion by local authorities…When we get our own views well worked out, we call in this city planner (identified as George B. Ford in 1928 hearings) who goes over it from a professional standpoint. He does not attempt to say he knows more about grouping the buildings for practical purposes than we do, but he does claim to know more about the harmonious arrangement than we do. He has made slight but very important modifications in our plans (U.S. House of Representatives 1926:23; U.S. House of Representatives 1928:40).

General Cheatham requested advice from the AIA to "insure that the designs of the buildings and the general plans for the grounds be in keeping with the best architectural practices" (Secretary of War 1926:36). The AIA recommended George B. Ford, an internationally known urban planner, to assist the Quartermaster Corps in installation planning (U.S. House of Representatives 1926:23; U.S. House of Representatives 1928:40; Secretary of War 1926:36). George B. Ford (1879-1930), a Harvard graduate, began his architectural studies through a course in mechanical engineering. He attended the École des Beaux-Arts in Paris, France. Upon his return to the U.S., he was employed at the architectural practice of George B. Post, where he was a draftsman. After World War I, Ford returned to France as a consultant to the French Government to rebuilt devastated areas. He specialized in city planning and "became a leading figure in that work" (Withey 1970:214-215). George Ford had final approval the placement of new buildings proposed for construction on the approved installation plans (Bash 1929:11).

The AIA also recommended civilian architects to assist the Quartermaster Corps. The names of two men have been identified as architectural consultants to the Quartermaster General. In 1925, William A. Delano (1874-1960) of Delano and Aldrich, New York City, served as the architectural consultant (Cook 2001:51). In 1928, Major General Cheatham, Quartermaster General, identified the consulting architect as Arthur Loomis Harmon (1878-1958), a partner in the firm of Shreve, Lamb & Harmon of New York City (U.S. House of Representatives 1928:40; Withey 1970:552). Arthur Loomis Harmon (1878-1958) was educated at the Art Institute of Chicago and was a graduate from the Columbia University's School of Architecture in New York. He worked at the architectural firm of McKim, Mead & White and the architectural firm of Wallis & Goodwillie. Harmon joined the firm of Shreve & Lamb, and became a partner in Shreve, Lamb & Harmon (Kellner n.d.).

The city planner and architectural consultants had no supervisory roles in implementing the housing program. Both men were compensated "per diem only for the time they actually spend in consultation" with the Quartermaster Corps (U.S. House of Representatives 1928:40-41). The consultants did not do the design work; Quartermaster Corps personnel completed the design work and also oversaw all construction supervision (U.S. House of Representatives 1928:38, 41).

In 1930, the Construction Service was renamed the Construction Division in the Office of the Quartermaster General (Fine and Remington 1989:50). In 1931, the Planning Branch was established within the Construction Division. The purpose of the planning branch was to ensure the "scientific planning and landscaping in the development of Army Posts and Air Fields." The new branch contained two landscape architects and two architects. In discussing the role of the Planning Branch, one writer again noted the emergence of city planning and its effect upon Army installations. "In the days gone by systematic planning as practiced today was unknown, . . . That was as true with our towns and cities as with Army Posts" (Hallauer 1939:28-31).

By 1935, the organization of the Construction Division had expanded greatly (Figure 3.7). The organization was headed by a Brigadier General supported by an executive officer in charge of the administrative and legal sections. The executive officer also had oversight of the work of the Planning Branch, the New Construction Branch, the Repairs and Utilities Branch, the Real Estate Branch, and the Memorial Branch (Pitz 1936:7). The primary branches involved in the Army housing program were the Planning Branch and the New Construction Branch.

The duties of the Planning Branch had expanded since 1931. The branch had two sections: the Post Layout Section and the Plans and Estimates Section. The landscape activities were assigned to the Landscape Unit under the Post Layout Section. The general duties of the Planning Branch were to maintain records on all installation layouts and to prepare cost estimates for all construction to support budget estimates submitted to Congress (Pitz 1936:7-8). In addition, the architects in the Planning Branch reviewed the types of buildings proposed for construction, selected the architectural style, specified construction materials, and prepared architectural sketches prior to submission to the New Construction Branch (Lamb 1938:24).

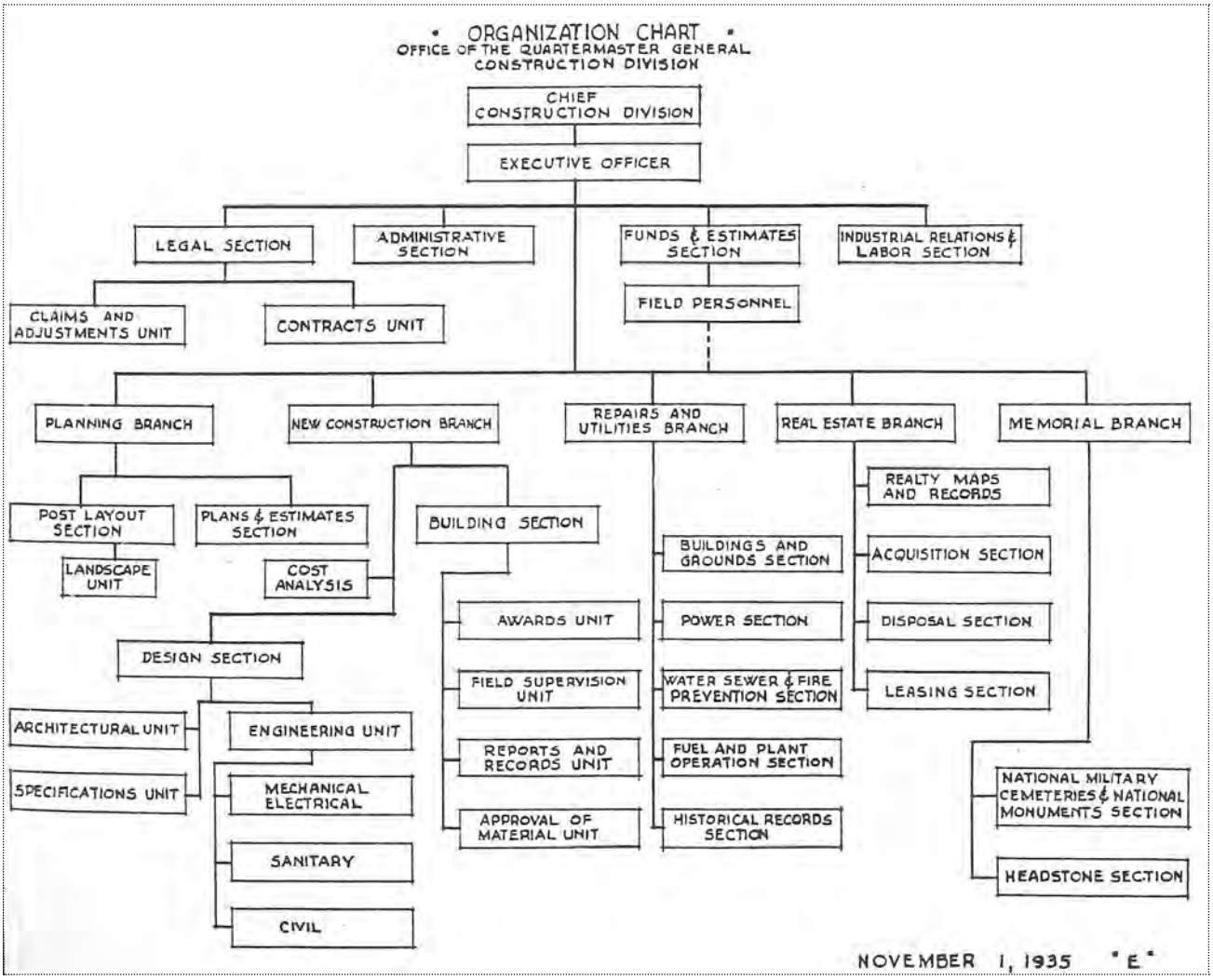


Figure 3.7. Organizational chart of the Construction Division, 1935 (Source: Pitz 1936:7).

The New Construction Branch assumed the duties of the former Engineering Division (Pitz 1936:8). The New Construction Branch comprised the Design Section and the Building Section (Pitz 1936:7). Work in the Design Section included the preparation of "plans, specifications and working drawings for all construction projects assigned to the Construction Division for execution, including plumbing, heating, power and lighting and refrigeration systems, roads, walks, wharves, drainage and water and sewer systems, and the handling of all engineering matters" (Pitz 1936:8). In 1940, the Design Section comprised approximately 450 men, including "architects, engineers, [and] specification writers" (Thomas 1940:62-63).

For each project, the Construction Division consulted with the using services to determine and confirm their requirements. The Design Section of the New Construction Branch in the Office of the Quartermaster General prepared the plans and specifications. Designers prepared sketches that progressed to working drawings for the projects. The drawings and specifications were presented to the using services for approval. Upon approval from the users, the drawings were sent to the Constructing Quartermaster in the field to oversee construction of the projects (Thomas 1940:62-63).

The Repairs and Utilities Branch "handled all requests for installation repair and maintenance", including the furnishing of all supplies, for items under their purview. This included such projects affecting such items as buildings, roads, walks, flagstaffs, ranges, heating systems, lighting systems, gas systems, power systems, plumbing, drainage, water and sewage systems, fences, and recreation facilities. The branch also prepared costs estimates and controlled and allocated funding for the repairs and maintenance to those items (Pitz 1936:8).

During the Inter-War Era, the Quartermaster Corps developed a system to document each completed project at the installations and each building. The Constructing Quartermaster provided a formal completion report describing the project, the contractors who did the work, costs, and other items as required (Pitz 1936:16). Information on each building also was collected using QM form No. 117, revised in 1924. Data included assigned Building number, major construction materials for walls and roofs, number of stories, dimensions, cost, and Quartermaster plan number. Each form featured a photograph of the new building, or the condition of the building at the time the form was completed. The Constructing Quartermaster made two copies of the forms. One set of forms was sent to the Quartermaster General's office, now housed at the National Archives and Records Administration in College Park, Maryland. The second set of forms remained on the installation and were used to track maintenance and repairs to the buildings after their original construction dates (Figure 3.8).

Funding The Army Housing Program

In April 1926, immediately after the passage of Public Law No. 45, the War Department requested the first funding to begin the new permanent construction campaign (U.S. Senate 1926a, 1926b). The War Department submitted a budget requesting slightly over $7 million for new permanent housing

Posted to O C E Form 432

WAR DEPARTMENT
Q.M.C. Form No. 117 (Old No. 173A
Revised Aug. 21, 1924

Post Plan No.
625-2530 to 2535 Incl.
O.Q.M.G.: Plan No. Building No. 387 W & E

Place N.C.O. Quarters, Old Post Area
Designation of building N.C.O. Quarters Capacity 2 families
Total cost, $ 17,052.82 Date completed January 6,1940
Material: Walls Tile + Stucco Foundation Concrete
Roof Tile Floors Hardwood
Total floor area above basement, square feet 3642 + 1009 (Base.) = 4651
Size *Main building 26'0" x 57'8" 28'8" 2 Wings 4 @ 11'6" x 14'0" 2 @ 14'6" X 16'7" Basement 28'8" X 26' 2 @ 14½" X 9'1" 918 Sq. Ft.
a Individual Heating Plant - Gas fired (How heated)
Height of first floor above ground 3'0"
b Steam (Type of heat)
How lighted Electric
Water connections 1" Copper
c Gas (Type of domestic hot water heater)
Sewer connections 6" Clay
Gas connections 1 Black Iron

COOKING RANGES INSTALLED
Coal, No. -
Gas, No. 2
Electric No. -
Oil, No. -
Steam, No. -

*Porches: 2 @ 14'6" X 9'10"
Included in Sq. Ft.

METERS INSTALLED
Gas, No. AC 3542012-AC 3542021
Electric, No. 2655522-2692671
Oil, No.
Steam, No.
Water, No.

ADDITIONS AND INSTALLATIONS

(Below enter chronologically all modifications, additions, introductions of water, sewer, lights, heating, etc.)

DATE		COST	DATE	INSTALLATIONS	COST
6/30/40	Repairs	77.30		SEE REVERSE SIDE OF SHEET FOR ADDITIONAL INSTALLATIONS	
6/30/41	"	7.71	11/30/39	2 Ea. Heaters, water, gas @ 35.11	70.22
6/30/42	"	71.27		(CV 5404/5816)	
			12/29/39	4 Ea. Fixtures, elec., Type B-101 @ 2.65	10.60
				4 Ea. Fixtures, elec., " C-19 @ 3.25	13.00
				4 Ea. " " " C-105 @ 2.00	8.00
				2 Ea. " " " BO-70 @ 9.75	19.50
				2 Ea. " " " C-8 @ 5.00	10.00
				2 Ea. " " " C-107 @ 12.50	25.00
				2 Ea. " " " CO-21 @ 2.95	5.90
				6 Ea. " " " C112A @ 6.95	41.70
				(CV 6501/5818)	
			OCT 17 1944	INVENTORY C-113-5	
			OCT 21 1944	Posted to O.C.E. Form #433	

INSTRUCTIONS.—"a" State whether heated from central heating or by individual heating plants, stoves, furnaces, or fireplaces.
"b" State whether steam, vapor, hot water, or hot air.
"c" State whether gas, coal, oil, or central heating plant.

See reverse side of form.

3—6891

Figure 3.8. Quartermaster Corps Form 117 (Source: Fort Sill Digital Archive 300A_B303_BB04_B387).

construction from the Military Post Construction Fund, and Congress authorized the funding (Secretary of War 1927:223). The projects requested in April 1926 were reported as funded in FY ending June 30, 1927, either through regular appropriations or from the Military Post Construction Fund (Secretary of War 1927:223). Some projects were under construction with completion dates scheduled for late 1927. Other projects were out for bid, while some projects were in the planning stages (Secretary of War 1927:223).

The Military Post Construction Fund was established to fund the construction of permanent housing for both enlisted personnel and officers. The program included permanent barracks, hospitals, and family housing. The focus of the first two years of the Army housing program was on the construction of barracks and hospitals (Secretary of War 1926:36). The FY 1927 appropriation contained funding for 10 officer quarters for Edgewood Arsenal, Maryland; 28 NCO quarters for Schofield Barracks, Hawaii; 15 duplex NCO quarters at Selfridge Field, Michigan; and 13 NCO quarters at Maxwell Field, Alabama (Chambers 1928:25). The Army's rationale for requesting houses for these installations were a lack of rentable civilian housing near Edgewood and Schofield Barracks and cold weather living conditions at Selfridge Field, Michigan (U.S. Senate 1926a:3-5). The new houses constructed at Edgewood Arsenal, Maryland, and Schofield Barracks, Hawaii, matched the existing housing stock on those installations (R. Christopher Goodwin & Associates, Inc. 2006b; Mason Architects, Inc. 2003:3-36).

This modest beginning alleviated "only a few of the most pressing needs. But the appreciative consideration by Congress of the program presented to that body by the War Department, followed by the initial authorization of funds for permanent construction, has had a beneficial effect upon the morale of the troops of the Regular Army. This step has been of great value in promoting the contentment and efficiency of our Army," wrote the Secretary of War in 1926 (Secretary of War 1926:36).

The FY 1928 appropriation totaling nearly $5.7 million included officer housing at Fort Bragg, North Carolina (6 units); Fort Lewis, Washington (6 units); March Field, California; Fort Monmouth, New Jersey; Fort Riley, Kansas (5 student apartments holding 20 units); Selfridge Field, Michigan; and Fort Sill, Oklahoma (7 units). NCO housing was constructed at Fort Bragg, North Carolina (7 units); Fort Lewis, Washington (5 units); and Fort Monmouth, New Jersey (Chambers 1928:25-26). The officer housing constructed at Fort Bragg, North Carolina, were examples of the one-story Spanish Colonial Revival

bungalow (Longleaf Historic Resources 2001:36). A photograph of the Spanish Colonial Revival bungalow constructed at Fort Bragg was featured in a 1929 *Quartermaster Review* article (Bash 1929:9).

Between 1929 and 1932, the Army made steady progress towards providing housing for officers and NCOs. The overall number of completed officer and NCO housing units gradually increased. A summary showing the funding amounts and the numbers of officer and NCO housing units constructed between 1927 and 1932 is provided in Table 3.3.

In 1926, the same year that Congress enacted Public Law No. 45, Congress also enacted the Air Corps Act. This act authorized a five-year expansion of the Army's aviation program. The expansion included recruitment of additional men and the purchase of new aircraft. By increasing the number of aviation personnel, this act also authorized an increase in the number of housing units to house new personnel at existing airfields, as well as any new airfields proposed for construction as part of the expansion. These new housing requirements were incorporated into the Army housing funding requests (Secretary of War 1926:33-34).

In 1929, General Charles Summerall, Army Chief of Staff summarized the status of the Army housing program under the Military Post Construction Fund since March 1926. Congress had authorized $57.4 million of which $20.7 million had been appropriated under the Army housing program. The difference was either appropriated in other bills or was pending approval by Congress or signature by the President (U.S. House of Representatives 1929:3). Summerall reported that the $57.4 million represented housing for 1,236 officers; 1,317 NCOs; and 26,679 enlisted personnel (U.S. House of Representatives 1929:3). The authorized funding was over half of the original request for $110 million to complete the program.

In actuality, the statistics for completed permanent housing units were less than Summerall's optimistic report. The total number of housing units actually completed between 1927 and February 1931 were reported as housing 304 non-commissioned officers, 292 commissioned officers, and 19,800 enlisted men ("Housing the Army" 1931:11). Construction funding totaled over $30 million, with $16 million under contract in 1931, and advertisements out on about $3 million more ("Housing the Army" 1931:11). By 1933, appropriations had reached nearly $80 million (Grashof 1986 Vol.

Table 3.3 Army Housing Program Appropriations, 1927-1932.

Fiscal Year Ending June 30	Housing Appropriation	Total Army Appropriations	Army Housing Program Accomplishments
1926	Army Housing program enacted March 1926, first appropriation appeared in FY 1927 budget		
1927	$7,020,000	$351,914,205	Housing for 83 NCO families, 18 officers families and 8,190 enlisted men, 406 hospital beds
1928	$5,277,000	$413,218,307	Housing for 14 NCO families, 109 officers families, 3,879 enlisted men, 102 nurses, and 196 hospital beds
1929	$6,469,000	$428,907,219	Housing for 145 NCO families, 175 officers families, 6,567 enlisted men, 105 nurses, and 371 hospital beds
1930	$13,539,490	$472,503,921	Housing for 268 NCO families, 392 officers families, 4,251 enlisted men, 27 nurses, and 51 hospital beds,
1931	$17,248,360	$508,487,570	Housing for 391 NCO families, 417 officers families, 2,973 enlisted men, and 33 nurses, and 394 hospital beds
1932	$5,065,900	$334,764,748	Housing for 482 NCO families, 446 officers families, 2,160 enlisted men, 7 nurses, and 560 hospital beds

Source: Secretary of War 1927-1932; Horton 1928:5-6; Bash 1929: 11, 14-16; "Housing the Army" 1931:12.

1:46; Pitz 1936:9). At the end of FY 1933, the Military Post Construction Fund retained a balance of $766,059.40 on deposit at the Treasury (Secretary of War 1933:58).

The process to complete a single construction project was complex and often extended over several years. The Army housing construction projects were funded in three ways: the Regular Army budget process, special bills, or by Congressional authorization and approval to access the Military Post Construction Fund. Once the money was appropriated, the Construction Division prepared plans and specifications, requested bids, selected contractors, and finalized contracts. The physical construction of the housing often was completed a year or two later. In the case of the original appropriation of $7 million for FY year ending June 30, 1927, 96 per cent was expended as of February 17, 1928 (U.S. House of Representatives 1928:43). At the same time, contracting for projects funded for FY 1928 were ongoing as authorizations were being requested for FY 1929. The completion dates, i.e., the dates of construction, of the housing units represent the dates that the buildings were accepted by and turned over to the installation's Constructing Quartermaster.

Funding for Army Construction during the Great Depression

The Great Depression affected the War Department, as well as the civilian sector. The effects of the Great Depression were first evident in the dramatic cuts in the War Department's 1932 budget. The War Department budget request for FY ending June 30, 1932, totaled approximately $335 million. Due to the Great Depression, that budget was cut on all levels and curtailment of "activities essential to permanent efficiency of the Army"; cuts reduced training, ceased procurement of military motor vehicles, and reduced aircraft replacement (Secretary of War 1933:15-16). The budget did contain approximately $5 million for new construction ("Housing the Army" 1931:12).

No funding for construction was contained in the Regular Army appropriations for 1933 (Secretary of War 1932:48). Secretary of War George H. Dern reported on the interruption of the steady progress made under the Army housing program by the reduction in Federal appropriations during the Great Depression (Secretary of War 1934:8). The "gloomy" prospect of no future Federal appropriations for the Army housing program was erased during summer 1933 when, "with extraordinary gratification… information was received…to the effect that the War Department's requests for funds would be considered by the Public Works Department (sic) as a phase of its comprehensive program of public works" (Secretary of War 1934:8-9). That summer, the newly formed Public Works Administration (PWA) allocated over $15 million to construct housing for the Army and Air Corps (Secretary of War 1932:48-49). The funds used by the Army to construct housing through New Deal programs of the PWA and the Works Progress Administration (WPA) supported the Federal government's goals of employing people needing work and completing projects of value to the nation, in this case Army housing.

The PWA (1933-1943) was a program created under the National Industrial Recovery Act of 1933. The purpose of the act was "to encourage national industrial recovery…and to provide for the construction of certain useful public works…" (Public Works Administration n.d.). The initial funding for PWA was $3.3 billion. The first appropriation was augmented with additional funding over the 10-year life of the program. The role of the PWA was to administer loans and grants to Federal, state, and local governments that selected the projects, then hired private contractors to complete the projects. After the passage of the Reorganization Act of 1939, the PWA was placed under the Federal Works Agency and "its functions shifted toward war preparations" (Public Works Administration n.d.).

The Secretary of War outlined the justification for including the War Department in the PWA program:

- Army projects were widely distributed across the U.S. with installations requiring work located in most states;
- Plans and specifications already were developed by the Quartermaster Corps so constructions work could begin quickly;
- The beneficiaries of the work were persons employed in the building trades, many of whom were out of work due to the Great Depression;
- The work was of great benefit to the Federal government, since the projects needed to be done and "construction at this time will eliminate the necessity of future appropriations for this purpose; replacement of old buildings by modern structures results in lowered repair and maintenance costs;" and
- The construction of housing personnel was reflected in immediate decreases in money paid out for rentals (Secretary of War 1934:9).

Based on the rationale, the Army received $61,413,614.50 from the PWA in September 1933 for new construction and repair of buildings for FY ending June 30, 1934. The PWA funding was allotted to approved projects at specific installations (Secretary of War 1934:9-10). The PWA funds were applied to 660 projects on 65 Army installations. The amount allotted to new construction was approximately $55 million, while the remainder was spent on repair and maintenance. The funding was used to build 224 single NCO quarters; 127 duplex NCO quarters; two, 6-family NCO apartments; 647 single officer quarters; 66 duplex officer quarters; 60 four-family officer apartments; and 12 eight-family officer apartments (Pitz 1936:9-10).

Lieutenant Colonel Hugo Pitz of the Quartermaster Corps reported that the PWA funding placed a "tremendous burden on the preparation of plans and specifications for the various buildings and structures" on the Construction Division, even though most of the barracks, housing types, technical buildings for the Air Corps and Ordnance, Quartermaster support buildings and warehouses, and most other buildings were types normally found at Army installations (Pitz 1936:9-10). The Quartermaster Corps requested the assistance of civilian architects for 18 buildings and structures. "While the results obtained in practically all cases were excellent, it was found that considerably more time

was consumed than would have been the case had such plans been prepared by the Construction Division with its own technical force" (Pitz 1936:10). In addition, five Constructing Quartermasters located at the stations with the largest building programs were authorized to develop plans and specifications for their programs. In Washington, D.C., the Quartermaster Corps bolstered the number of architects, architectural draftsmen, and engineers (civil, mechanical, and electrical) working in the Construction Division to meet the demand to spend the money quickly (Pitz 1936:10-11).

The Construction Division overseeing the construction program had the majority of their PWA-funded projects under contract by May 1934 (Pitz 1936:10). By the close of the FY 1934, over $47.4 million of the PWA allotment had been contracted and an additional $10.7 million "had been started other than by contract." Ninety-five per cent of the money received from the PWA was obligated; 47 per cent of PWA funding was expended. At the end of the fiscal year, 11,358 men were employed on PWA-funded construction projects on Army installations (Secretary of War 1934:9).

Following passage of the Emergency Relief Appropriation Act of 1935, the War Department accessed funding from the WPA (1935-1943). The WPA was created by Executive Order No. 7034 in May 1935. This program continued until 1943. The purpose of the WPA was to fund public works relief projects across the U.S. Typically WPA projects dispensed Federal funds through local sponsors, such as state and county offices, providing up to 25 per cent of the funding. Projects were approved through a multi-tiered administrative hierarchy with WPA administrators in Washington, D.C., approving all projects. Initially, WPA supplied and directly paid the laborers while project sponsors oversaw the work. Over time, the WPA also began to provide trained supervisors and foremen to complete the work (Goodfellow et al. 2009:25-28).

Federal agencies, such as the War Department, accessed WPA funding directly. The War Department requested funding from WPA for projects at installations across the U.S. between 1935 and 1943 to continue its permanent building program to construct new housing and complete other necessary projects. In 1935-1936, the Quartermaster Corps received WPA funding for 247 approved projects. Typical projects included construction, reconstruction, and repair of buildings; landscape improvements; improvement of Army airfields; and improvements for utilities. In these cases, the Quartermaster Corps had complete control of the projects from design through completion (Hopkins 1936:65-66).

The Quartermaster Corps provided construction drawings, while Constructing Quartermasters serving in the field provided oversight of contracts for construction supplies and labor and final acceptance of all buildings and construction. New construction at Army installations followed Quartermaster Corps standardized plans for Army family housing, student officer housing, and NCO housing (Enscore and Webster 2009:40-41).

The WPA encouraged use of local labor residing in the vicinity of projects. In special circumstances, work camps were constructed to house WPA employees. WPA work camps were required to house single men from outside the local community where the project occurred or for projects located in remote places, such as military reservations or national parks or forests (Hopkins 1936:97; *Final Report on the WPA Program* 1946:48). The Army hosted a few WPA work camps. In March 1936, the WPA accommodated about 40,000 employees in 190 camps located in 41 states (Hopkins 1936:97). During 1936, the number of WPA employees living in camps decreased "largely due to the administrative decision to discontinue work camps as a distinct phase of WPA activity and to give the work camp personnel the same treatment as that accorded to other WPA workers" (Hopkins 1936:97). One WPA work camp was located at Fort Riley, Kansas. Another work camp was located at Fort Knox, Kentucky, where WPA workers were transported by special train to their work site, where they were temporarily housed by the Army in a boarding camp for two weeks periods, then returned home and another work crew assembled (Thomas 1940:28).

In 1936, the Army submitted a budget request to Congress to appropriate $30,000,000 for Army housing construction. When the appropriation request failed, the War Department undertook a new analysis of its housing requirements. Army personnel surveyed 30 installations to determine family housing needs. They investigated what had already been constructed and requirements still needed. Based on the results of that study, the War Department concluded that the housing program now needed $162 million, which was a substantial increase over estimates from the early 1920s (U.S. Senate 1937:12-13; Secretary of War 1937:35).

The Army continued to rely on PWA and WPA funding to construct needed housing and general construction projects. The Work Relief and Public Works Appropriation Act approved on June 21, 1938, awarded over $13.9 million of WPA funding and over $52.2 million of PWA funding to the War

Department to construct Army housing. The act specified that all funded projects were required to begin by August 15, 1938, and be substantially completed prior to January 1, 1940. The program emphasized speedy construction and the use of WPA employees to the fullest extent possible to support worker relief efforts (Thomas 1940:27-28, 63). WPA workers constructed "utilities at various posts, doing such work as excavation for sewer lines, water lines, and electric systems; construction of roads and walks; improvement of grounds; and excavating for foundations, and constructing substructures of buildings" in preparation for new construction (Thomas 1940:27-28). Contractors were hired to complete the superstructures of the buildings. The funds were spent on 285 projects at 64 Army installations. Construction projects included 746 units of NCO housing; 345 units of officer quarters; barracks to house 19,974 enlisted personnel; and a hospital, the Fitzsimons General Hospital in Denver, Colorado, that added 678 beds to the Army's hospital capacity (Thomas 1940:28).

The construction dates for housing units constructed on the installations included in the Program Comment Database support this history (Table 3.4). The number of units constructed in 1919 represent units constructed in Hawaii, Aberdeen Proving Ground, and West Point. Few housing units (n=23) were constructed between 1920 and 1925, with the exception of the year 1923. In that year, 111 units were constructed at Fort Benning and 17 units were constructed at Edgewood Arsenal. The first year where a significant number of housing units was reported was in 1930 when 240 houses were completed. The highest total for housing units completed was in 1931 with 879 units. The numbers do show that the largest numbers of housing were constructed between 1933 and 1940, when 1,637 housing units were completed using PWA and WPA funding (U.S. Department of the Army Program Comment Database 2021). Table 3.5 shows the number of units constructed each installation by year. Table 3.6 shows the numbers of units constructed by year and the installations where the units were constructed.

The PWA and WPA funding received in 1938 was the last money used for permanent Army family housing construction. From 1938 onwards, the growing tensions in Europe and Asia began to consume the attention of military planners as the situation in Europe evolved into war. As early as 1938, the Quartermaster Corps was developing emergency plans in case of war. On June 15, 1940, the Adjutant General issued a directive halting all construction on permanent family housing for officers

and NCOs (Grashof 1986 Vol. 1:56-57). Beginning in June 1940, WPA funding began to be directed to projects that supported national defense, such as building mobilization camps and to support industrial production. On December 1, 1941, the Army consolidated all construction functions under the U.S. Army Corps of Engineers (Grashof 1986:57). The transfer of all construction activities to the U.S. Army Corps of Engineers marked the end of the involvement of the Quartermaster Corps in permanent construction at Army installations.

Table 3.4 ***Count of Army Housing Units located on Installations in the Program Comment Constructed by Year.***

Year Completed	Number of Units
1919	134
1920	2
1921	13
1922	2
1923	132
1924	1
1925	5
1926	10
1927	10
1928	40
1929	11
1930	240
1931	879
1932	115
1933	334
1934	602
1935	258
1937	75
1938	46
1939	289
1940	33
Total number of Units	**3231**

Source: U.S. Department of the Army Program Comment Database (4/2021).

Table 3.5. ***List of Installations in the Program Comment with Numbers of Units by Construction Date.***

Installation Names	Number of Housing Units and Year Built
Aberdeen Proving Ground	97
1919	21
1923	17
1925	4
1927	10
1934	18
1935	22
1939	5
Carlisle Barracks	75
1932	1
1935	26
1939	28
1940	20
Fort Belvoir	164
1921	8
1930	24
1931	34
1934	44
1935	22
1939	32
Fort Benning	492
1923	111
1930	1
1931	101
1934	159
1935	120
Fort Bliss	147
1921	5
1922	2
1923	4
1930	98
1934	38
Fort Bragg	230
1928	13
1930	31
1931	60
1932	10
1933	38
1934	29
1939	49

Table 3.5, continued

Installation Names	Number of Housing Units and Year Built
Fort Campbell	2
1932	1
1935	1
Fort Knox	202
1934	80
1937	5
1938	46
1939	71
Fort Meade	112
1930	32
1931	59
1933	21
Fort Riley	143
1925	1
1928	20
1930	32
1931	16
1934	46
1939	28
Fort Sill	259
1928	7
1933	34
1934	171
1939	34
1940	13
USAG Hawaii	386
1919	94
1924	1
1932	59
1933	232
Hawthorne Army Depot	34
1929	11
1930	22
1931	1
Joint Base Lewis McChord	330
1931	300
1939	30

Table 3.5, continued

Installation Names	Number of Housing Units and Year Built
Joint Base Myer Henderson Hall	22
1920	2
1932	16
1934	1
1935	3
Joint Base San Antonio	296
1931	281
1934	15
McAlester Army Ammunition Plant	5
1919	1
1939	4
Moffett Federal Airfield / Camp Parks	9
1933	9
Picatinny Arsenal	8
1939	8
Presidio of Monterey/ Naval Postgraduate School	4
1926	4
Rock Island Arsenal	7
1926	6
1934	1
Watervliet Arsenal	1
1919	1
West Point	206
1919	17
1931	27
1932	28
1935	64
1937	70
Grand Total	**3231**

Source: U.S. Department of the Army Program Comment Database (4/2021)

Table 3.6 Table of Housing Units Constructed by Date at the Installations.

Year and Installations	Number of Units
1919	134
Aberdeen Proving Ground	21
Hawaii	94
McAlester Army Ammunition Plant	1
Watervliet Arsenal	1
West Point	17
1920	2
Joint Base Myer Henderson Hall	2
1921	13
Fort Belvoir	8
Fort Bliss	5
1922	2
Fort Bliss	2
1923	132
Aberdeen Proving Ground	17
Fort Benning	111
Fort Bliss	4
1924	1
Hawaii	1
1925	5
Aberdeen Proving Ground	4
Fort Riley	1
1926	10
Presidio of Monterey/Naval Postgraduate School	4
Rock Island Arsenal	6
1927	10
Aberdeen Proving Ground	10
1928	40
Fort Bragg	13
Fort Riley	20
Fort Sill	7
1929	11
Hawthorne Army Depot	11
1930	240
Fort Belvoir	24
Fort Benning	1
Fort Bliss	98
Fort Bragg	31
Fort Meade	32
Fort Riley	32
Hawthorne Army Depot	22

Table 3.6 continued

Year and Installations	Number of Units
1931	879
Fort Belvoir	34
Fort Benning	101
Fort Bragg	60
Fort Meade	59
Fort Riley	16
Hawthorne Army Depot	1
Joint Base Lewis McChord	300
Joint Base San Antonio	281
West Point	27
1932	115
Carlisle Barracks	1
Fort Bragg	10
Fort Campbell	1
Hawaii	59
Joint Base Myer Henderson Hall	16
West Point	28
1933	334
Fort Bragg	38
Fort Meade	21
Fort Sill	34
Hawaii	232
Moffett Federal Airfield / Camp Parks	9
1934	602
Aberdeen Proving Ground	18
Fort Belvoir	44
Fort Benning	159
Fort Bliss	38
Fort Bragg	29
Fort Knox	80
Fort Riley	46
Fort Sill	171
Joint Base Myer Henderson Hall	1
Joint Base San Antonio	15
Rock Island Arsenal	1
1935	258
Aberdeen Proving Ground	22
Carlisle Barracks	26
Fort Belvoir	22
Fort Benning	120
Fort Campbell	1
Joint Base Myer Henderson Hall	3
West Point	64

Table 3.6 continued

Year and Installations	Number of Units
1937	75
Fort Knox	5
West Point	70
1938	46
Fort Knox	46
1939	289
Aberdeen Proving Ground	5
Carlisle Barracks	28
Fort Belvoir	32
Fort Bragg	49
Fort Knox	71
Fort Riley	28
Fort Sill	34
Joint Base Lewis McChord	30
McAlester Army Ammunition Plant	4
Picatinny Arsenal	8
1940	33
Carlisle Barracks	20
Fort Sill	13
Grand Total	**3231**

Source: U.S. Department of the Army Program Comment Database (4/2021).

Chapter 4: Social and Economic Changes during the Inter-War Era

Army family housing was constructed within the larger context of national cultural and economic change that occurred across the country during the Inter-War Era. American society underwent dramatic changes as a result of World War I. Advances in communication, such as the radio, and new technology, like motion pictures, helped advance and popularize new fashions and trends. Flappers and jazz came to epitomize the era, and women earned the right to vote. Consumer spending rebounded as the pent-up demand, restrictions, and austerity that accompanied mobilization and war came to an end. Increased consumerism was promoted through the movies and the radio, as the art of advertising and marketing was professionalized after the war. Americans clamored for the items they saw in Hollywood films, heard about on the radio, or saw in magazine advertisements. Women attained the right to vote and African Americans left the South by the thousands in search of better jobs and to escape the indignities of Jim Crow segregation. A reduction in the work week and increasing salaries allowed workers to take advantage of new forms of leisure and entertainment. The Federal government moved towards adopting policies and programs that expanded the definition of public services, which grew to expanded funding for education, transportation, and infrastructure. State and local governments also began to increase funding for select social programs. Many of these changes influenced the housing market, housing expectations, and the American desire for home ownership. This chapter discusses the increased role and size of the Federal government; income changes and the cost of living; the rise of consumerism and mass consumption; immigration; and the status of African Americans.

A Snapshot of Home Ownership during the Inter-War Era

As the country emerged from World War I, it was socially, economically, and racially stratified. Generally, African Americans and select immigrant populations faced restrictions on where they could live and the types of housing available to them. While segregation legally prohibited African Americans from living in certain neighborhoods, immigrant populations frequently created ethnic enclaves based on shared cultural identity or familial relationships. More than half the American population lived in rental property, and home ownership remained unattainable for the majority of Americans. The country was

not one in which private home ownership dominated the housing market. Historically, home ownership was relegated to the upper middle class and the wealthy and those who inherited housing.

The suburbanization that occurred during the nineteenth century catered to an upper middle-class clientele who had the financial ability to contribute a large down payment and make monthly payments. After the war, proponents of adequate housing embraced a renewed push to expand the suburbanization efforts that began a century earlier to include a larger segment of the American population. These efforts resulted in the construction of new neighborhoods designed in accordance with the Garden City movement and housing following the tenets of the small house movement and the Better Homes initiative. Because many American families could not afford home ownership, the housing that was promoted offered options that were smaller in size than the housing constructed in nineteenth century suburban neighborhoods. This push, combined with an increase in consumerism and marketing to a sector of the population having limited means, enabled millions of Americans to enter the ranks of home ownership.

Army housing, like that in the civilian market, was stratified; however, this stratification was based on military rank. Officers and NCOs, the equivalent of professionals and upper management in the civilian sphere, were afforded family housing on Army installations. Consequently, their housing was commensurate with civilian housing for those of a similar economic class. The Army was not immune to the demand for adequate new housing. The Army set minimum standards for electricity, plumbing, and heating; dwelling size; and architectural expression. Enlisted service members and lower ranking NCOs were not eligible for family housing. The Inter-War Era marked an evolving consensus of who was entitled to become a home owner and what types of housing was appropriate based on racial, economic, and social status.

Increased Federal Intervention in American Society

Historically, the Federal government maintained a very limited role in the American economy and society. At the Federal level, the government provided for the national defense, developed standards for commerce and trade, and maintained a laissez-faire economic policy. In general, the degree to which the Federal government regulated various sectors of the American economy and society was

significantly less than it is today. The 1920s, however, marked the beginning of increasing Federal government intervention in the economy and consumer markets. At the same time, state and local governments increased their public expenditures (Metzer 1985:121). Increased funding at the state level, $5.6 billion to $7.8 billion between 1922 and 1927, made up for decreased Federal public expenditures following World War I (Metzer 1985:121).

It was during this period that the definition of Federally supported public services expanded beyond support required under treaties to Native Americans on reservations and military veterans to "'modest amounts of federal funds [that] were supplied to the states to maintain the health of children, to rehabilitate disabled workers, and create vocational education programs'" (Metzer 1985:125). Such projects and programs included highway construction funded through programs including the Federal Roads Aid Act of 1916 (52 per cent of non-military investment), non-residential buildings (of which two-thirds were for educational buildings); and sanitation improvements (12.5 per cent), among others between 1921 and 1929 (Metzer 1985:122; R. Christopher Goodwin & Associates, Inc. 2019:VII-252). Common societal goals influenced by demographic, societal, and technological changes were reflected through the votes of the electorate and implemented through Federal action. Population growth, urban expansion, and immigration at the end of the nineteenth century and the beginning of the twentieth century provided the impetus for these investitures. Expenditures in education, for example, increased during the first two decades of the twentieth century. In 1900, government spending on education averaged $19 per student; $32 during the 1910s; and $80 during the 1920s (Metzer 1985:123). These small efforts undertaken during the 1920s helped pave the way for dramatically increased Federal intervention required to address the economic havoc wreaked by the Great Depression.

Prior to the Great Depression, the Federal government played a relatively small role in the housing market. In select circumstances, such as the housing shortage resulting from the U.S. mobilization efforts during World War I, the Federal government played a limited role in the industry. The economic crisis resulting from the stock market crash of 1929 ushered in a period of extreme economic distress across all sectors of the American economy. The Federal government developed a number of tools to ease the financial burden facing millions of Americans; some of those tools included direct intervention in the housing industry. This intervention ultimately affected the design of civilian-sec-

tor housing. Government policies and programs that affected the housing industry are explored in greater detail in Chapter 5.

Income Levels and the Cost of Living

American workers benefitted after World War I in two areas: reduction in the length of the average work week and increased salaries. Many Americans also experienced greater disposable income and a higher standard of living, which was reflected in the acquisition of numerous products and services advertised through the popular media. However, differing income levels highlighted disparities in housing, particularly among African Americans, immigrants, and working-class white families.

Nineteenth century industrialization and population growth decreased the quality of life in many areas of the country's largest cities. Substandard housing and overcrowding strained existing infrastructure and housing stock. At the same time, the salaries of many Americans increased, afforded them the ability to move away from the crowded and polluted cities. Advances in transportation, including the trolley and the automobile, made it possible for Americans to commute to work and facilitated the move to "streetcar" suburbs.

Even as income levels improved for the majority of Americans, higher salaries and income did not translate into the ability to purchase housing. Programs that began during the 1920s and proliferated during the Great Depression sought to provide avenues to home ownership. The Better Homes movement, the Garden City movement, and the small house initiative were efforts that attempted to introduce renters to property ownership.

Income Levels in the Inter-War Era

Between 1914 and 1919, the average hourly earnings more than doubled (United States Bureau of Labor Statistics 1945:1). The workweek for factory workers averaged 49.4 hours in 1914 and dropped to 46.3 hours in 1919; these averages were more than the 45.2 hours factory workers worked during World War II (Bureau of Labor Statistics 1945:2). The steady decline in the average work week during World War I was attributed to intentionally shorter work schedules (Bureau of Labor Statistics 1945:9).

During World War I, labor experts determined that the long average hours worked per week negatively impacted worker productivity and the war effort. The argument for the shorter work day posited that longer work days increased production waste, necessitated more employees to complete a job, and increased employee absenteeism due to illness, fatigue, and accidents (Chase 1926:162). These experts advocated the reduction of the work day from 12-hours to 8-hours. Ultimately, the workweek was shortened, which resulted in increased productivity (Bureau of Labor Statistics 1945:9; Chase 1926:162).

The average annual income of non-manufacturing, non-government employees rose 70 per cent between 1914 and 1919, from $753 to $1,283 (Bureau of Labor Statistics 1945:6). Weekly earnings steadily increased between 1914 and 1923; 1923 weekly pay was 116 per cent higher, on average, than1914. Factory workers' hourly wages rose 134 per cent in 1923 from 1914 (Bureau of Labor Statistics 1945:12). Average weekly earnings for the period 1914 to 1923 are presented in Figure 4.1.

A reduction of the workweek meant workers had time to engage in non-work-related activities. Such pursuits included attending the latest Douglas Fairbanks and Clara Bow movie at the local movie theater, listening to Amos 'n' Andy on the radio, or watching sports, as sports-watching as a legitimate pastime emerged during the 1920s. Babe Ruth epitomized baseball, college football gained popularity, and professional golf and tennis attracted large audiences (Dyreson 1989:262). Within the rapidly changing postwar U.S., marked by a transformation in industry, urbanization, immigration, globalization, and political realignments, sports were seen as a tool to create a "united national culture" (Dyreson 1989:262).

Even as Americans became more prosperous, the distribution of wealth remained unequal. According to 1918 figures from the National Bureau of Economic Research, only 254,000 out of 20 million had incomes over $10,000. Of the 254,000 high-earning individuals, 21,000 had incomes over $50,000; 41,000 had incomes between $25,000 and $50,000, and 192,000 had incomes between $10,000 and $25,000 (Chase 1926:140). However, the average income for most Americans was under $10,000, with income levels during the late 1920s ranging from $600 for very poor families to $4,600 for those families at the top of the low income scale (Wyand 1937:447). Over 70 per cent of American families had annual incomes of less than $2,500 a year (Wyand 1937:461). For comparison, an annual salary

TABLE 1.—*Average Weekly Earnings of Wage Earners in Manufacturing, 1914–23* [1]

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Average weekly earnings									
January	.....	$10.97	$11.36	$13.61	$15.72	$21.59	$25.03	$24.38	$20.30	$22.52
February	.....	10.94	12.28	13.69	15.87	21.20	24.91	23.55	20.63	22.96
March	.....	11.15	12.49	14.30	17.27	21.27	26.09	23.49	20.85	23.57
April	.....	11.06	12.49	13.77	17.62	21.03	25.79	23.03	20.65	23.75
May	.....	11.23	12.94	15.02	18.91	21.12	26.61	22.68	21.04	24.51
June	$11.20	11.29	12.96	15.12	18.97	21.46	27.18	22.38	21.47	24.36
July	11.06	11.16	12.14	14.60	19.41	21.56	26.84	21.61	21.30	23.64
August	11.05	11.36	12.63	15.18	20.98	22.36	26.98	21.83	21.72	23.65
September	11.00	11.34	12.88	15.33	21.30	22.94	26.95	21.22	21.99	23.70
October	10.81	11.73	13.24	16.56	22.57	22.46	26.94	20.67	22.09	24.48
November	10.86	11.82	13.79	17.25	20.94	23.12	26.41	20.38	22.63	24.30
December	11.07	12.06	14.07	17.09	22.35	24.35	26.08	21.11	22.92	24.41
Average for year	11.01	11.34	12.77	15.13	19.33	22.08	26.30	22.18	21.51	23.82
	Indexes (average 1914=100)									
January	.....	99.6	103.2	123.6	142.8	196.1	227.3	221.4	184.4	204.5
February	.....	99.4	111.5	124.3	144.1	192.6	226.2	213.9	187.4	208.5
March	.....	101.3	113.4	129.9	156.9	193.2	237.0	213.4	189.4	214.1
April	.....	100.5	113.4	125.1	160.0	191.0	234.2	209.2	187.6	215.7
May	.....	102.0	117.5	136.4	171.8	191.8	241.7	206.0	191.1	222.6
June	101.7	102.5	117.7	137.3	172.3	194.8	246.9	203.3	195.0	221.3
July	100.5	101.4	110.3	132.6	176.3	195.8	243.8	196.3	193.5	214.7
August	100.4	103.2	114.7	137.9	190.6	203.1	245.0	198.3	197.3	214.8
September	99.9	103.0	117.0	139.2	193.5	208.4	244.8	192.7	199.7	215.3
October	98.2	106.5	120.3	150.4	205.0	204.0	244.7	187.7	200.6	222.3
November	98.6	107.4	125.2	156.7	190.2	210.0	239.9	185.1	205.5	220.7
December	100.5	109.5	127.8	155.2	203.0	221.2	236.9	191.7	208.2	221.7
Average for year	100.0	103.0	116.0	137.4	175.6	200.5	238.9	201.5	195.4	216.3

[1] A series of average weekly earnings from January 1919 to December 1923 was derived by dividing total weekly pay rolls by total employment. (Bureau of Labor Statistics mimeographed release, January 1941, giving revised estimates after the exclusion of railroad repair shops from manufacturing industries.) Average weekly earnings from June 1914 to December 1918 were calculated as follows: Index numbers of average weekly earnings from November 1915 to January 1919 were derived by dividing indexes of pay rolls by indexes of employment. (Monthly Labor Review, August 1925, p. 115.) These index numbers were then used to extend the average weekly earnings back to November 1915, linking at January 1919. For months prior to November 1915, the average weekly earnings for New York State (New York State Department of Labor, Industrial Bulletin, vol. 2, p. 221) were linked to the Bureau of Labor Statistics series by means of the ratio of the averages for the 12 months ending October 1916.

The Bureau of Labor Statistics indexes of employment and pay rolls for the earlier period (November 1915 to January 1919) when taken separately appear to have serious biases but the index derived by dividing the index of pay rolls by the index of employment indicates the approximate trend of average weekly earnings for this period. Any appreciable error in the trend would have resulted in a bias in the estimated averages for the earlier years. It is found, however, that the average for 1914, calculated as described above, is almost identical with the average derived by use of the Census of Manufactures revised data of employment and pay rolls from which railroad repair shops have been excluded.

Figure 4.1. Average Weekly Earnings: 1914-1923 (Source: Bureau of Labor Statistics 1945:13).

of $2,500 in 1918 is equivalent to $43,760 in 2020 dollars (Friedman n.d.). The median household income was nearly $20,000 more in 2018 (n = $68,700) than it was in 1918 in 2020 dollars (United States Census Bureau 2020).

The Standard of Living in Inter-War Era

While much of the country prospered after World War I, some segments of the population were left behind. Immigrants and African Americans, did not reap many of the rewards of their White and/or American-descended counterparts. In addition, poor White farmers and unskilled laborers also saw limited gains in their economic standing. Wages were slow to increase following the war. Slow

increases especially were recorded in manufacturing that relied heavily on semi-skilled and unskilled labor (Cohen 1989:8). Employment in the meat-packing, clothing manufacturing, and steel industries was susceptible to layoffs and unemployment during downturns in business cycles (Cohen 1989:8).

Contemporary researchers developed a metric for the minimum standards of living based on income. This scale consisted of the poverty level, the minimum of subsistence level, the minimum health and decency level, and the comfort level (Wyand 1937:458). As economist Charles Wyand put it, those living at the poverty level existed at a "sub-marginal level of self-maintenance," in which "the hand-to-mouth tradition becomes a stark reality" of daily living (Wyand 1937:458). Those at the minimum of subsistence level had sufficient income to maintain daily living, but no additional funds for social activities or emergencies. The minimum health and decency level included those who had sufficient funds to provide for the costs of daily living as well as social needs; this category of resident had sufficient funds to put into savings. Those in the comfort level consisted of "the highest paid wage earners and by the majority of the members of the professional class" (Wyand 1937:459). They had sufficient funds to pay for necessities as well as travel, recreation, and education (Wyand 1937:459).

Wyand noted that 74 of 100 working families were able to earn enough to support a typical standard of living in 1924 and less than 58 per cent of the population was able to maintain a conservative standard of living in 1929 (Wyand 1937:481). He cautioned that most families lacked adequate purchasing power, yet were pressured to buy popular goods and services, creating a result whereby families wavered between going into debt and frustration at being pressured to consume (Wyand 1937:481). Wyand concluded his analysis by calling attention to the link between consumerism and entitlement, "Since the salesman has convinced the average man that he deserves and ought to have extensive material possessions, the frustrated consumer is asking with increasing insistence why he should be deprived that which is admittedly his just due" (Wyand 1937:482).

The Cost of Housing in the Inter-War Era

Even as a housing boom took place in the years immediately following the end of World War I, many Americans could not afford home ownership. In 1920, for example, 45 per cent of Americans owned their own houses (Halbert 1931:51). By contrast, the home ownership rate in 2020 was 65 per cent

(United States Census Bureau 2021:1, 5). The cost of housing remained high for much of the population, with families spending nearly 20 per cent of their family budget on housing, regardless of income level. Those with annual incomes less than a $1,500 could not afford to purchase a house because a new house was outside their reach (Halbert 1931:51). Housing affordability did not improve as the 1920s progressed.

The U.S. Bureau of Labor Statics undertook a survey of income and expenses for 506 families of employees who worked for the Federal government to determine the cost of housing for average families. Families living in Boston, Baltimore, Chicago, New Orleans, and New York were surveyed. Approximately 100 of the surveyed families had incomes that were not over $2,500 per year. The survey found that on average, 19.3 per cent of the family budget went towards housing, with the majority of the families renting (United States Department of Labor 1929:243). Residents in large cities, by and large, lived in rental units because they could not afford to purchase their own houses. The Bureau of Labor Statistics concluded that the percentage of the family budget that goes towards housing is the same regardless of income level and that the more a family makes "proportionately the more it spends on housing" (United States Department of Labor 1929:243).

In 1928, $4,000 would have enabled a family to acquire a very modest house in a small city or in a remote suburb of a larger city. A family would have yearly payments of $350, including interest and principal, for 20 years at the end of which the family would own the house. Additional costs associated with home ownership included estimated real estate taxes and insurance approximated at $50 a year and home improvements estimated at $30 year. The sum of mortgage payments, taxes and insurance, and repairs would bring the yearly cost of home ownership to $430 (United States Department of Labor 1929:243).

To generate a housing budget of $430, renters would have needed an annual salary of $2,228, assuming that 19.3 per cent of their budgets went to housing. That same annual salary could enable a family to purchase a $4,000 house with yearly payments spread out over 20 years. The Bureau of Labor Statistics determined it "would be just as easy to pay rent" (United States Department of Labor 1929:243). Figure 4.2 depicts the amount of income necessary to purchase housing at various price points. Not all housing types or models were priced in the Bureau of Labor study. Sears, Roebuck and

Income	Cost of home	Income	Cost of home
$2,000	$3, 591	$4,000	$7, 181
$2,500	4, 488	$5,000	8, 977
$3,000	5, 386	$6,000	10, 772
$3,500	6, 284		

Figure 4.2. Income vs. Cost of House (Source: United States Department of Labor 1929:243).

Co. for example offered a number of house types in its mail order catalogs that ranged between a low of $428 to a high of $2,899 for the period 1927 to 1932 (Sears Archives 2012a). Aladdin Homes also offered its customers affordable housing, ranging in price from as low as $598 to as high as $1,788 in 1928 (The Aladdin Company 1928). Neither company offered housing for more than $4,000.

In describing the typical home owner, the Bureau of Labor Statistics asserted those families economized and saved more than those who lived in rental units. They were willing to forgo entertainment, vacations, and other consumer products so that they could purchase a house that was "a little larger, more elaborate, and more expensive than the rented home. The heart's desire is to own a home and live better than before" (United States Department of Labor 1929:244). When home ownership and renting cost the same, property ownership assumed the advantage. However, many families across the country could not attain home ownership because they did not have annual salaries of $2,228 or greater. Consequently, "Such families can buy a house only by more than ordinary self-denial and thrift, or by buying a buying a very cheap house" (United States Department of Labor 1929:244). Because some type of down payment would be required, a family would need to continue renting and "pinch and save" to accrue sufficient funds for that down payment (United States Department of Labor 1929:244).

Housing conditions among segments of the population brought into stark relief the country's income inequality. Even as much of the country benefited from the economic prosperity of the 1920s, certain segments of society, including African Americans, immigrants, and "millions of native white Americans, live in homes which hurt them physically and psychically" (Halbert 1931:660). In an article included in the *Better Homes Manual*, Lawrence Veiller, Executive Director of the National Housing Association, wrote land speculation affected the quality of houses constructed for working class families. According to Veiller, many of the houses constructed on speculation were of poor quality

and workmanship, factors that served as a disincentive to home ownership and contributed to the increase in renting (Halbert 1931:601).

The Rise of Consumerism and Mass Consumption

The Inter-War Era ushered in a period of mass consumption as Americans felt free to buy after the austerity of the war years. As the country emerged from war, industry strove to meet pent up consumer demand for goods that had not been produced during the war (Franklin and Moss 1988:311). Industry developed the ability to produce goods cheaply and efficiently at a high volume. Advertisers and marketers developed techniques to encourage increased consumption as marketing as a tool became more refined. Indeed, the age of mass advertising started during the 1920s (Dyreson 1989:276). Even as Americans had more money and more time thanks to wage increases and a shortened workweek, labor leaders renewed their efforts at labor reform. Those efforts had had been put on hold during the war.

The use of marketing as a device to sell products intersected with the rise of consumer credit during the 1920s, resulting in the increasing national popularity of consumer brands (Harris 2009:289). The national chain store grew in prominence during the Inter-War Era. These stores were located in predominately, upper class white neighborhoods, leaving immigrants to shop at locally-owned stores and reducing the shopping options for African Americans, many of whose only options included shopping at Black-owned businesses. Housing became a reflection of the coalescence of increased income, aggressive marketing, consumerism, and the availability of goods. Mass consumption became a symbol of being a "good American".

Production at a Grand Scale

The U.S. contribution to global production grew steadily after the turn of the twentieth century. American workers and consumers benefitted from mass manufacture of common goods. Clever marketing encouraged Americans to consume the ever-increasing supply of products.

Brought about by technological innovations, the decade of the 1920s ushered in the period of mass consumption and mass culture of "automobiles, radios, Hollywood films, professional sports, [and]

'consumer durables' like refrigerators. At that time American industry perfected both mass production and the means to digest the same goods—*en masse*" (Cummings 1999:275-276). The radio and the motion picture, combined with advertising, and high-pressure sales tactics produced a "standardizing influence" on the consumer. The end result of all of these influences was which,

> …we not only tend to think alike, but to wear the same clothes, read the same books, eat the same foods, equip our homes with the same furnishings, and to use the same sundries from cigarettes to shaving soap (Wyand 1937:455).

The U.S. share of global industrial production was 29 per cent during the 1880s and 36 per cent in 1913. For comparison, Great Britain's share of global industrial production was 14 per cent in 1913. By 1929, the U.S. represented 42 per cent of the global industrial production, representing the highest percentage ever, excluding World War II (Cummings 1999:276). American industry's increasing production required new markets to absorb the supply. Sophisticated marketing and advertising convinced consumers to buy the latest products.

The automobile perfectly represents the intersection between production and marketing, and the car became one of the enduring symbols of the Inter-War Era. Advances in industrial production proved beneficial to the American economy and the American worker. Henry Ford perfected the assembly line, which enabled him to mass-produce the Model T. At $5.00 a day, he offered his employees high salaries, which enabled them to purchase the autos they manufactured (Cummings 1999:276). At the beginning of the twentieth century, only the wealthy could afford to purchase a car. Ford's Model T introduced an era of widespread car-ownership. In 1900, there were 8,000 cars in the U.S.; 15 years later there were 2. 5 million cars, and by 1917 the number of cars in the U.S. increased to 5 million (R. Christopher Goodwin & Associates, Inc. 2019:VIII-285). The automobile became so numerous that ultimately it influenced residential neighborhood design (R. Christopher Goodwin & Associates, Inc. 2019:VIII-285).

While Ford pioneered mass assembly, General Motors (GM) perfected mass marketing. GM combined "salesmanship, mass advertising, and easy credit" to compete with Ford and "to saturate the American market with automobiles (from 1920 to 1929 the *per capita* auto ownership rate went from 1 in 13 people to 1 in 5, a level not reached by other industrial countries until the 1960s)" (Cum-

mings 1999:276). GM made car ownership a status symbol by introducing color (in contrast to the always-black Model T) and by manufacturing models in a graduated l sequence, whereby a car owner's first car may have been a blue Chevrolet and his final car a black Cadillac, the ultimate status symbol (Cummings 1999:276). GM facilitated car ownership by instituting the monthly payment plan (Cohen 1989:8; Cummings 1999:276). The installment plan was seen as a tool to help the working class purchase a variety of consumer items, ranging from the automobile, the vacuum cleaner, and the kitchen sink (Cohen 1989:8). By 1926, an estimated 15 per cent of consumer goods were purchased on installment, with automobiles representing significant portion of that total. Advertising and marketing contributed to the rise in consumerism as Americans increasingly purchased goods that they did not need. As a contemporary critic of the American consumption stated:

> Advertising does give a certain illusion, a certain sense of escape in a machine age. It creates a dream world: smiling faces, shining teeth, schoolgirl complexions, cornless feet, perfect fitting union suits, distinguished bowels, happy homes in New Jersey (15 minutes from Hoboken), charging motors, punctureless tires, perfect busts, shimmering shanks, self-washing dishes—backs behind which the moon was meant to rise (Chase 1926:125).

The Results of Consumerism and Mass Consumption

Consumerism was seen as beneficial because of its potential equalizing effect it had across various segments of society. Mass production and the ability to acquire the same goods regardless of region of the country, were seen as tools for assimilation. The introduction of credit facilitated the acquisition of goods and helped to complete the assimilation process. If everyone is wearing the same clothes, buying the same cars, and purchasing the same houses, it becomes difficult to distinguish between different classes and backgrounds. This sameness was seen as a way of signaling membership in the middle class. Social commentators of the 1920s and 1930s espoused the belief that mass consumption of popular consumer products served an important purpose: assimilating the working class and immigrants into mainstream, middle class America (Cohen 1989:7).

However, these same commentators failed to recognize that the working class often did not have the financial means to purchase the consumer items that signaled middle-class status. The working class did not comprise the demographic that used the payment plan to acquire consumer goods. Rather,

the salaried, and upper income, who anticipated higher income at some point in the future, drove the "buy now, pay later" spree. The lower income, working class saved their salaries for anticipated economic hardships (Cohen 1989:8).

Like their industrial and manufacturing counterparts, those professions in the housing industry sought to capitalize on the use of marketing to sell their products and services. The housing industry, including the tradesmen, architects, builders, and lenders, revolutionized their marketing efforts to reach potential house consumers and to appeal to their desire to conform. In terms of housing, the house-kit catalogues, such as Sears and Montgomery Ward, combined all of the related and intermingled trades associated with house construction into one service. With the exception of a local builder, a potential home owner no longer needed different professions to construct a house because the mail-order catalogues provided a complete package: the drawings, the materials, and the finishings (Harris 2009:690, 691). The Architects' Small House Bureau Service and the Better Homes movements of the 1920s and 1930s provided drawings and advice on finance and hiring contractors to assist the average home owner with navigating the home construction process. These initiatives help turn more Americans into home owners by making the house construction process more accessible and less daunting. A future home owner no longer needed to hire an architect or specialized tradesmen, or ask the bank for a loan. A home owner simply had to pick out the house of their choice from one of the many house-kit catalogues or contact their regional office of the Architects' Small House Bureau Service.

By the 1930s, mass consumption was well-established within the American psyche. The acquisition of more and more goods and the purchase of the latest technology had become engrained. In his assessment of American consumerism presented in *The Economics of Consumption*, economist Wyand described the necessities and luxuries 1930s American families expected to have. The passage is quoted at length to illustrate the power of consumerism and conformity and the types of goods and services that had become standard for Americans, which according to Wyand was due in part to "persistent commercial pressure," particularly among low income families (Wyand 1937:480).

> "The American family expects to own a car. It expects to achieve at least part ownership of a home suitable for growing children, equipped with central heating, modern plumbing, and if possible with both gas and electricity. . . There should be a radio and a few pieces of labor-saving equipment such as an electric iron and if possible a vacuum cleaner. The food budget should provide for a considerable amount of prepared food. . . Clothing should be such as to make the members of the family indistinguishable from people in the white collar classes. . . The family should be able to buy nationally advertised soaps, toothpastes, etc. The washing could either be sent out, mechanically done, or a woman employed for one day a week to help with washing and cleaning. . .The family ought to be able to afford movies once a week and a trip in the car on Sundays. . . .Each child ought to have a year's music or dancing lessons if he wants them, and the equivalent of a high school education is expected. More than that, the family should be independent of financial assistance from the children so that if they show special aptitude they will be able to work their way through college or professional schools. The wife should not need to work. . . The budget should be sufficiently elastic so that the family would never need to feel left behind" (Wyand 1937:479-481).

Immigration during the Inter-War Era

As the country emerged from World War I, the Federal government undertook policies to restrict immigration by building on restrictive policies begun at the turn of the twentieth century. New restrictions were imposed on existing immigration limitations and additional regulations were instituted. Immigration restrictions targeted populations from select countries. The tightening of immigration resulted in labor shortages in select industries and regions of the country, particularly the industrial regions of the Northeast and Great Lakes. African Americans were able to benefit from these labor shortages as they moved from the agrarian South to the industrial North to take jobs that would have been filled by immigrants. Differing attitudes regarding consumerism among immigrants as contrasted to native-born Americans also began to develop during the period.

The Federal government began enacting legislation restricting immigrants from select countries at the end of the nineteenth. As the twentieth century progressed, laws that had been enacted decades earlier were revised to become more restrictive. Early immigration laws were targeted towards Chinese laborers, with the Chinese Exclusion Act of 1882. At the beginning of the twentieth century, the Barred Zone Act, which was enacted in 1917, further limited immigration from Asia (R. Christopher Goodwin & Associates, Inc. 2019:14-76).

Immigration restrictions aimed at European immigrants were not enacted until the 1920s. Originally a temporary measure, the Emergency Quota Act, passed by the U.S. Congress in 1921 attempted to limit the number of immigrants from any one country to 3 per cent of those already in the U.S based on the 1910 U.S. census figures. The results of the legislation were swift and dramatic. The number of new immigrants to the U.S. fell from 805,228 in 1920 to 309,556 in 1922, with the number of immigrants from Southern and Eastern Europe declining drastically (R. Christopher Goodwin & Associates, Inc. 2019:14-76).

Legislation that became known as the Johnson Act replaced the Emergency Quota Act in 1924. This new legislation dramatically overhauled the immigration system by imposing the country's first permanent numerical limit and instituting a national-origin quota system. Immigrants from Southern and Eastern Europe particularly were affected, although the law also affected immigrants from Africa and banned immigration from Arab and Asian countries. Citizens from Western Europe, including the British Isles and Germany, who immigrated to the U.S. were little impacted by the legislation. In addition, the legislation reduced the quota established in 1921 to 2 per cent of the number of people from each country who already were residing in the U.S. The 1890 census figures were used to calculate the percentage. These changes in the number of people who immigrate to the U.S. resulted in a further decline in immigration from 357,803 in 1924 to 154,667 in 1925 (R. Christopher Goodwin & Associates, Inc. 2019:IV-76).

The Johnson Act created the National Origins Formula to determine the number of immigrants from any one country. The formula capped total immigration to 150,000 and categorized the nations of origin from which immigrants could come. Immigrant visas from quota nations were "restricted by the ratio of residents from the country of origin to that of foreign-born" currently living in the U.S. (R. Christopher Goodwin & Associates, Inc. 2019:IV-76). Quota nations primarily were European countries. Each country was allocated a percentage out of 150,000; this number was used to determine the number of visas issued by nation of origin (R. Christopher Goodwin & Associates, Inc. 2019:IV-76). The restrictions for non-quota countries were much less severe. Non-quota nations included those contiguous to the U.S. Immigrants from these countries had only to prove an immigrant's residence in that country for at least two years prior to that immigrant moving to the U.S. (R. Christopher Goodwin & Associates, Inc. 2019:IV-76).

Immigration limits also occurred within broader societal changes. The industrialization of the American economy that took place during the late nineteenth century contributed to the rise in consumerism during the early twentieth century. Consumer habits changed in response to the sophisticated marketing campaigns of major corporations. It was during this period that large, regional and national chain stores emerged. Americans were swift to adopt the chain store and nationally advertised goods. By the mid-1920s, the vast majority of retailers sold national products (Chase 1926:223). Standardization in the retail sphere was seen as beneficial because it insured product uniformity, guaranteed price similarities within a region, and reduced costs for staples (Chase 1926:223).

While most Americans embraced the chain stores with their massed-produced goods and their promise of high quality at competitive prices, immigrants preferred the familiarity of the local, neighborhood store. Not only did local store owners live in the community, but they also personally knew their customers. Local store owners continued the shopping traditions of their countries of origin. For example, these stores carried items in bulk and allowed customers to haggle over prices. Most importantly, these local stores offered their clients credit, something that chain stores could not, with their "cash and carry' policy [that] was too rigid for working people's limited budgets" (Cohen 1989:9-12).

The economic hardship of the 1930s compelled some immigrants to return to their countries of origin. This trend, coupled with mobilization efforts for World War II, once again strained the labor market. Once again, African Americans from the South migrated North and West in search of employment that would have been filled by immigrant workers (R. Christopher Goodwin & Associates, Inc. 2019:IV-78).

The African American Experience during the Inter-War Era

African Americans served during World War I. Many enlisted in the Army as way to demonstrate their loyalty and patriotism (Smith and Zeidler 1998:154). They also hoped the war would result in economic and social changes at home (Smith and Zeidler 1998:154). While the war resulted in change, that change was not to the degree many had hoped. African Americans made modest social and economic gains in years following the end of the war; unfortunately, many of those gains were erased during the Great Depression. The Inter-War Era also marked the first two mass migration efforts in

the country. African Americans flocked *en masse* to the North and West seeking jobs in the industrial and manufacturing sectors engaged in the war effort. A second population shift for similar reasons occurred during World War II. They also left the South to avoid the oppressive racism. African Americans faced a backlash in the northern and western cities as dramatic population growth strained existing housing and social conventions.

African American Service in World War I

African Americans enlisted in the Armed Forces in response to the call to arms upon the U.S. entry into World War I. However, most African Americans did not serve in combat units. Even though the Army established all-Black combat units, including the 92nd and 93rd infantry divisions, the overwhelming opportunities available to African American soldiers was through service in the labor battalions (Smith and Zeidler 1998:157). The American Expeditionary Force, for example included 200,000 African American soldiers; yet, over 160,000, or 80 per cent, served as labor troops (Smith and Zeidler 1998:157). African Americans reenlisted in the Army after the war in the hopes of improving their quality of life, social recognition, and economic security (Smith and Zeidler 1998:182). Fearful that the Black population would exceed that of White soldiers, the Army imposed strict limits on the enlistment of African Americans in the cavalry and infantry (Smith and Zeidler 1998:182). This policy continued through the 1930s.

Black soldiers could not escape the indignities of the South's racial segregation. In a letter to the *Norfolk Journal and Guide*, a passenger riding the "Jim Crow car" of the "Sunshine Special" from Texas to points northeast, recalled the conditions facing African American servicemen travelling from Texas to work at Newport News, Virginia:

> …And Some of these colored men are in the service of the United States, summoned from the far corners of Texas to Newport News, Va., to be trained to fight for democracy in Europe; and because they travel practically all of the way through Southern territory they must sit up for three nights and days, without change of clothing or bites of warm food---certainly a good preparation for trench warfare.
>
> They, "Why does the Negro leave the South?" indeed! You would FEEL a large part of the answer if you could be on this train…. (Foner and Lewis 1980:256).

At the conclusion of World War I, having fought for democracy aboard, African Americans demanded social and economic justice when they returned and they expected to receive the same freedoms at home that they fought for in France. Unfortunately, the country was not yet ready to provide them with the same rights and privileges of citizenship afforded their White counterparts. After the war, Black leaders began demanding equality in all aspects of American life. A subsequent resurgence in the Ku Klux Klan occurred in response. Reflecting the demand for equality and the rising tensions between African Americans and Whites, the summer of 1919 had the greatest number of race riots in the country's history. Between June and December 1919, approximately 25 race riots took place (Franklin and Moss 1988: 313). African American soldiers did not escape the violence; at least 10 African American veterans were the victims of lynchings (Franklin and Moss 1988:312; Smith and Zeidler 1998:181).

The Great Migration

A large population shift occurred during the early twentieth century when millions of African Americans moved from the South to the North and West. This demographic shift peaked during World War I and the 1920s (Gregory n.d.). Migration slowed during the 1930s only to resume during World War II. When the Great Migration began during the World War I era 90 per cent of the country's African American population lived in the South; by the time the migration ended during the 1970s, 47 per cent of the country's Black population lived in the North and West (Wilkerson 2016). This population shift strained an already tight housing market. Blacks often were confined to select neighborhoods, where the housing stock was in short supply and frequently, in substandard condition. These neighborhoods also had access to fewer services.

Several factors propelled the demographic change. African Americans sought better employment, economic, educational, and housing opportunities in the North and West (Figure 4.3). They also wanted to escape the strict segregation and oppressive Jim Crow restrictions that governed nearly all aspects of daily life, and to secure the safety of themselves and their families (Foner and Lewis 1980:226; 249). However, access to employment provided the primary motivation for the migration of African Americans from the South. The resulting exodus from the South created subsequent labor shortages in select fields (Foner and Lewis 1980:243-244).

Figure 4.3. African American Housing, High Point, North Carolina (Source: Hine 1936).

Restrictive immigration limits produced a worker shortage in the industrial cities of the Northeast, Midwest, and West. Cities such as Chicago, Detroit, New York, and Philadelphia experienced dramatic increases in the African American population during the First Great Migration between 1910 and 1940. The labor shortage resulting from immigration restrictions and the White labor force moving from the factory to the battlefront provided new opportunities for African Americans. Those African Americans who served in Europe refused to return to the segregated South (Foner and Lewis 1980:228). A similar population shift occurred during World War II, resulting in the Second Great Migration, between 1940 and 1970 (United States Census Bureau n.d.). Despite moving to Northern cities for better jobs and wages, African American workers were relegated to unskilled labor and service positions, and received compensation commensurate with those positions. Table 4.1 presents the number of African Americans migrating to select states and, Table 4.2, by city.

Table 4.1. Number of African American Migrants by State.

State	1920	1930	1940
Arizona	4,710	7,429	76,295
California	24,100	53,065	13,414
Connecticut	11,712	13,311	15,422
Colorado	5,604	5,431	4,374
Idaho	107	198	800
Illinois	101,441	213,507	221,298
Indiana	47,790	61,068	62,924
Iowa	7,272	0	3,932
Kansas	23,396	26,882	24,920
Maine	106	0	0
Massachusetts	12,683	9,530	13,280
Michigan	45,842	113,952	120,748
Minnesota	1,629	4,124	2,600
Missouri	63,004	96,568	101,660
Montana	217	293	400
Nebraska	5,194	6,082	5,531
New Hampshire	198	0	200
New Jersey	58,285	126,127	114,479
New Mexico	4,516	2,292	3,400
New York	85,977	194,292	277,752
Ohio	107,564	184,510	179,240
Oregon	875	412	2,000
Pennsylvania	169,879	273,820	247,378
Rhode Island	552	2,642	2,200
South Dakota	89	300	100
Utah	1,498	594	500
Washington	1,836	3,331	2,088
Wisconsin	2,181	7,020	5,377
Wyoming	218	0	100

Source: Gregory n.d.

Table 4.2. Number of African American Migrants by City.

City	1920	1930	1940
Boston	9,410	6,699	10,374
Chicago	78,059	184,669	201,734
Cincinnati	28,192	41,652	38,190
Cleveland	26,746	55,336	53,967
Columbus	12,099	21,756	18,292
Denver	2,997	3,008	3,274
Detroit	39,467	99,383	102,136
Indianapolis	23,271	29,145	26,000
Kansas City	17,907	29,552	28,841
Los Angeles	13,729	36,670	47,373
Milwaukee	518	4,496	4,400
Minneapolis	1,112	4,123	2,600
New York	113,780	250,175	323,556
Philadelphia	115,406	187,286	174,939
Phoenix	0	0	7,406
Pittsburgh	32,761	66,293	58,140
Portland, Oregon	683	204	1,800
San Francisco	5,595	5,522	10,700
Seattle	1,116	1,108	500
St. Louis	50,815	68,601	79,517

Source: Gregory n.d.

As Table 4.1 presents, select states in the Mid-Atlantic and the Great Lakes regions had the largest influx of African Americans moving from the South. The New England states had relatively few Black migrants. Illinois, New York, and Pennsylvania consistently had the largest numbers of relocated African Americans. Nine states had a decrease in the total number of African Americans migrants between 1920 and 1930, while thirteen states had a decrease in the number of migrants between 1930 and 1940. At nearly 700,000 new residents, Pennsylvania had the greatest number of African American migrants for the period 1920 to 1940. The presence of two major industrial cities, Pittsburgh and Philadelphia, likely contributed to the large influx. Pennsylvania was followed by New York (n =558,021) and Illinois (n = 536,246) (Gregory n.d.).

As with the states, cities located in the Mid-Atlantic and Great Lakes regions experienced dramatic influxes of African American residents. With the exception of California, few African Americans relocated to the West Coast. Only four cities, Boston, San Francisco, Seattle, and Portland, Oregon, had a decline in the number of Black migrants for the period 1920 to 1930, and ten cities had a decline in that population group between 1930 and 1940. Chicago, New York, and Philadelphia consistently received the greatest number of Black migrants. Two states had multiple cities having large numbers of African American migrants: Ohio and Pennsylvania. Ohio's three cities, Cincinnati, Cleveland, and Columbus, had a combined African American migrant population of 261,930 for the years 1920 through 1940. This figure is less than the combined migrant population of Pittsburgh and Philadelphia (n = 634,825) for the same period. Only New York City (n = 687,511) had a migrant population greater than that of Pittsburgh and Philadelphia (Gregory n.d.).

The World War I housing shortage particularly was acute in industrial cities of the North where the migration of African Americans taxed an already strained housing supply. In Pittsburgh, for example, the African American labor population increased 225 per cent, from 2,550 Black laborers in 1915 to 8,325 in 1917 (Foner and Lewis 1980:257). Insufficient construction of new houses due to existing regulations and labor and material shortages provided the primary causes of the housing shortfall in cities including Philadelphia and Pittsburgh. The lack of housing in Pittsburgh resulted in

> …not only the creation of new Negro quarters and the dispersion of Negroes throughout the city, but also the utmost utilization of every place in the Negro sections capable of being transformed into a habitation. Attics and cellars, store-rooms and basements, churches, shed and warehouses had to be employed for the accommodation of these newcomers (Foner and Lewis 1980:257-258).

A similar situation existed in Philadelphia. In both cities, White opposition to Black residents compounded already extreme conditions (Inn n.d.).

Black neighborhoods, like predominately immigrant neighborhoods, did not necessarily have access to the same amenities that were common in white and more affluent communities. African American neighborhoods lacked recreational facilities and retail opportunities. Unlike immigrant communities, the Black population generally welcomed mass culture. African Americans, in cities such as Chicago,

for example, embraced mass production and chain stores because they felt it could help develop a Black economy that was separate from the White (Cohen 1989:21). The cornerstone of the Black economy was the "race business," an enterprise that catered specifically to the African American community, where customers were not subject to the petty indignities of racism. In addition, many felt mass-produced consumer products protected them from being taken advantage of by less-than-honest retailers (Cohen 1989:22).

Social Inequality during the Inter-War Era

Even as they moved North for better job opportunities, frequently, African Americans could find employment as unskilled workers and they were paid less than their White coworkers. An increase in the number of Black-owned businesses occurred during the Inter-War Era. Yet, whatever economic gains had been achieved were erased during the 1930s. Indeed, the Great Depression's economic toll on the Black community was profound. Since many African Americans were relegated to unskilled labor, they did not have the savings that would provide a safety net during periods of economic uncertainty. In addition, African Americans generally were excluded from many of the New Deal social programs. African Americans also could not find adequate housing as they were restricted to select neighborhoods with substandard housing.

During the 1920s, many African Americans found employment in the auto and related industries. However, unions, regardless of industry, excluded African Americans from membership (Franklin and Moss 1988:339). Black-owned businesses increased during the postwar period. These businesses served important social and political roles in African American communities. Yet, even those businesses, particularly those in the service industries, could not escape the influences of segregation. They relied on African American customers who primarily worked for White employees. When a downturn in the economy occurred, Black-owned businesses felt the effects immediately (Franklin and Moss 1988:340-341).

The economic downturn of the mid-1920s adversely affected African Americans. The subsequent stock market crash and the resulting economic crisis made a bad situation worse for a population that had not recovered from the earlier slump (Franklin and Moss 1988:341). The ravages of the

Great Depression were particularly acute for African Americans. Between 25 per cent and 40 per cent of African Americans living in large urban centers were on relief in 1933. Whereas 17 per cent of Whites were "regarded as incapable of self-support in any occupation," 38 per cent of Blacks fit that category by 1934. Almost one-fourth of the 1.5 million Blacks in domestic service were on relief in 1935. The situation for southern blacks became increasingly grim. In Atlanta, 65 per cent of the city's Black working population required public assistance, and in Norfolk, approximately 80 per cent of the African American workers were on relief (Franklin and Moss 1988:341).

The number of African Americans finding employment across all sectors decreased during the Great Depression, including jobs in local, state, and Federal government, White-owned businesses, and self-employment. In 1930, the Federal government provided employment to 3.6 per cent of the total skilled African Americans (n = 3,642). That number increased to 16.4 per cent (n – 16,566) of the total of skilled Black workers in 1936 (Reid 1938:8). The average salary for African Americans in 1925 was $18.29 per week. For skilled works the average weekly salary was $25.29 but only $9.06 for the average white collar Black worker.

The Department of the Interior undertook a survey in 1936 to determine the level of education and type of employment for African Americans in order to determine the level of aid that might be required for Black Americans. The survey was completed under the Works Progress Administration. A total of 74 cities having a Black population greater than 10,000 residents and 11 cities having fewer than 10,000 African American residents were surveyed. The report findings represented data for the time period 1925 to 1936.

Fifty-two per cent of the African American population was gainfully employed in non-agricultural pursuits (Reid 1938:3). In 1930, 24.9 per cent of the African American population, or 1,375,681, was employed in white collar or skilled labor; a total of 213,983 of the employees were located in the sample cities (Reid 1938:6). The Middle Atlantic (n = 73,641) and East North Central (n = 48,720) had the largest number of white collar and skilled tradesmen; whereas, New England (n = 896) and the Mountain Region (n = 218) had the least number of African American skilled and white collar works (Reid 1938:6).

Salaries increased in 1930 to $23.11 per week for skilled workers and $17.14 for white collar workers. These salaries declined in 1936 to $14.33 for the average white collar worker and $13.21 for the average skilled laborer. This change in wages was attributed to the increase in the number of African American women entering the workforce (Reid 1938:8). Families reported an average income of $76.50 for white collar workers and $72 for skilled labor (Reid 1938:8).

In terms of education, 59 per cent of the skilled African American workforce had a high school degree, while 20.7 per cent of skilled workers had completed high school. The median grade completed by skilled workers ranged between eighth and ninth grades. For both groups, women remained in school longer than the men did (Reid 1938:7). The survey noted the disparity in educational opportunities and the quality of education between southern states and the rest of the country. In 1930, over 80 per cent of school age African Americans attend segregated schools. Yet despite having separate and unequal school systems, white collar Black employees were more likely to have attended a segregated school, and later to have attended a Historically Black College or University (Reid 1938:7). The economic conditions of the Great Depression resulted in a realignment of the labor market for African Americans. The number of African American servants increased from 3,703 to 10,562 and the number of professionals decreased from 45,776 to 31,704. In the words of the report author, “Nowhere is the social disorganizing power of economic processes so evident as in these transitions’ (Reid 1938:8).

Denied freedom and democracy, many African Americans were also denied food. Numerous charitable and religious organizations in both the North and South refused food assistance to Black families. Early Federal programs provided different monthly allowances to White and Black families, with Black families receiving as much as $6 less than White families (Franklin and Moss 1988:342). Some African Americans were able to secure loans from the Federal government’s Homeowners’ Loan Corporation (HOlC) and a limited number were able to obtain Federal Housing Administration (FHA)-guaranteed loans. However, many Blacks were denied Social Security benefits because agricultural and domestic workers were exempted (Franklin and Moss 1988:352-354).

In terms of housing for African Americans, options were limited. As more and more African Americans moved North and West, an already tight housing market became more strained. The housing issue was particularly problematic for Blacks because often they were restricted in where they could

live. Single-family houses were converted into duplexes, multi-family, or boarding houses to accommodate the influx of new residents. President Hoover's Better Homes[1] initiative generally discouraged the construction of multi-unit apartment buildings; however, in the case of housing for African Americans and low income residents, exceptions were made. The Paul Lawrence Dunbar apartments in New York City and the Michigan Boulevard Garden Apartments in Chicago are examples of Depression-era housing projects constructed for African Americans. Both of these projects represented efforts to provide ownership opportunities to Black residents. By becoming joint owners in multi-family buildings, those who could afford to do so were able to improve their economic positioning and wealth. Both projects were promoted by philanthropists, unlike examples such as the Amalgamated Clothing Workers project, which received city and state tax exemptions (Halbert 1931:717).

The Paul Laurence Dunbar Apartments were a project sponsored by John D. Rockefeller, Jr. to create 511 apartments for Black residents of New York. Located in Harlem, the project was based on Garden City ideals. Only tenants of the buildings could be stockholders with each tenant required to subscribe to the amount equal to the down payment. Additionally, each tenant had to make a $50 per-room down payment. Tenants paid on average $14.50 per month per room, of which a little more than half was principle and interest for the cost of the apartment. Estimates suggested it would take the tenants 22 years to pay for the project, including land, and they would obtain equity over $6,600 on average, per tenant (Halbert 1931:732) (Figure 4.4).

Julius Rosenwald proposed the construction of an all-Black housing project in Chicago; the Michigan Boulevard Garden Apartments were the result of that effort. The apartment complex consisted of 421 apartments having three, four, and five rooms. Tenants automatically became members of the Cooperative Building Association. The project included two on-site daycare facilities. All employees of the building, including management, were Black (Halbert 1931:734).

Conclusion

The Inter-War Era marked the beginning of a concerted push to transform the country from a nation of renters to a nation of private home owners. Most Americans could not afford to purchase a

[1] Chapters 5 and 6 discuss the Better Homes program and initiatives to promote adequate housing in greater detail.

Figure 4.4. Dunbar Apartments, New York, New York (Source: Beyond My Ken 2014).

house. Programs, policies, and initiatives aimed at encouraging home ownership began in earnest after World War I. These postwar suburban developments and housing types were different from their nineteenth century predecessors. Not only were Inter-War Era houses afforded modern amenities such as indoor plumbing, heating, and electricity, but they also were smaller in scale and had limited architectural stylistic references. The period also was notable for whom home ownership was deemed a fundamental right. Efforts to increase home ownership rates centered on select racial and economic segments of the country's population. As will be explored in greater detail in the following chapters, the poor and African Americans were excluded from these home ownership initiatives, which exacerbated existing social and economic stratification. The Army, like the civilian sector, stratified its housing. Select ranks were afforded family housing on Army installations. In response to the compelling need for family housing, the Army constructed units for its officer and NCO classes, which corresponded to civilian-sector professional and managerial classes.

Chapter 5: Government Intervention in the Housing Market

Government historically was not involved in the private sector housing market with the minor exception of housing extended to essential personnel during World War I. The economic crisis precipitated by the 1929 stock market crash prompted public intervention on the local, state, and national levels. The Great Depression particularly brought to light many of the country's deficiencies and inequities in home financing. Housing policies and programs were advanced that sought to address those issues while providing jobs to millions of unemployed workers. A variety of programs were created to achieve those goals; many directly affected the housing market.

Zoning ordinances were enacted across the country during the Inter-War Era as local communities sought to limit the type and location of new construction. Deed restrictions and restrictive covenants were introduced to achieve many of the same goals as zoning ordinances on a residential level. The Federal government promoted the use of deeds and restrictive covenants and many communities implemented them as standard practice in real estate transactions. Often justified as a means to control growth and to ensure neighborhood conformity in use and design, deed restrictions and covenants frequently were used as strategy for social engineering and exclusion, prohibiting property ownership by African Americans and other "undesirable" groups.

This following discussion provides a summary of Federal government housing efforts during the era. The effect of land use controls, such as zoning and deed restrictions, on house and neighborhood design are explored.

World War I: The Federal Government Intervenes in the Civilian Housing Market

Mobilization for World War I strained existing housing supply, particularly in areas near essential industries and shipyards. Housing shortages were so acute that industries critical to the war effort had difficulty attracting workers. The creation of the United States Housing Corporation (USHC) represented the Federal government's first foray into the housing market. In an attempt to rapidly construct an unprecedented number of housing units to address this nation-wide housing shortage, the Federal government established an agency to manage the design and construction of worker

housing. Over 80 neighborhoods were constructed across the country under the auspices of the USHC during a two-year period (Massachusetts Institute of Technology n.d.). The Federal government relied on architects and planners from the civilian sector to accomplish the goal. This select group of private-sector professionals applied contemporary theories on town planning and neighborhood design, which later were adopted by design professionals nationwide. Such theories included "the promotion of regionalism, infusion of nature into everyday life, and enriching culture through the improvement of habitat conditions of the working class" (Massachusetts Institute of Technology n.d.).

The work of the USHC resulted in government publications on design principles and standards for neighborhood planning. The booklets covered a variety of topics ranging from whole-scale neighborhood design to the design of individual houses. This compendium of professional guidance was the country's first comprehensive manual for housing standards and neighborhood design issued by the Federal government (Massachusetts Institute of Technology n.d.).

The Federal Government's Role in the Housing Market

The Federal government passed very little housing legislation prior to the Great Depression. Legislation enacted after the 1929 stock market crash was designed to reverse the tide of foreclosures, stabilize the housing market, and provide job opportunities for the unemployed. Later programs focused on creating home ownership opportunities for millions of Americans across the country. The Federal government enacted a number laws, policies, and programs to accomplish these goals. Key legislation and programs enacted during this turbulent period include:

Federal Housing Legislation

- Federal Home Loan Bank Act of 1932

Signed into law under President Hoover, this legislation provided low-cost funds to banks that would in turn use those funds to provide mortgages. The objective of the legislation was to lower the cost of home ownership.

- Emergency Relief and Construction Act of 1932

This legislation created the Reconstruction Finance Corporation. This agency was empowered to purchase mortgages threatened with foreclosure. The Federal Home Loan Bank Board was established under the legislation to provide oversight over Federal savings and loans institutions. Federally chartered home loan banks also were established under the legislation. These banks helped provide funding for mortgages (U.S. Legal n.d.).

- Home Owners' Loan Act of 1933

The Home Owners' Loan Act of 1933 was enacted to provide relief "with respect to home mortgage indebtedness, to refinance home mortgages, [and] to extend relief to the owners of homes occupied by them and who are unable to amortize their debt elsewhere," among other provisions (U.S. Congress 1933). This legislation created the Home Owners Loan Corporation (U.S. Legal n.d.).

- National Housing Act of 1934

This legislation fundamentally changed the home financing system. The purpose of the legislation was to provide employment for those in the construction industry who had lost their jobs. The construction industry accounted for the largest number of unemployed nationwide (R. Christopher Goodwin & Associates, Inc. 2003:3-445). In addition, the legislation sought to increase home ownership and to provide safeguards for financial institutions that provided funding for home construction. Most importantly, the legislation created the Federal Housing Administration (FHA), which was charged with increasing middle class homeownership. Essentially, through the FHA, "Mortgage insurance was introduced to encourage lenders to make long-term loans on small houses at low rates of interest" (Bassie 1977:5).

- United States Housing Act of 1937

This legislation created the country's public housing program. Under the act, the Federal government created the Public Housing Administration and provided subsidies to local governments for public housing. The legislation, referred to as the Wagner-Steagall Act, sought to improve the quality of housing for low-income residents (U.S. Legal n.d.).

Federal Housing Agencies

Several of the laws enacted during the Great Depression also created agencies to implement the Federal housing policy. Key programs included:

- Home Loan Bank Board and Bank System, 1932

Established under the Federal Home Loan Bank Act of 1932, the Home Loan Bank Board and Bank system sought to aid the mortgage market through the creation of 12 regional wholesale banks and a national Office of Finance. Federal Home Loan Banks are government-sponsored. Each bank is owned by its member institutions, which originally consisted of thrifts and insurance companies (Gissler and Narajabad 2017)

- Homeowners' Loan Corporation (HOLC), 1933

The Homeowners' Loan Corporation (HOLC) was created to help home owners refinance loans in default and to halt foreclosures. The program purchased existing mortgages that were under immediate threat of foreclosure and issued new mortgages with repayment schedules of up to 15 years. The repayment term later was extended to 25 years. Mortgages issued under HOLC were amortized, meaning a home owner's monthly payment included a portion of the principal and interest; when the loan was paid off, the home owner owned the house (Rothstein 2019:63). The program enabled working and middle-class home owners to build equity in their houses while repaying mortgages (Rothstein 2019:64).

HOLC established regional offices across the country to address the nationwide housing crisis. The agency created 208 branch offices and employed appraisers comprising real estate agents in each state. HOLC relied on the expertise of the local real estate agents and mortgage lenders to complete standardized appraisal forms and to develop residential security maps. The national ethics code for real estate agents required the maintenance of segregation in the evaluation process (Rothstein 2019:64). The maps classified neighborhoods within a given municipality based on their desirability. The neighborhoods were rated "A" ("Best"), "B" ("Still Desirable"), "C" ("Definitely Declining"), and "D" ("Hazardous") (R. Christopher Goodwin & Associates, Inc. 2019:VIII-302; Rothstein 2019:64).

Regional studies of local housing markets were produced by the agency and used to identify the level of liability of the housing stick and eligibility for private mortgage credit (R. Christopher Goodwin & Associates, Inc. 2019:VIII-302). The maps were color-coded, with each category assigned a unique color. “D” neighborhoods were colored red. Such neighborhoods often were stigmatized based on their demographics, and were considered undesirable, and a mortgage risk. Neighborhoods with racial minorities, immigrants, and working class residents regularly received a “D” classification, thereby making it nearly impossible for those residents to take advantage of the Federal program. These neighborhoods earned a “D” classification even if the residents were middle class and owned their own houses (Rothstein 2019:64) (Figure 5.1). The areas in red on Figure 5.1 represent neighborhoods with African American residents, immigrants, or a combination of the two.

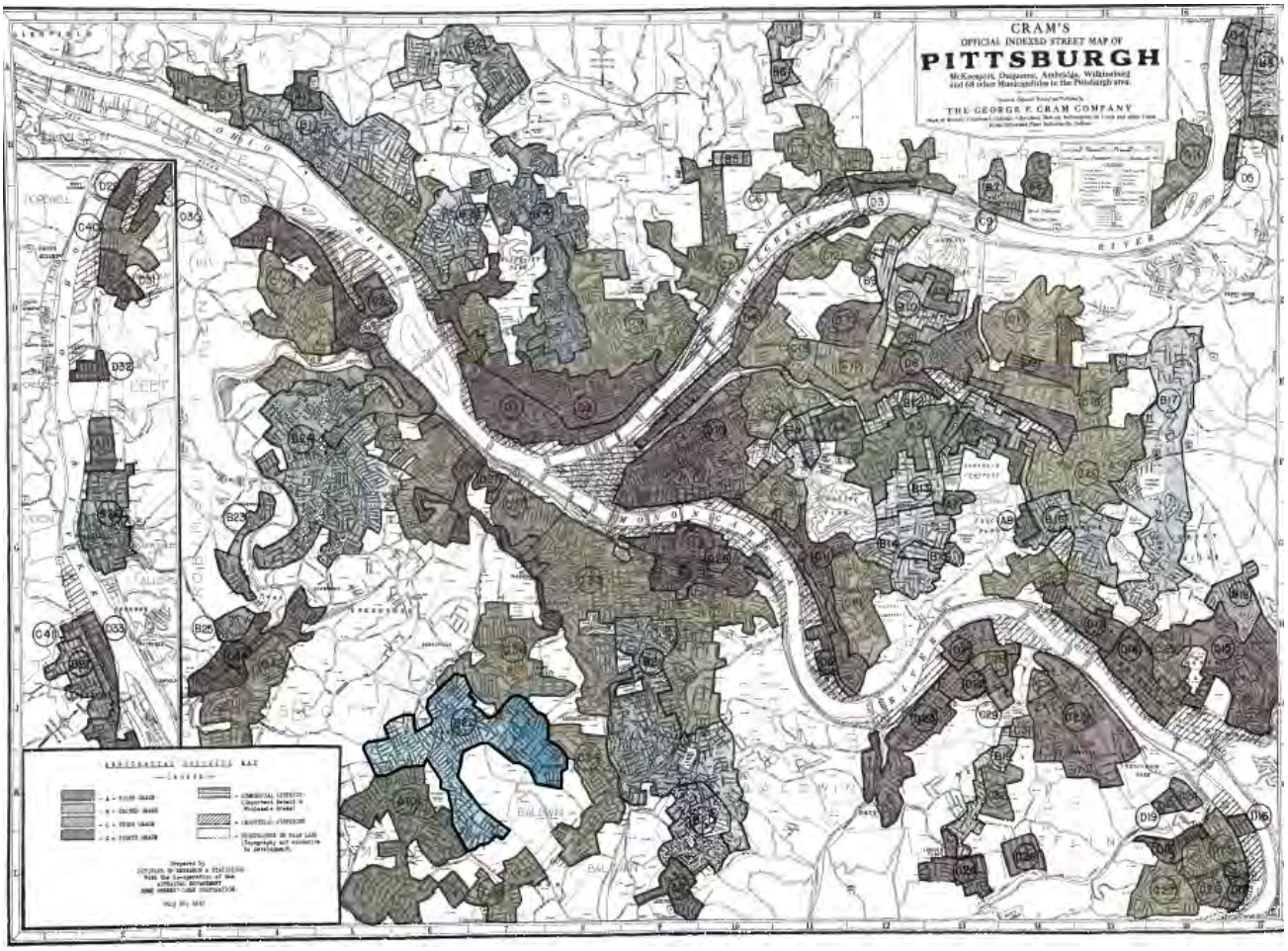


Figure 5.1. FHA Map of Pittsburgh, 1940 (Source: Mapping Inequality n.d.).

HOLC employed a classification system that included criteria on social status and level of homogeneity in evaluating neighborhoods. These criteria, which are now controversial, were a coded means of indicating diversity. Under the HOLC definition, social status referred to race, and areas having a high number of people of color were identified as neighborhoods having a "lower grade population". Homogeneity was used to determine the degree of difference within the local population. The reports tabulated the percentage of foreign-born (including the "Jewish nationality") and the "Negro" inhabitants in a community (R. Christopher Goodwin & Associates, Inc. 2019:VIII-302). Other criteria used to classify neighborhoods included access to public transportation and the number of home owners. Home ownership was viewed as an indicator or stability and neighborhoods with a high percentage of renters received less favorable evaluations. Loans for multi-family units were discouraged.

HOLC's policies had direct effects on neighborhood design. Economically, ethnically, and racially diverse neighborhoods incorporating a mix of residential and commercial property types typical of urban centers received poor evaluations. By contrast, new neighborhoods based on the emerging principles of suburban design received favorable ratings. These neighborhoods consisted almost entirely of single-family dwellings. HOLC's impact on urban neighborhoods was felt 20 years later. Those same neighborhoods that received negative ratings became urban renewal areas of the 1950s (R. Christopher Goodwin & Associates, Inc. 2019:VIII-302).

- Federal Housing Administration, 1934

The FHA played a crucial role in new house construction. In addition to implementing lending reforms that eased home ownership, the agency also influenced the design of new houses through its guidelines and policies, particularly through the issuance of Minimum Construction Standards. By 1937, the agency had developed standards for each region of the country. The standards covered all aspects of house construction ranging from foundations and framing to exterior walls and plumbing. The standards concluded with suggested construction details (Federal Housing Administration 1938). Through the efforts of the FHA, long-term loans (i.e., 20 years), low down payments (i.e., 20 per cent), and self-amortizing, regular monthly payments of principal and interest over the life of the loan became standard (R. Christopher Goodwin & Associates, Inc. 2003:3-45; Rothstein 2019:64). The FHA was able to exert its policies in terms of residential design by guaranteeing the mortgages made by

financial institutions: in order for a home owner to receive an FHA-guaranteed mortgage, the dwelling and the neighborhood had to meet FHA design standards.

The agency identified the bungalow as the prototype for new dwellings. The four-room dwelling with bath, but no basement, met the minimum standards required by the FHA for light, space, and ventilation. The bungalow had the added benefit of being inexpensive to construct. Ultimately, the FHA affected neighborhood design across the country, with most neighborhoods built in strict accordance with FHA design policies.

Despite the tremendous success the FHA had in developing a culture of home ownership, that success came at the expense of older, established cities. African Americans also were excluded from many of the FHA's programs, and, indeed, many African American and ethnic neighborhoods were identified as blighted by virtue of their racial or ethnic composition. In its *Underwriting Manual*, the FHA provided direction on rating both older neighborhoods and those with racial and ethnic minorities. Regarding older neighborhoods, the FHA advised:

> It is obvious that as new population comes into a given region, new residential areas spring up within communities that have already been established. These newer districts present a strong appeal as places of residence, and people living in the older districts experience the urge to sell or rent their old homes and acquire new ones in the newly developing residential area. In this manner the older districts gradually lose the aspects of owner-occupied communities and take on the aspects of tenant-occupied districts. The older district still remains desirable, but only to families whose social status or standards of living are lower than those of the families which have vacated the district. The process of change in occupancy by families of successively lower standards of living is accompanied by declines in desirability and value (Federal Housing Administration 1936:Part I 305).

On the subject of racially diverse neighborhoods, the FHA stated:

> The Valuator should investigate areas surrounding the location to determine whether or not incompatible racial and social groups are present, to the end that an intelligent prediction may be made regarding the possibility or probability of the location being invaded by such groups. If a neighborhood is to retain stability it is necessary that properties shall continue to be occupied by the same social and racial classes. A change in social or racial occupancy generally leads to instability and a reduction in values (Federal Housing Administration 1936:Part II 230-233-235).

Mortgages for properties that protected against those negative influences, as deemed by the FHA, would obtain high ratings (Rothstein 2019:65). The FHA continued to issue the *Underwriting Manual* through the 1950s.

- United States Housing Administration, 1937

The Housing Act of 1937 created the Public Housing Administration, which administered the public housing program at the national level. Local public housing administrations made decisions on the type and location of public housing within their communities.

- Federal National Mortgage Association (Fannie Mae)

Created by Congress in 1938, Fannie Mae was established to ensure a reliable and affordable supply of mortgage funds (Federal Finance Housing Agency n.d.). These funds allow banks, savings and loans, and mortgage companies to provide loans for home financing by purchasing loans from lenders. Lenders then use the cash from the sale of loans to Fannie Mae to make additional loans to home owners (Federal Finance Housing Agency n.d.).

Federal Guidance for the Construction of New Housing

The FHA's impact on residential neighborhoods was profound. The agency not only guaranteed mortgages, but it also developed design parameters for new construction. New housing had to meet minimum space requirements and have certain minimum utilities; neighborhoods also had to incorporate design elements advocated by the agency. These goals were accomplished through the agency's *Underwriting Manual* and in its housing standards. Both documents were revised throughout the 1930s and through the 1950s.

The *Underwriting Manual* did not provide standards, per se, in the typical sense of the word; rather, it described housing and neighborhood features that would result in negative evaluations. The effect, however, was the same. Neighborhoods that met the underwriting criteria received favorable ratings and the property owners in those neighborhoods could obtain FHA-guaranteed mortgages; the opposite was true for those home owners in neighborhoods receiving poor evaluations.

In the evaluation of existing neighborhoods, the FHA's *Underwriting Manual* warned valuators that "Narrow streets, excessive lot coverage, inadequate light and air and poor circulation within the neighborhood area, as well as the inter-mixture of types, price levels, and a general absence of architectural attractiveness in dwellings represent adverse influences in themselves". Further, the "quality of dwelling construction is of some importance… The same condition holds for locations whose properties present freakish architectural designs". "Freakish architectural designs" were not defined (Federal Housing Administration 1936:Part II 230-233).

Beginning in the late 1930s, the FHA published regional minimum construction standards. By the 1940s, FHA guidance had evolved into minimum property standards. The FHA used its minimum property standards as a tool to evaluate neighborhoods and housing subject to an FHA mortgage guarantee to ensure new construction met basic standards regardless of region. The standards also ensured uniformity in houses constructed within the same market and region. Indeed, agency planners developed a checklist to facilitate the evaluation of projects against the minimum standards. The agency incorporated contemporary planning principles in the development of its guidelines for new neighborhood construction. Neighborhoods with curvilinear streets, cul-de-sacs, and courts were promoted; development plans that incorporated methods to restrict traffic also were preferred. Neighborhoods designed along a gridiron street plan were discouraged.

While the FHA did not publish design guidelines, the minimum property standards acted as such. Developers, home builders, and local officials soon came to realize that in order for a project to receive FHA approval, projects needed to meet the FHA standards. Many projects could not proceed without an FHA-guaranteed mortgage.

The small house became the preferred housing type. The agency's first attempt to codify the small house type occurred in 1936, when it issued *Principles of Small Houses*. This guidance was periodically updated and modified. Eventually, it came to became known as the "FHA minimum house," a 534-square-foot, one-story dwelling consisting of two bedrooms, a small kitchen, a living room and a bathroom (R. Christopher Goodwin & Associates, Inc. 2019:VIII-308). This one-story prototype remained popular with the FHA through the end of the 1930s. By 1940, the agency's *Planning Small Homes* included more flexible designs (R. Christopher Goodwin & Associates, Inc. 2019:VIII-308).

The military relied on planning practices and principles developed in the civilian sector when undertaking new construction projects; however, it did not develop its own planning guidance until 1947 when the War Department issued its *Planning for Family Housing at Army Installations*. This document integrated FHA standards into Army construction doctrine (R. Christopher Goodwin & Associates, Inc. 2003:3-47).

New House Construction at the Local Level

The Federal government did not directly oversee the construction of new housing. Officials and builders at the local level implemented Federal housing policy and ensured new housing neighborhoods complied with local regulations. Two legal tools were used to direct and guide new construction: zoning and deed restrictions. Often upheld as a way to prohibit undesirable uses, these instruments frequently were used to restrict select populations to certain neighborhoods.

Zoning as a Tool to Guide New Construction

During the late nineteenth century through the first decade of the twentieth century, land was platted into individual lots, with the purchaser constructing what they chose. By the 1920s, developers and real estate agents had begun to embrace city planning as a way to improve their profit margins (Stach 1989:361). While some cities such as Philadelphia introduced legislation to improve the sanitary and safety conditions of its housing stock by amending existing housing codes, others used zoning as a means of achieving better housing while increasing real estate values and developer profit margins. As zoning as a tool for land management continued to gain footholds across the county, developers and realtors began recognized that zoning classification could be used to control property values (Stach 1989:364).

Municipal adoption of land use regulations to govern development emerged as an important method to control new construction during the Inter-War Era. New zoning legislation could be used to control how and where development occurred and as a foil against unplanned construction. The increased use of zoning as a land use tool emerged, in part, due to the efforts of the Federal government. Herbert Hoover, then Secretary of Commerce, appointed an Advisory Committee on Zoning within

the department. Created in 1921, the committee was tasked with authoring standardized enabling legislation that could be adopted by the individual states (R. Christopher Goodwin & Associates, Inc. 2019:VIII-306).

Contemporary planners endorsed zoning as a way to correct the ad hoc development that plagued major cities. A lack of comprehensive approaches to construction, with the principles of highest and best use often governing decision-making, resulted in monotonous neighborhoods and poorly designed dwellings. Manhattan exemplified this poor method of new construction. The gridiron maximized profits at the expense of parks and playgrounds and natural topography. The strict division of the city's blocks, had in one critic's assessment, a direct influence in the design of residential, commercial, and industrial buildings. Because of the block arrangements, dark interior rooms and inefficient hallways were common and equal width was granted to the apartment building, single-family dwelling, and commercial building, when different design and siting when have produced more favorable results (Chase 1926:198). As one commentator concluded, New York was "'built to suit lots, not inhabitants,'" and many of the city's design problems, as well as the physical and mental wellbeing of the city's inhabitants, could have been avoided if city planning principles had been adopted (Chase 1926:199). Local governments marketed the benefits of zoning to the general public through a series of promotional posters as a means of gaining public support (Figure 5.2).

Later, as president, Hoover organized the President's Conference on Home Building and Home Ownership in 1931. Under the auspices of the conference, the Better Homes initiative was born, which advocated for the construction of new, single-family housing for the middle class in accordance with contemporary theories about construction, style, and design. The movement's platform was published in the *Better Homes Manual*. The manual recommended the adoption of zoning regulations by local municipalities that would restrict the construction of certain types of housing to select areas, with the construction of apartment buildings singled out for particular concern. In his essay examining the connection between zoning and health for the *Better Homes Manual*, Professor George Whipple asserted that property owners who constructed apartment buildings in single-family neighborhoods did so purely for economic reasons. Apartment buildings introduced into single-family residential areas became the harbingers of other undesirable uses, with industrial, manufacturing, and com-

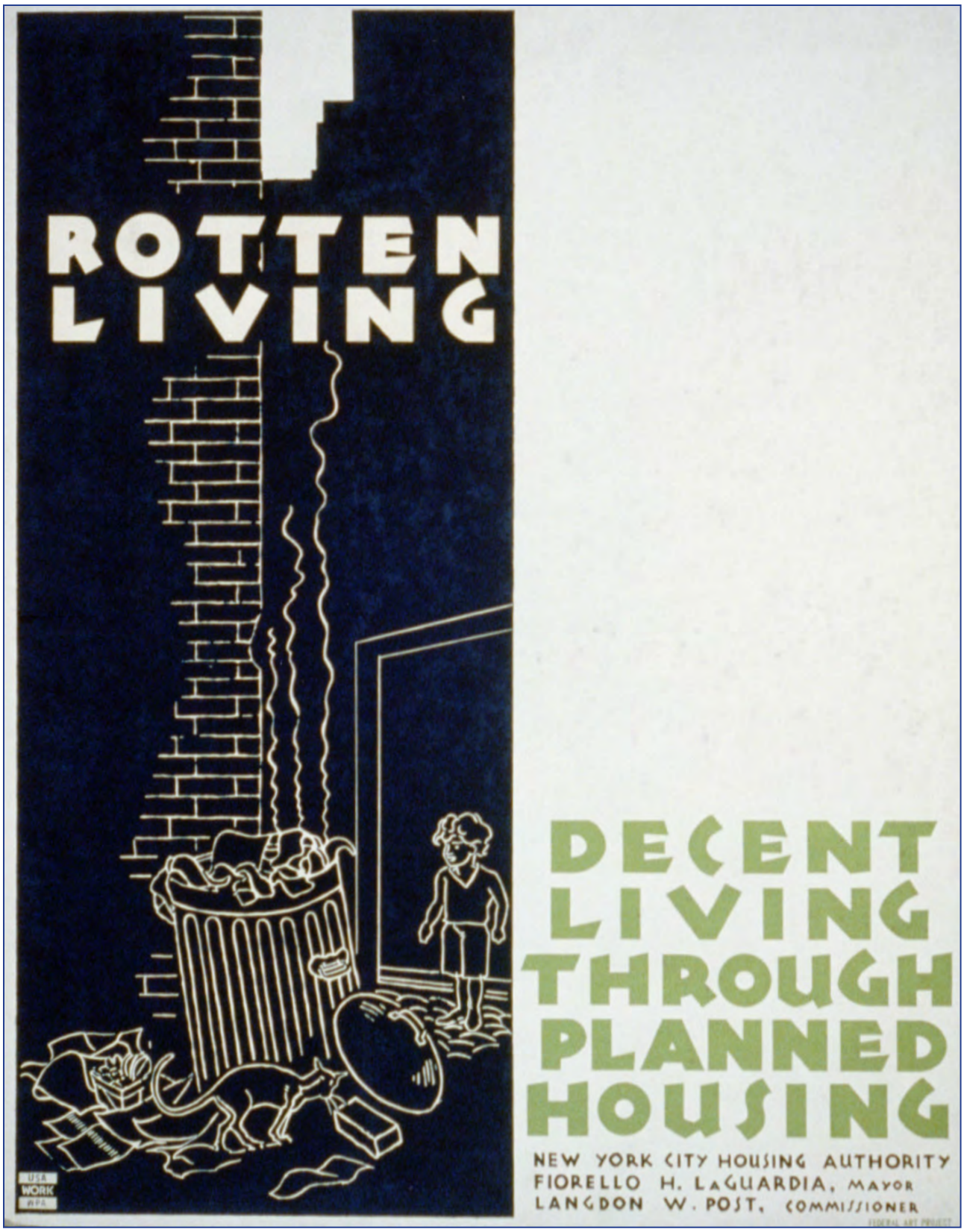


Figure 5.2. Rotten Living. Decent Living through Planned Housing (Source: Library of Congress ca. 1936).

mercial uses following. Whipple further claimed, single-family neighborhoods "once infected with an apartment house tends to change from a stable, house-owning population to a shifting class---a class lacking in neighborliness and civic pride and leading an impoverished family life" (Halbert 1931:688). While acknowledging apartment buildings were healthier due to "sanitation and other modern improvements," Whipple concluded "the compressed and repressed life of a modern city apartment is not conducive to growth or to a life that is full and rich". Therefore, "Segregation of apartment houses is justified as a measure for protecting community health" (Halbert 1931:688).

The Federal government issued additional guidance regarding neighborhood design in 1936. *Model Subdivision Regulations: A Guide for Local Planning Commission in the Preparation of Local Regulations Regarding the Subdivision of Land*, prepared by the Advisory Committee on City Planning and Zoning, put forth model language for planning and zoning commissions developing their own ordinances and regulations.

Private-sector planners also advised municipalities on contemporary theories of zoning principles. In his *The Design of Residential Areas: Basic Considerations, Principles, and Methods*, Thomas Adams counseled on density, street layout, building setback, and zoning. The 1934 manual promoted irregular lots that followed the natural topography of the property subject to development. He also advocated using professional planners in the development of new neighborhoods (R. Christopher Goodwin & Associates, Inc. 2019:VIII-307).

Deed Restrictions as a Tool to Guide New Construction

Deed restrictions, or protective covenants, were another method used to guide community design. Frequently, such tools were developed in the absence of local zoning ordinances. At the turn of the twentieth century, realtors and land developers began constructing small scale, exclusively residential neighborhoods rather than whole communities. Deed restrictions were commonly used tools to restrict land use, and often times, the developer invested in infrastructure improvements and provided other amenities (Stach 1989:362). Restrictions could limit the demand for the units while attracting buyers of a specific income group consisting of upper and upper-middle income home buyers, the combined efforts of which increased builder profits (Stach 1989-363).

Planners and landscape architects, including Frederick Law Olmsted, Jr. and John Nolen, as well as the Federal government, also promoted the use of restrictive covenants and deeds. Planners and landscape architects encouraged their use in the construction of garden suburbs. President Hoover's White House Conference on Home Building and Home Ownership also promoted the use of deed restrictions as a tool for stabilizing neighborhoods and real estate values and as a means of prohibiting non-conforming or incompatible uses in residential areas (R. Christopher Goodwin & Associates, Inc. 2019:VIII-303).

By the mid-1930s, developers began selling deed-restricted housing for those of more moderate means. Developers could use deed restrictions to specify the location of certain types of housing within their subdivisions. In this manner, a developer could decide where single-family, duplexes, apartment buildings, and commercial buildings could be located within his development. This practice was particularly common in municipalities that had not enacted zoning. Through deed restrictions, developers could dictate minimum house size, room number, and cost, as well as building setback. Figure 5.3 illustrates how such restrictions persisted through the 1940s.

The FHA encouraged the use of deed restrictions through its publications such as *Neighborhoods for Small Houses*. Published in 1936, the document provided model language for minimum deed restrictions (R. Christopher Goodwin & Associates, Inc. 2019:VIII-305). Guidance covered topics ranging from minimum setback requirements, non-residential uses, and lot subdivision (R. Christopher Goodwin & Associates, Inc. 2019:VIII-305). In fact, during the 1930s, the FHA strongly encouraged the use of deed restrictions for properties having government-insured mortgages. When evaluating neighborhoods for risk, the FHA advised its appraisers to give higher ratings to neighborhoods having restrictive covenants (Rothstein 2019:83). Neighborhoods located in municipalities that implemented exclusionary zoning, that is zoning that permitted only single-family dwellings to be constructed, also received favorable ratings (Rothstein 2019:83).

Like the restrictions promoted by the Federal government in its model language, deed restrictions at the local level were used to impose minimum setbacks and lot sizes, in addition to minimum dwelling costs, and residency requirements. Often the deeds restricted the types of houses that could be constructed; with single-family houses preferred. These restrictions were seen as a way

15.2 perches to the bridge, N 35° E 4 perches into the creek, S 59° E 12.5 perches to the beginning, containing 2.4 Acres, more or less.

Witness our hands and seals.

Test Asa P. Stotelmyer
Asa P. Stotelmyer

Cyrus A. Hays (SEAL)
Cyrus A. Hays

Cora D. Hays (SEAL)
Cora D. Hays

Frederick County State of Maryland to wit:

I hereby certify that on this 31st day of December, 1948 before me, the subscriber, a Notary Public of the State of Maryland in and for Frederick County, personally Cyrus A. Hays and Cora D. Hays and did each acknowledge the foregoing deed to be their deed and act.

Asa P. Stotelmyer
Asa P. Stotelmyer
Notary Public.

PLACE OF Notarial SEAL

----------oOo----------

Rec'd and delivered to Edwin F. Hilleick atty. Nov 26-1949

STATE OF MD. $2.20 RECORDATION TAX

At the request of Cornelius Bennett Williams, Sr. and wife the following Deed is received for record and recorded Sep 20, 1949 at 1:25 o'clock P. M.
TEST: Ellis C. Wachter, Clerk.

U.S. INTERNAL $2.20 Revenue Stamp

THIS DEED, made this 16th day of September, in the year Nineteen Hundred and Forty-seven, by R. Patrick Turner and Agnes G. Turner, his wife, and Holmes D. Baker, Parties of the First Part, and Cornelius Bennett Williams, Sr., and Ruth Helen Williams, his wife, Parties of the Second Part, all of Frederick County, State of Maryland.

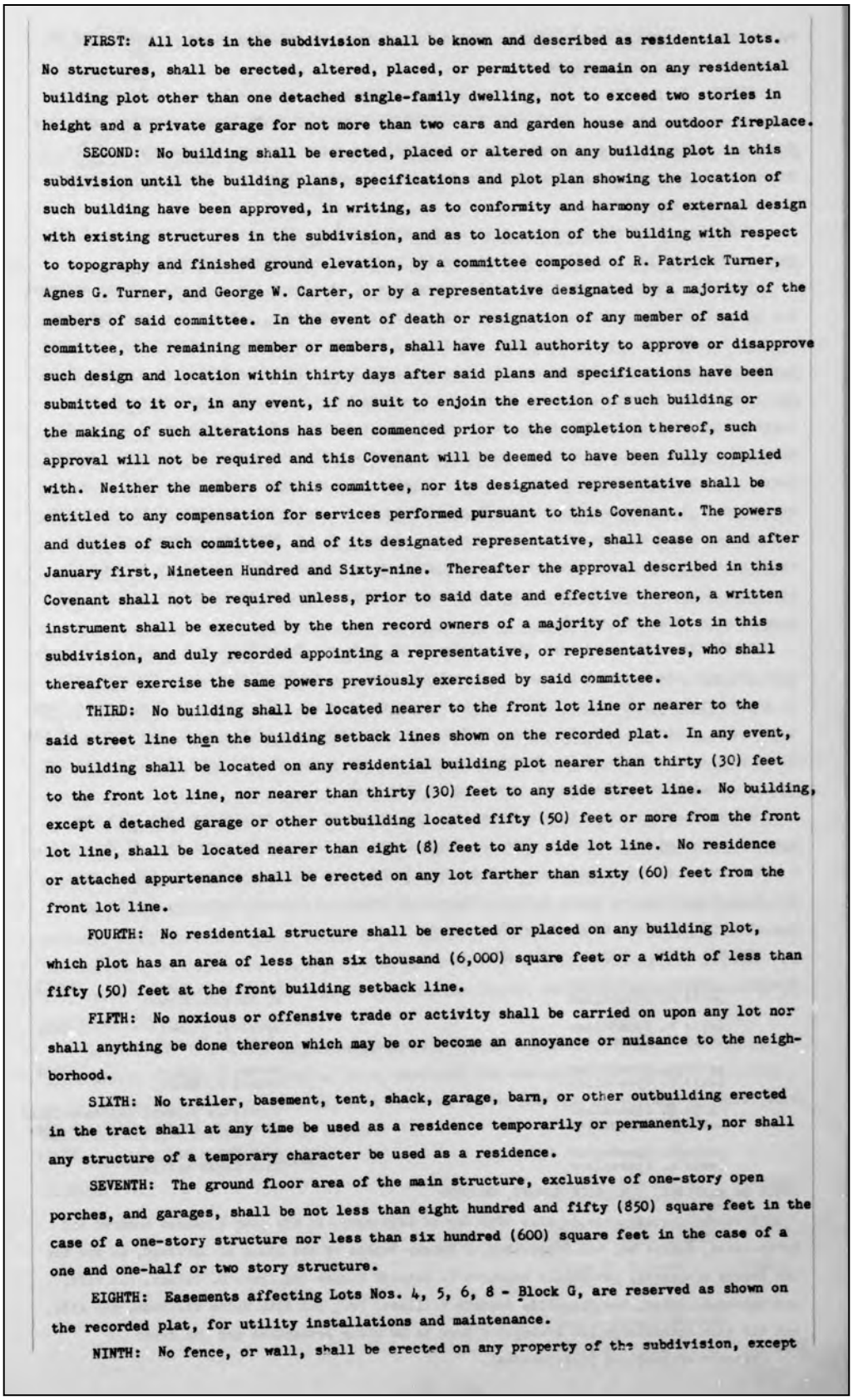
WITNESSETH: That for and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable considerations, the receipt of which is hereby acknowledged, we the said R. Patrick Turner and Agnes G. Turner, his wife, and Holmes D. Baker do hereby grant and convey unto Cornelius Bennett Williams, Sr., and Ruth Helen Williams, his wife, all the following described real estate, situate, lying and being in Frederick City, Frederick Election District, Frederick County, State of Maryland, and more particularly described as follows:

BEING all of Lot No. 2, in Block"F" of the Subdivision of the lands of R. Patrick Turner and Agnes Turner, his wife, said subdivision being known as "Spring Valley", a plat of which is recorded in Plat Book No. 3, Folio 20, one of the Record Books for the recording of Plats in the Office of the Clerk of the Circuit Court for Frederick County, said lot being situate on the North side of Fairview Avenue. as shown on said plat, and fronting two hundred twenty-three and five-one-hundredths feet, more or less, on said Fairview Avenue.

BEING a part of all that real estate which was conveyed unto R. Patrick Turner and Agnes Turner, his wife, by Gilmore R. Flautt and Ruth R. Flautt, his wife, by deed bearing date on the second day of October, in the year Nineteen Hundred and Forty-six, and recorded in Liber No. 457, folio 225, one of the Land Records of Frederick County.

TO HAVE AND TO HOLD the above described real estate and rights of ways thereunto belonging unto the said Cornelius Bennett Williams. Sr., and Ruth Helen Williams, his wife, and unto their heirs and grantees, forever, in fee simple, subject, however, to each and every covenant, agreement and condition herein expressed and described. The Grantees, for themselves, and for their heirs and assigns, do hereby covenant and agree with the Grantors, and their heirs and assigns, that they will abide by each of the covenants hereinafter contained.

Figure 5.3. Representative Deed Restrictions (Source: Land Records of Frederick County, Maryland n.d.).
Page 1



FIRST: All lots in the subdivision shall be known and described as residential lots. No structures, shall be erected, altered, placed, or permitted to remain on any residential building plot other than one detached single-family dwelling, not to exceed two stories in height and a private garage for not more than two cars and garden house and outdoor fireplace.

SECOND: No building shall be erected, placed or altered on any building plot in this subdivision until the building plans, specifications and plot plan showing the location of such building have been approved, in writing, as to conformity and harmony of external design with existing structures in the subdivision, and as to location of the building with respect to topography and finished ground elevation, by a committee composed of R. Patrick Turner, Agnes G. Turner, and George W. Carter, or by a representative designated by a majority of the members of said committee. In the event of death or resignation of any member of said committee, the remaining member or members, shall have full authority to approve or disapprove such design and location within thirty days after said plans and specifications have been submitted to it or, in any event, if no suit to enjoin the erection of such building or the making of such alterations has been commenced prior to the completion thereof, such approval will not be required and this Covenant will be deemed to have been fully complied with. Neither the members of this committee, nor its designated representative shall be entitled to any compensation for services performed pursuant to this Covenant. The powers and duties of such committee, and of its designated representative, shall cease on and after January first, Nineteen Hundred and Sixty-nine. Thereafter the approval described in this Covenant shall not be required unless, prior to said date and effective thereon, a written instrument shall be executed by the then record owners of a majority of the lots in this subdivision, and duly recorded appointing a representative, or representatives, who shall thereafter exercise the same powers previously exercised by said committee.

THIRD: No building shall be located nearer to the front lot line or nearer to the said street line then the building setback lines shown on the recorded plat. In any event, no building shall be located on any residential building plot nearer than thirty (30) feet to the front lot line, nor nearer than thirty (30) feet to any side street line. No building, except a detached garage or other outbuilding located fifty (50) feet or more from the front lot line, shall be located nearer than eight (8) feet to any side lot line. No residence or attached appurtenance shall be erected on any lot farther than sixty (60) feet from the front lot line.

FOURTH: No residential structure shall be erected or placed on any building plot, which plot has an area of less than six thousand (6,000) square feet or a width of less than fifty (50) feet at the front building setback line.

FIFTH: No noxious or offensive trade or activity shall be carried on upon any lot nor shall anything be done thereon which may be or become an annoyance or nuisance to the neighborhood.

SIXTH: No trailer, basement, tent, shack, garage, barn, or other outbuilding erected in the tract shall at any time be used as a residence temporarily or permanently, nor shall any structure of a temporary character be used as a residence.

SEVENTH: The ground floor area of the main structure, exclusive of one-story open porches, and garages, shall be not less than eight hundred and fifty (850) square feet in the case of a one-story structure nor less than six hundred (600) square feet in the case of a one and one-half or two story structure.

EIGHTH: Easements affecting Lots Nos. 4, 5, 6, 8 - Block G, are reserved as shown on the recorded plat, for utility installations and maintenance.

NINTH: No fence, or wall, shall be erected on any property of the subdivision, except

Figure 5.3. Representative Deed Restrictions (Source: Land Records of Frederick County, Maryland n.d.). Page 2

by approval of committee as named or stated for approval of building plans of residences to be constructed in the subdivision.

TENTH: No portion of the property in this subdivision shall be leased, sold, conveyed, devised or assigned to or occupied by any negro, or person of negro blood, provided that this provision shall not be construed so as to prohibit any negro servant, who is employed for domestic purposes by the occupant of the dwelling, together with their family, from living therein while so employed.

ELEVENTH: That the Grantees, their heirs and assigns, will permit the erection of all necessary facilities for all electricity on the parcel of land herein conveyed.

TWELFTH: That said Grantees by the acceptance of this deed for said real estate covenant for themselves, their heirs, executors, administrators, devisees, lessees and grantees that they will fully and truly comply with and fulfill all the conditions, restrictions and limitations hereinbefore contained and the same shall be construed to be covenants running with the land hereby conveyed, binding upon all succeeding owners and purchasers thereof; and further that they accept the real estate above conveyed with a full knowledge of the conditions above contained and that all conveyances of said real estate made by them and by their heirs, executors, administrators, devisees, lessees, and grantees shall be subject to said conditions. The covenants herein shall be binding on all heirs and assigns of the Grantors and all heirs and assigns of the Grantees until January first, Nineteen Hundred and Sixty-nine, at which time such covenants shall be ordinarily extended for successive periods of ten years unless by a majority of the then owners of the lots, it is agreed to change said covenants in whole or in part.

THIRTEENTH: That the said Grantors for themselves and their heirs and assigns, covenant with the said Grantees, their heirs and assigns, that all deeds of conveyance for any lots in the subdivision, known as "Spring Valley", a plat of which subdivision is recorded in Plat Book No. 3, folio 23, one of the Record Books for the Recording of Plats, in the Office of the Clerk of the Circuit Court for Frederick County, or any parts of said lots shall contain the same covenants and conditions as expressed in this deed.

Holmes D. Baker joins herein to release the parcel of land herein conveyed from the operation of a certain mortgage from the Grantors to The Citizens National Bank of Frederick, a body corporate, which mortgage gas been duly assigned to the said Holmes D. Baker, said mortgage being recorded among the Land Records of Frederick County, Maryland, on the tenth day of April, Nineteen Hundred and Forty-seven.

WITNESS OUR HANDS AND SEALS.

Witness: Lewis M. Sponseller Lewis M. Sponseller	R. Patrick Turner R. Patrick Turner	(SEAL)
Lewis M. Sponseller Lewis M. Sponseller	Agnes G. Turner Agnes G. Turner	(SEAL)
Lewis M. Sponseller Lewis M. Sponseller	Holmes D. Baker Holmes D. Baker	(SEAL)
Lesie M. Sponseller Lewis M. Sponseller	Cornelius Bennett Williams Cornelius Bennett Williams, Sr.	(SEAL)
Lewis M. Sponseller Lewis M. Sponseller	Ruth Helen Williams Ruth Helen Williams	(SEAL)

STATE OF MARYLAND, FREDERICK COUNTY, TO-WIT:

I hereby certify that on this 16th day of September, in the year Nineteen Hundred and Forty-seven, before me, the Subscriber, a Notary Public of the State of Maryland, in and for the County aforesaid, personally appeared R. Patrick Turner and Agnes G. Turner, his wife, and Holmes D. Baker, and Cornelius Bennett Williams, Sr., and Ruth Helen Williams, his wife, and did each acknowledge the aforegoing Deed to be their respective act and deed.

Witness my hand and Seal Notarial.

Figure 5.3. Page 3 Representative Deed Restrictions (Source: Land Records of Frederick County, Maryland n.d.).

to protect property values and neighborhood character (R. Christopher Goodwin & Associates, Inc. 2019:VIII-285).

Land Use Control as a Tool for Segregation

Zoning ordinances and deed restrictions helped promote better neighborhood design and ensured houses were constructed in accordance with minimum local standards. Such tools, however, also were used to keep select members of society, such as African Americans, ethnic minorities, and the working class, from accessing quality housing. These restrictions prohibited where these those populations could rent and buy houses, with many neighborhoods the exclusive enclaves for the cities' White residents. Exceptions were made for African American servants (Rothstein2019:79; Wilkerson 2016) (Figure 5.3).

During the early twentieth century, municipalities across the country began adopting ordinances restricting where African Americans could live. Enacted in 1910, Baltimore was the first to pass such legislation; other cities soon followed (Rothstein 2017:44). The cities enacting restrictive legislation primarily were located in southern and border states. The African American population in northern cities remained relatively small until after the Great Migration, and therefore such restrictions generally were not implemented until much later (Rothstein 2017:45). Eventually, the use of deeds to restrict property ownership by race was used across the country. However, the populations subject to the restrictions varied by region. While restrictive deeds were used to exclude African Americans in many parts of the country, in California, developers used such restrictions to prohibit Asian Americans from purchasing houses (Stach 1989-370).

Land developers also used deeds to restrict the movement of African American and ethnic homebuyers. Developers were able to successfully apply these restrictions because of a U.S. Supreme Court ruling in 1917 that determined the Fourteenth Amendment applied only to discriminatory actions undertaken by a government. Because deed restrictions represented a private contract between the seller and the buyer and the seller having the right to sell to whomever they wanted, the Supreme Court, in *Buchanan v. Warley*, ruled they were not subject to the provisions of the Fourteenth Amendment (Rothstein 2017:45; Stach 1989:369).

Cities, however, defied the Supreme Court and continue to draft ordinances segregating their populations by race. Atlanta, for example, drafted a zoning ordinance in 1922 that divided the city into "R-1 white district" and "R-2 colored district". Atlanta city planner, Robert Whitten, justified the zoning restrictions when he explained that

> "home neighborhoods had to be protected from any further damage to values resulting from inappropriate uses, including the encroachment of the colored race" (Rothstein 2017:46).

While the Atlanta ordinance could not withstand court scrutiny, its zoning map guided planning well into the twentieth century (Rothstein 2017:46). The Supreme Court revisited the issue of deeds and restrictive covenants in 1948 when it ruled restrictive deeds could not be legally enforced by any government agency, even if the restrictions were not in themselves restrictive (Stach 1989-369).

Municipalities developed other tools to craft zoning ordinances that formalized segregation while staying within the boundaries of the Supreme Court decision. Cities would zone industrial issues and nuisance businesses such as liquor stores, bars, houses of prostitution, and nightclubs in or adjacent to African American neighborhoods (Rothstein 2017:50). At the same time, such uses were prohibited in White neighborhoods. Unlike housing located in industrial zones, single-family houses could not be subdivided. By prohibiting where African Americans could live, and allowing the creation of multi-family housing units, these policies contributed to overcrowding in African American neighborhoods (Rothstein 2017:50).

These zoning practices had become well-established and entrenched by the 1930s. Consequently, when the FHA developed policies to review loans subject to its guaranteed mortgage program, most African Americans could not obtain a mortgage because their houses were located near commercial development, rooming houses, and industrial enterprises, all uses the FHA identified as uses that created increased risk to the property value of single-family houses. Interestingly, the FHA also included the presence of public playgrounds, schools, and churches in a neighborhood as grounds for it being "severely penalize[d]..., perhaps to the point of rejection" (Federal Housing Administration 1936:Part II 230-233). Collectively, these policies contributed to the decline of Black neighborhoods: African Americans were relegated to select neighborhoods that featured a disproportionate number

of unsavory uses; they could not obtain mortgages; and housing costs were more expensive than in comparable White neighborhoods (Rothstein 2017:50). When the Urban Renewal programs of the 1960s were implemented, the African American neighborhoods, generally, were targeted for demolition, in part because of their state of decay.

Conclusion

The Inter-War Era marked the beginning of public intervention in the housing market. Government involvement in housing was realized through the development of programs to construct new housing, public policy initiatives, and financial assistance to home owners. During World War I, the Federal government intervened in the housing market to provide housing critical for the war effort. Although the Federal government terminated the war housing program upon the conclusion of the war, it later focused policy efforts on improving the quality of housing. These efforts included promoting zoning and deed restrictions that affected the design of suburban neighborhoods. While advancing better housing, zoning and deed restrictions also were used to restrict segments of the population from home ownership. The economic hardship resulting from the Great Depression provided the impetus for the revamping of the home mortgage system. The Federal agencies and programs created in response to the Depression had a lasting impact on residential design.

Chapter 6: What was Built: Inter-War Era Housing in the Civilian and Military Sectors

Two major events world events influenced the American civilian housing market during the Inter-War Era. These events were the post-World War I housing shortage and the Great Depression. The two decades of the Inter-War Era present a stark contrast in economic extremes. The 1920s are noted for their unregulated economic expansion while the 1930s are characterized by economic collapse.

During the era, single-family home ownership became a common aspiration ingrained in the American psyche. Home ownership became associated with good citizenship, worthiness, social standing, and success. The American dream, as represented in a nuclear family occupying a house in the suburbs, was popularized beginning with the 1920s (Archer 2012:11). Home ownership became intertwined with the American cultural identity and disruptions in the housing market and national level of home ownership were monitored as indicators of general social welfare (Archer 2012:11).

Even as home ownership was promoted as beneficial to American society, a large percentage of Americans could not afford to purchase a house. A disconnect between the demand for affordable housing and the supply of upscale housing fueled the housing crisis of the 1920s. The home construction industry built housing that remained outside the reach of the vast majority of Americans. Americans at the middle and lower ends of the economic ladder risked financial security in order to participate in the American dream. When housing prices fell, home owners who already were financially extended faced dire economic consequences. These were exacerbated by the Great Depression. Architects and planners promoted the construction of low cost, small houses throughout the period as a way to increase home ownership. During the Great Depression, the construction of small houses was seen as a way to tackle the staggering unemployment rate.

During the period, the Army aimed to provide family housing commensurate with housing available in the civilian sector. To achieve that goal, the Army consulted with private sector planners and architects in the development of new family housing. The Army adopted contemporary planning principles in the design of new neighborhoods and popular architectural styles for residential construction.

The Army sought to provide officer housing, which in the civilian market was the equivalent of the professional class. Housing for middle managers, or NCOs in Army terminology, followed the ideals of the small house movement.

The following discussion provides context for the types of housing constructed during the Inter-War Era and explores how failures in the housing market contributed to the Great Depression. The chapter also provides an in-depth discussion of the Army's housing program, including installation planning and architectural design. The chapter concludes with a brief comparison of civilian market housing and Army housing.

Postwar Nationwide Housing Shortage

Following World War I, the country faced a severe and debilitating housing shortage. In 1921, the U.S. Senate issued a report summarizing the effects the war had had on American society. The Senate report, *Senate Committee on Reconstruction and Production* (U.S. Senate 1921), summarized the findings of Dr. Royal S. Copeland, Commissioner of Health for the City of New York. Dr. Copeland represented the consensus of city health commissioners who had conducted surveys of housing in cities with populations of 200,000 or more. The findings were stark:

- Every city surveyed experienced severe overcrowding, with 20 to 30 per cent of the population affected;
- Over a period of three years, the number of new housing units constructed declined by 80 per cent;
- Thousands of families lived in unsanitary and dangerous units due to the severe housing shortage;
- Overcrowding resulted in an increased infant mortality rate, particularly in those districts with the greatest overcrowding. In such districts, the infant mortality rate was 50 per cent higher;
- Overcrowding led to the increase in the number and spread of tuberculosis cases. The number of residents with tuberculosis was at least twice as prevalent in overcrowded districts than in normal districts; and

- Communicable diseases, such as influenza and pneumonia, spread rapidly in overcrowded neighborhoods. Controlling the spread of those diseases was difficult because of the inability to maintain quarantine or isolation (Newman 1921:3).

The Senate Committee report urged immediate action to rectify "such barbaric conditions wherever they exist" (Newman 1921:31). In cities such as Philadelphia, for example, a number of factors had led to the housing shortage. High rent, unemployment, unsanitary environments, and congestion contributed to poor housing conditions (Newman 1921:3). Living quarters were bleak. Open sewers and overflowing privies were not uncommon (Newman 1921:7,8). Structural failures were unaddressed. Examples of residents living in fire-damaged dwellings were documented (Newman 1921:8). New housing was not constructed; rather existing houses were converted into multi-family units. In 1920, New York City's poorest families lived in 3-room apartments rented at a rate of $14 per month. Rents were raised due to the housing shortage, and by 1926, rent for the same apartment increased to $23.96 (Halbert 1931:606).

Neighborhoods were not simply overcrowded. The quality of the existing housing also was poor. In a survey undertaken by the Philadelphia Housing Association, nearly 19 per cent of surveyed rental housing was not equipped with an indoor water supply, in violation of the city's Housing Code; 90 per cent used gas for lighting; 32 per cent included furnaces, and 58 per cent had bathtubs (Newman 1921:26). Overall, only 24 per cent of rental units were equipped to the standard required under the city housing code. Racial discrimination was documented in the rental market. Over 28 per cent of the total rental units offered to White renters were fully equipped, while only 10.5 per cent of rental units offered to African Americans were fully equipped (Newman 1921:26). In cities such as New York, where construction of new buildings came to a near halt between 1914 and 1921, the housing problem was acute, especially for the city's lower income residents (Halbert 931:710). Population growth in major metropolitan centers, in part fueled the housing shortage.

A lack of credit was one of the key reasons for the housing shortage in cities such as Philadelphia. Trust companies typically offered loans to house builders; these loans also came with exorbitant fees. The reports of the 1921-held Building Committee of the National Unemployment Conference maintained, "The unreasonable interest rates, commissions and premiums in vogue for the last three

years are largely responsible for the housing shortage, which has reached the proportions of a calamity" (Newman 1921:37). Builders in other cities also faced a shortage of capital, but it was not to the extent experienced in Philadelphia (Newman 1921:39).

It was not until the early 1920s that the supply of new housing began to meet the overwhelming demand. The housing shortage; however, persisted into the early 1920s and continued to strain the housing market. The housing shortage was fueled, in part, by the limited supply of affordable housing.

In addition, a real estate bubble between 1921 and 1926 resulted in speculation and an unsustainable demand for real estate, particularly in Florida where land parcels in cities like Miami often were bought and sold several times a day. While Florida represented an extreme case of this phenomenon, speculation was nationwide (Brocker and Hanes 2014:161; White 2009:2). Economic conditions during the 1920s helped foster the housing boom, including low unemployment, stable prices, and exceptional growth (White 2009:11). Pent-up demand following World War I also contributed to the boom. In order to enter the housing market, home owners at the lower end of the economic scale acquired housing that they could not afford. The supply of housing produced by the construction industry fell outside the financial means of average Americans. When the housing bubble burst, many found their wealth, as represented in housing, had evaporated.

The Great Depression

The Great Depression affected all Americans, and its financial impacts were particularly felt among those already living on the economic margins. President Hoover's administration offered little assistance, preferring instead to let the private sector solve the economic crisis. This approach proved unsuccessful.

President Franklin Roosevelt instituted a different approach to dealing with the Depression. His administration enacted a series of financial reforms and programs aimed at employing the thousands who lost their jobs. Increasing home ownership and house construction were among the methods to achieve this goal.

The Causes of the Great Depression

Numerous factors led to the economic depression of the 1930s. The real estate industry, and, in particular, the single-family housing market, directly was tied to the economic crisis. The private housing sector was in financial difficulty before the 1929 stock market crash. That crash exacerbated an already troubled industry.

A downturn in housing prices led to increased rates of foreclosure as mortgagees were unable to meet their payment obligations and unable to sell their homes (Harvard Business School n.d.). Farm foreclosures resulting from the collapse of the post-World War I agricultural commodities market captured public attention. Close examination of foreclosure rates suggests that while the farm foreclosures were forefront in the public consciousness, the number of non-farm foreclosures exceeded the number of farm foreclosures: unoccupied farm dwelling units totaled 428,000 in 1920 and 712,000 in 1930, even as the nonfarm unoccupied units totaled 858,000 and 2,401,000 in 1920 and 1930, respectively (Bassie 1977:77). Over 270,000 families lost their houses in 1933, and half of home mortgages were in default with foreclosures occurring at nearly 1,000 per day (R. Christopher Goodwin & Associates 2003:3-44).

The construction of single-family dwellings boomed during the early 1920s. Dwelling construction peaked in 1925 and declined significantly in 1926 (Brocker and Hanes 2014:172). In general, the national home ownership rate across the country grew between 1920 and 1930, reversing downward trends from previous decades (Brocker and Hanes 2014:175). The construction of multi-unit buildings remained high through 1928 (Brocker and Hanes 2014:172).

However, residential foreclosures, which began during the early 1920s, continued through the stock market bubble, and peaked in 1933 (Harvard Business School n.d.). Falling house prices contributed to the increase in foreclosures. Foreclosures increased every year after 1926, the earliest date for which foreclosure information is available, before the stock market shock in 1929 (White 2009:46).

Changes in the banking industry following World War I contributed to the financial crisis at the end of the decade. Financial institutions transitioned from the commercial loan business and into real estate investment. In addition, a large segment of the middle class began investing in “national finan-

cial markets rather than into local rental housing, the traditional vehicle for small investors" (Radford 1992:12, 13). Consequently, "this strong trend toward debt, rather than equity financing, marked the 1920s as the beginning of the period in which the U.S. housing sector was inextricably linked to credit, especially from institutional lenders" (Radford 1992:13). Corporations relied less and less on banks as a source of funds; instead, they used their own profits or issued stocks or bonds to generate capital. With a decline in the commercial loan business, banks turned to real estate developers to make up for the lost revenue (Radford 1992:13).

The Federal government also played a role in changes to the banking industry. Federal legislation enacted in 1917 and again in 1927 loosened restrictions on the banking sector. This realignment of the banking and finance industry led one economist to state in 1933:

> "Insurance companies bought what were considered the choicer mortgages, conservative banks loaned freely on real estate mortgages; and less conservative banks and financial houses loaned on almost anything else that represented real estate in any form" (Radford 1992:13).

The scale of mortgage lending contributed to the economic slump. Prior to World War I, mortgages financed less than 45 per cent of residential construction. Mortgage lending financed nearly 60 per cent at the height of the housing boom (White 2009:24, 25). In contrast, mortgages "supplied over $2 billion of the $3.3 billion in financing for 1926" (White 2009:25). Prior to World War I, home buyers relied on two primary sources of funding to facilitate house purchases: private loans from family and friends, and loans from mutual savings banks. After the war, more aggressive lending institutions entered the housing market and included commercial banks, insurance companies, and savings and loans associations (White 2009:25).

Long-term fixed interest amortized mortgages were widely unavailable during the 1920s. Rather, high-loan-to-value mortgages covering one-half to two-thirds of the appraised property value; and a minimum 30 per cent down payment were common. Balloon mortgages were the industry standard (R. Christopher Goodwin & Associates, Inc. 2003:3-44; White 2009:26, 48). Failure to meet the terms of the mortgage resulted in foreclosure. Middle class and lower income home owners acquired expensive housing and then could not pay back the loans. The stock market crash, combined with

high-cost housing, the housing bubble, and speculation in the housing market created a crisis that threatened the country's economy.

The stock market crash and subsequent economic depression illuminated the problems in the financial system related to residential real estate. The realignment of the banking industry towards residential real estate, limited government regulation, increased housing costs, and a housing boom contributed to financial failure. The reforms enacted during the Great Depression sought to address the failures of the 1920s.

The Great Depression had a devastating toll on the country's economy. The nation's unemployment rate particularly was high. Between 1929 and 1939, the unemployment rate hovered at 13.3 per cent, and approximately 30 per cent of the workforce, or 11.5 million workers sought employment (R. Christopher Goodwin & Associates, Inc. 2019:III-37). The collapse of the housing industry propelled the Federal government to adopt policies making home ownership accessible to middle class families. The Federal government instituted policies to reduce the number of foreclosures, stabilize the housing market, and to lower unemployment (R. Christopher Goodwin & Associates, Inc. 2019:VIII-302; Rothstein 2019:63).

Civilian Design: The Influences of Army Housing

The design of Inter-War Era housing was influenced by a number of factors. Both the housing market and house design changed due to the adoption of building codes and new technology. Industry and housing experts also sought ways to improve house construction through the adoption of standardization measures. Mail order and kit houses, including Sears and Montgomery Ward, among others, offered affordable paths to home ownership. Architects, planners, and landscape architects associated with the Garden City movement and the Better Homes initiative introduced novel concepts for neighborhood design. The Federal government, in early attempts to make home ownership accessible and, later, as part of its Depression Era relief efforts, developed programs to bring more of the middle class into property ownership. Such programs included the Better Homes program which assisted home owners by advising on design, cost, and financing. Like the Better Homes program, the

small house movement promoted affordable housing by providing design services and expert advice to those entering the housing market.

The automobile had a profound effect on the design of twentieth century suburbs. As the street-car, which had been popular during the first two decades of the twentieth century, fell out of favor neighborhoods began to be designed to accommodate the automobile. These automobile suburbs of the 1930s featured modest houses along tree-lined streets. Such neighborhoods were influenced by the President's Conference on Home Building and Home Ownership and principles advanced by the Federal Housing Administration (FHA) (R. Christopher Goodwin & Associates, Inc. 2019:VIII-308).

Changes in House Design

The housing market changed following World War I. Not only were more houses constructed during the early 1920s, but the housing costed more due to higher wages and materials price increases (Radford 1992:2). The house-construction industry, which was dominated by small-scale builders, did not experience the cost-saving advantages of mass production realized in the industrial sector. Consumer goods were becoming cheaper, construction was not (Radford 1992:2). At the same time, builders focused on houses for the upper middle class, a pattern that occurred nationwide and became more pronounced over time (Radford 1992:2).

Researchers have attributed three reasons for the construction of high-end housing. During the early twentieth century, municipalities began enacting building codes requiring new construction to meet minimum standards for such building elements as plumbing, heating, electrical systems, room size, and number of rooms. These standards increased the cost of construction and builders often focused on high-end housing to maintain profit margins. The second reason for the construction of high-end housing was consumer demand. Consumers sought housing with the latest amenities, including, "'electric iceboxes, automatic garbage chutes, parquet flooring, and deluxe bathrooms'" (Radford 1992:10).

Zoning and deed restrictions also contributed to higher housing costs. Builders and municipalities imposed minimum lot size, house size, and construction costs for housing in neighborhoods subject to

such to restrictions. These neighborhoods became desirable for those seeking an element of exclusivity. Frequently, neighborhoods that were not subject to those restrictions were reserved for those at the lower end of the economic ladder. This up-market focus further contributed to the fundamental lack of affordable housing.

Government and industry provided solutions to this dilemma by promoting and producing small houses that most Americans could afford. The kit-house companies, the Better Homes movement, and the Architects' Small House Bureau developed house plans for houses that costed under $10,000, a price point well within the reach of the vast majority of Americans. The cost of many kit houses fell within a range that would enable families having incomes of $4,000 to acquire a modest house.

House design changed during the Inter-War Era; some changes were the result of accommodating automobiles, while others were the result of modern conveniences. The *Better Homes Manual*, for example, provided advice on a variety of aspects of new house design, including neighborhood layout, the interior arrangement of dwelling spaces, and appropriate materials. Experts in their respective fields contributed essays on good house design.

According to the manual, new dwellings should optimize light, air, and ventilation. Houses having at least one bathroom accessible from the second floor were recommended. The living and dining rooms should access the porch or terrace. Through the omission of the hall, the living room could be expanded to increase usable and functional space. The square or rectangular plan was the most economical (Halbert 1931:175).

The manual supported the convenient location of the kitchen and recommended that the cooking area no longer should be located at the rear of the house, because "since the days of the automobile the rear has been found to be frequently the most livable part of the grounds". Locating the kitchen to the side or front of the house was encouraged to facilitate access without passing through the living or dining rooms (Halbert 1931:174). Back yards had been the sites for garages, drawing on the historical precedent of the rear year barn. The *Better Homes Manual,* in contrast, encouraged the construction of garages in the front yard, while acknowledging that "the only valid argument against placing the garage at the front or side is that the doors when open are unsightly. As yet we have not

succeeded in working out a door treatment which will not tend to throw the rest of the house out of scale" (Halbert 1931:175).

Three bedrooms was considered the minimum requirement, with each bedroom having a closet. The bathrooms should have tile or tile-substitute flooring for ease of cleaning and a linen closet should open from the hall. A fireplace was preferred in order to eliminate the need for using the furnace until colder temperatures arrived (Halbert 1931:178, 179).

Efforts to Standardize the Home Construction Industry

Based on the experiences of the World War I mobilization efforts, the construction industry, labor leaders, and architects, among others, promoted standardization in the housing industry. Cost savings in materials, the reduction of seasonal unemployment, and cooperation between architects and builders were seen as the benefits of standardization. Architects, builders, and housing advocates called for the adoption of uniform building codes, which were seen as a tool for making housing affordable. Even as new construction materials and methods resulted in higher quality construction, improved durability and comfort, and extended longevity, some architects cautioned the industry that consumers would prefer lower house prices over higher quality materials and construction (R. Christopher Goodwin & Associates, Inc. 2019:VIII-287).

Yet, despite design specialists encouraging the use of standardization, the construction industry, which was dominated by small-scale builders, was slow to adopt such practices. In his book, *The Tragedy of Waste*, Stuart Chase highlighted the inefficiencies in the construction industry and recommended modest steps to correct them. The *Better Homes Manual* also highlighted waste in the residential construction industry, and endorsed standardization and the development of minimum requirements in the drafting of building codes (Halbert 1931:57; 66). The development of standardized designs and construction standards were promoted by early 1925 (Chase 1925:155, 172-173). These efforts could lower the cost of a new house by $600 and reduce labor costs by half. Chase summarized how duplicative estimates and bidding cost millions each year; inefficiencies in the use of labor resulted in more laborers than were required for a given project; and the proliferation of small contractors saturated the construction industry. He concluded his scathing critique of the construc-

tion industry with the following assessment: “bad management is the rule in the building industry” (Chase 1925:155). This failure of the construction industry to adopt standardization contrasts with the Army, which had a long tradition of using standardized plans to create cost efficiencies.

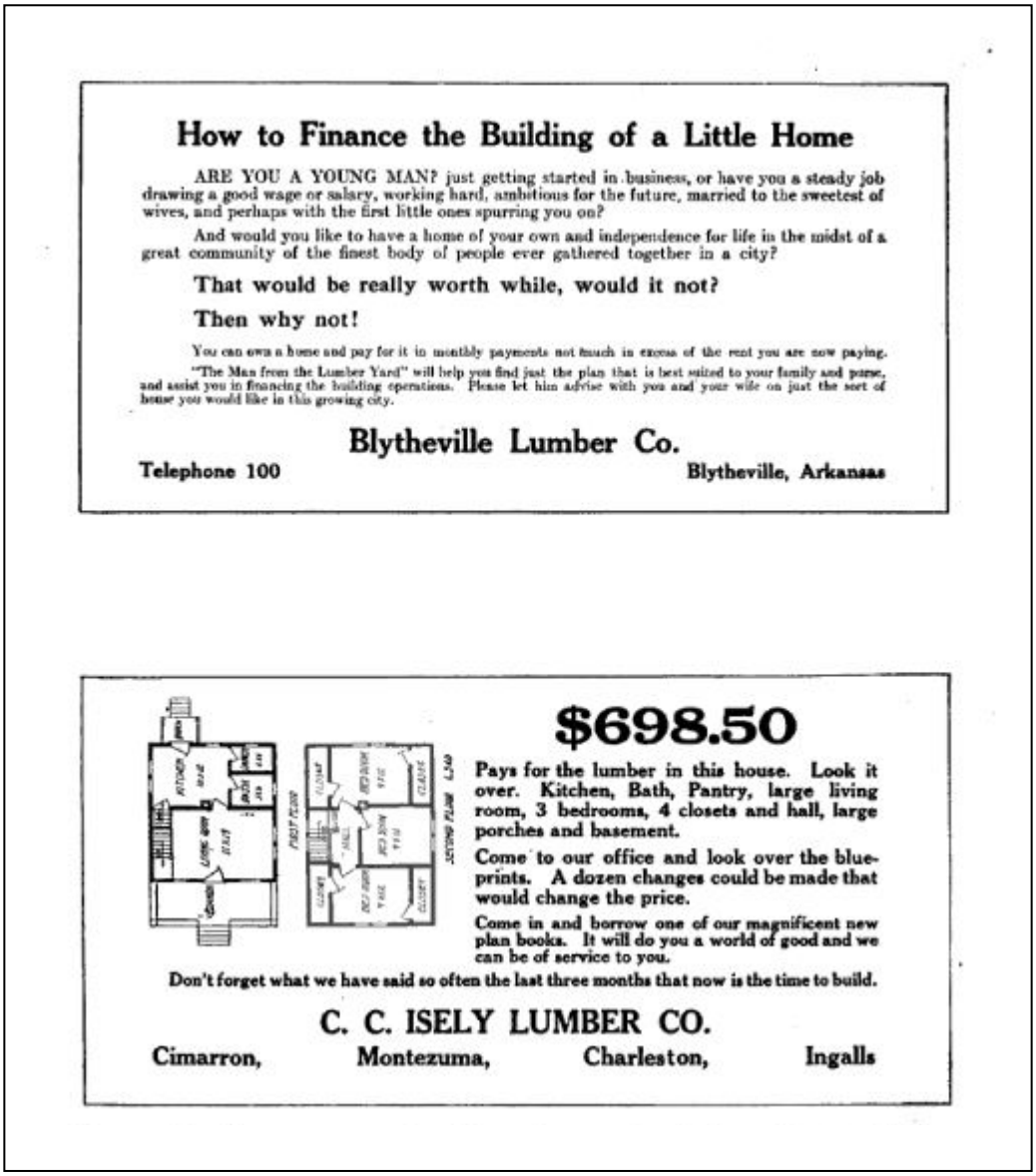
Mail Order and Kit Houses

Beginning at the turn of the twentieth century, national retailers, such as the Sears, Roebuck and Co. and Montgomery Ward & Co., and construction companies such as the North American Construction Company (which became known as makers of Aladdin Houses and Readi-Cuts) began selling whole house kits rather than component parts. Aladdin went on to become the largest seller of kit houses (Harris 2009:634). National retailers were not the only enterprises to get into the kit-house market.

Lumber dealers, including Bilt-Well, Weyerhaeuser, and Southern Pine, also produced such houses or offered house construction services to consumers (Harris 2009:706). The home-improvement store emerged in response to the success of mail order catalogues. Lumber yards, which at the end of the nineteenth century supplied materials to building contractors, changed their business model to compete with the mail-order business. These changes included more effective advertising and providing a broad range of services and goods, including house plans. Because many of the new customers were women, the lumber yards offered better customer service, constructed better displays and showrooms, and relocated to the busier sections of town (Harris 2009:687-688).

Unlike the national chains, the lumber industry marketed to a local or regional market (Figures 6.1 and 6.2). Indeed, by the 1920s, kit houses had become a marketing phenomenon (Harris 2009:689). The kit houses were an inexpensive option for home ownership during a period when architects designed less than 10 per cent of all new dwellings for a primarily wealthy clientele (Harris 2009:706). The Great Depression contributed to the slow demise of the mail-order kit house, the sale of which continued into the 1940s (Harris 2009:689).

Catalogue homes offered an affordable entré into home ownership for the burgeoning middle class. The house kits could be shipped easily by rail (Massey and Maxwell 2013). Early in the mail-order



How to Finance the Building of a Little Home

ARE YOU A YOUNG MAN? just getting started in business, or have you a steady job drawing a good wage or salary, working hard, ambitious for the future, married to the sweetest of wives, and perhaps with the first little ones spurring you on?

And would you like to have a home of your own and independence for life in the midst of a great community of the finest body of people ever gathered together in a city?

That would be really worth while, would it not?

Then why not!

You can own a home and pay for it in monthly payments not much in excess of the rent you are now paying.

"The Man from the Lumber Yard" will help you find just the plan that is best suited to your family and purse, and assist you in financing the building operations. Please let him advise with you and your wife on just the sort of house you would like in this growing city.

Blytheville Lumber Co.

Telephone 100 **Blytheville, Arkansas**

$698.50

Pays for the lumber in this house. Look it over. Kitchen, Bath, Pantry, large living room, 3 bedrooms, 4 closets and hall, large porches and basement.

Come to our office and look over the blue-prints. A dozen changes could be made that would change the price.

Come in and borrow one of our magnificent new plan books. It will do you a world of good and we can be of service to you.

Don't forget what we have said so often the last three months that now is the time to build.

C. C. ISELY LUMBER CO.

Cimarron, Montezuma, Charleston, Ingalls

Figure 6.1. Advertisements for Kit Housing from Blytheville Lumber Co. and C. C. Isely Lumber Co. (Source: A. W. Shaw Company 1918:(Division 2)46).

Hawkeye Ready-Built Beats Outside Competition

Why Pay 50% to 60% More for a 25% Poorer Job?
"Wonder Homes — Sold to Satisfy"

The above and the cuts are from the ad of a well-known mail-order house which advertises to save you 20% to 40%.

Why are some of our out-of-town competitors, rated very low a few years ago by the commercial agencies, now rated rich? Read below for

THE PROOF: CATALOG HOUSE'S PRICE 60% ABOVE THE HAWKEYE!

Hawkeye Home Offer—Specifications:

Outside Competitor's Offer—Specifications:

Carpenter Work on "The Winsome" FREE

Just Everyday Hawkeye Prices

Hawkeye Lumber & Coal Co.

Telephone 769 By the Dam Cedar Rapids, Iowa

Figure 6.2. Advertisement for Kit Housing from Hawkeye Lumber & Coal Co. (Source: A. W. Shaw Company 1918:(Division 5)13).

housing industry, the companies preferred cash payments. However, as the twentieth century progressed, installment credit became acceptable. By the 1920s, a range of payment options were available to the home owner (Harris 2009:692). The availability of house plans helped spur new home construction, which grew from an average of 485,000 units per year in 1904 to approximately 937,000 in 1925 (R. Christopher Goodwin & Associates, Inc. 2019:VIII-309). Despite the growth of house construction during the 1920s, the mail-order house business contributed only approximately 5 per cent of new house construction (Harris 2009:694).

Sears advertised its house designs in the Modern Homes catalogue; homes were offered at three price points based on financial means – Honor Bilt, Standard Built, and Simplex Sectional – with

Honor Bilt representing the high-end of the market, with its expensive materials and fine quality. The most expensive house between 1927 and 1932, in the Honor Bilt line was the Colonial Revival-style Lexington model (Sears Archives 2012b). The four-bedroom, two-story, wood-frame house, included a reception hall, dining room, kitchen, and spacious living room for $4,365 (Sears Archives 2012b). Standard Built were marketed specifically for warmer climates and the Simplex Sectional houses, with their limited number of rooms and simple design, were geared towards secondary, summer cottages. In total, the company offered over 370 different plans (*Old House Journal* 2021). Sears kept costs low by using balloon framing, drywall, and asphalt shingles. In addition to using mass-production techniques in the fabrication of the houses, Sears homes also included modern conveniences, including electricity, indoor plumbing, and central heating (Sears Archives 2012c). The last *Book of Modern Homes* was issued in 1940. By the time the Modern Homes program came to an end, more 100,000 units (exclusive of cabins and cottages) had units been sold (Sears Archives 2012d).

Sears also provided financing for the construction of its houses. Sears financing was affordable for the period. Typically, mortgages were available for one-half to two-thirds of the appraised value of the property; a 30 to 50 per cent down payment was not uncommon. Terms of the loans were short, usually extending for a period between one, two, or three years. Ten-year mortgages were extremely rare. At the conclusion of the loan term, the property owner faced refinancing a new mortgage at rates and terms that may not have been as favorable as the original loan. Balloon financing also was common. Sears by contrast, offered relatively generous financing packages. Instead of a 30 per cent down payment, purchasers of a Sears house and lot needed only a 25 per cent down payment. Interest rates could be as low as 6 per cent for a 5-year loan, or higher for up to a 15-year loan (Massey and Maxwell 2013; R. Christopher Goodwin & Associates, Inc. 2003:3-44; Rothstein 2019:63).

Sears' Modern Homes were designed in several styles; however, those designed and built in the 1920s and 1930s included Colonial Revival, Dutch Colonial Revivals, and Spanish/Mission styles; the Cape Cod type particularly was popular. The Cape Cod became the company's longest-lived dwelling type (Massey and Maxwell 2013). The Cape Cod, at a cost of $2,349 in 1923, proved affordable for many homebuyers (*Old House Journal* 2021).

Montgomery Ward also sold affordable houses to the growing middle class during the early twentieth century. Its Wardway Homes came in a number of styles and price ranges. The company sold convenience and economy. In a letter accompanying its 1926 catalog, the project manager touted the factory-cut framing, which was fitted and ready to be erected.

The cost of the house included an-all-inclusive kit (other than masonry) that included all components for the construction of a complete house that "was of pleasing design and architecturally correct" (Montgomery Ward & Co. 1926). Prices ranged for a ready-cut house from the $860 Glendale model to the $2,698 Illinois model. For a higher price, options such as oak flooring for the hall, living room, dining room, den, library, and vestibule were available; and in two-story houses, the stair treads and risers also could be furnished in oak. "Radio slate"-surfaced asphalt shingles instead of cedar shingles; storm sashes, wire screens, and oil opaque shades could be additional add-ons (Montgomery Ward & Co. 1926:2). The Wardway catalog also included pricing for heating, electrical, and plumbing systems. Wardway houses came in popular styles and types such as the English (i.e., Tudor Revival-style) "Parkway;" the Colonial Revival "Rochelle," "Beverly;" the Dutch Colonial Revival "Lexington;" and the Bungalow "Carlyle" (Montgomery Ward & Co. 1926:14-19).

Aladdin Homes competed with Sears and Montgomery Ward in the kit-house market. By the time the company closed in 1981, over 75,000 houses had been sold (Central Michigan University 2001) (Figures 6.3 and 6.4). Aladdin houses were advertised in magazines and local and national newspapers. Future home owners received blueprints and plans, including preliminary plans to be reviewed by the home owner's local planning or building department. As with Sears and Wardway houses, an Aladdin house could be customized. Finishings could be upgraded to meet individual needs. Summer cottages also were available for purchase. Materials were delivered directly to homeowner's lot (Central Michigan University 2001). Aladdin Homes were sold in the U.S. and Canada.

In general, the kit and catalog houses were modest. The Aladdin Company's Cedars model, for example, was a 22' x 26' single-family dwelling that came in five plans featuring two or three bedrooms, a living room and a kitchen (The Aladdin Company 1929:11). The companies offered single-, one-and-a-half-, and two-story houses, with the Cape Cod being one of the most common types. Certain models

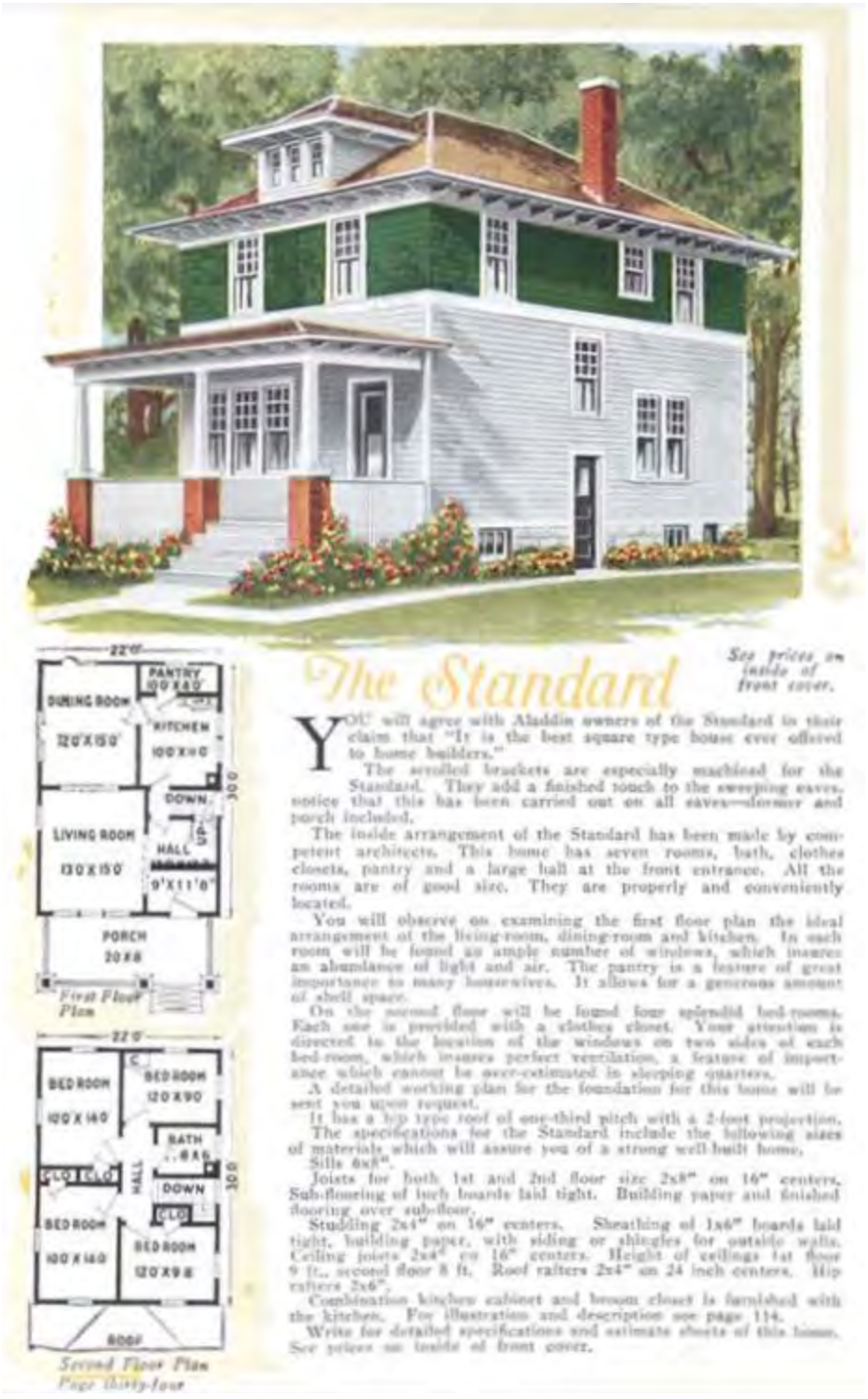


Figure 6.3. The Standard. Aladdin Homes (Source: The Aladdin Company 1922:34).

THE HAMILTON—A Tremendously Popular Design—

Price Given On Enclosed Price List

And We Pay The Freight

Many Aladdin houses have been built of brick veneer. We, of course, will quote on any design in the book, omitting siding and casings and furnishing special window and door jams. The Hamilton illustrates the attractions of the type. While the vestibule entrance shown above is of stone, it can be constructed of brick or, as is sometimes done, in wide siding. The Hamilton is a beautifully proportioned structure and will match the finest homes in any neighborhood. We will, of course, furnish this design with siding if preferred. Every modern thought is expressed in the arrangement of the interior. Note the large vestibule with cloak closet, arched opening leading from living room. Kitchen design is planned for step saving. Two splendid bedrooms are found on second floor with linen closet and bath.

We are proud to present this new Aladdin home, confident that it will give the highest satisfaction to every owner. We would like to give you more information about it if you will write us. Sills are built up size 6" x 8", joists are 2" x 10", rafters are 2" x 6" and ceiling height 8'6" first floor and 8' second floor. Complete detail specifications will be mailed on request.

FIRST FLOOR PLAN No. 1

SECOND FLOOR PLAN No. 1

FIRST FLOOR PLAN No. 2

SECOND FLOOR PLAN No. 2

18

Figure 6.4. The Hamilton. Aladdin Homes (Source: The Aladdin Company 1939:18).

were available in a variety of floorplans and some finishes could be substituted at additional cost. Stylistic ornamentation frequently was absent; instead, changes in material provided visual interest.

As in the civilian market, the Army preferred the Cape Cod dwelling type for construction of Inter-War Era family housing. This modest house type was deemed appropriate for NCO housing. However, unlike their civilian wood-frame counterparts, Cape Cod type dwellings built by the Army were constructed of brick. Examples can be found, for instance, at Fort Belvoir, Virginia.

The demand for affordable housing was profound and well-recognized; promoters of style and good taste such as *House Beautiful* sought to meet the housing need. The magazine created design services for the emerging market for home owners of more modest means. *House Beautiful* established its Small House Group in 1920. A Boston architecture firm prepared drawings for single-family and duplex dwellings. Interested buyers submitted a request to the House Beautiful Publishing Company, Inc. for a flier offering a variety of house plans. Houses designed by the group were larger than the "typical war house," and came in the New England, Cape Cod, and gambrel types. The three-bedroom houses featured spacious living rooms and separate dining rooms and kitchens. The same materials, finishings, and framing were used regardless of house type. Working drawings and specifications were supplied (*House Beautiful* 1920:185-187).

The Garden City Movement

The design of the Inter-War Era suburban neighborhoods was influenced by the Garden City movement, which became popular across the country. The Garden City movement had its origins in a similar planning approach promoted by social reformer Ebenezer Howard of the United Kingdom. Howard had a comprehensive vision for how the modern neighborhood should function and look. Important tenets of his design included limited population; a self-contained population living near and working in local industries; preparation of a neighborhood plan prior to construction; and an agricultural belt encircling the city. Howard advocated that only a sixth of a municipality's land should be built on; the rest of the land would be used for parks, roadways, open spaces, recreation, and farms (R. Christopher Goodwin & Associates, Inc. 2019:VIII-286). Howard believed that neighborhoods designed in this manner would increase the purchasing power of middle and working-class residents because they would reside near

where they worked and could purchase locally produced goods and food. These residents also would realize tax savings because their taxes would be lower than those in large cities. His American contemporaries in urban planning and landscape design, including Frederick Law Olmsted, John Nolen, and Herbert Swan, among others, adopted some of his principles, such as the inclusion of open space and parks in neighborhood design (R. Christopher Goodwin & Associates, Inc. 2019:VIII-286).

As realized in the U.S., American planners and landscape architects combined aesthetics with large-scale construction techniques. The result was new neighborhoods incorporating tree-lined curvilinear streets, landscaped gardens and lawns, and housing representing variety in architectural design. Accommodations for open space and the automobile, the expertise of real estate developers, and the relative efficiency of the construction industry distinguished the American reinterpretation of the English Garden City movement (R. Christopher Goodwin & Associates, Inc. 2019:VIII-286). The result of this re-imagination of the suburb, was the creation of neighborhoods that included housing variety ranging from single-family to duplex and multi-family apartment buildings, and an abundance of open space, parks, and recreational facilities.

Neighborhood design goals were accomplished through the introduction of traffic circles, landscaped boulevards, and residential courts. Hierarchical circulation systems were promoted as a means of limiting through traffic (R. Christopher Goodwin & Associates, Inc. 2003:3-27). Sidewalks separating pedestrian and vehicular traffic were introduced into the neighborhoods. These design elements helped to bring nature, light, and air into the neighborhood. An interdisciplinary approach to neighborhood design was encouraged; consequently, Garden City neighborhoods benefited from the collaboration among experts in the fields of city planning, architecture, and landscape architecture (R. Christopher Goodwin & Associates, Inc. 2019:VIII-287). In the United States, the Radburn neighborhood, located in Fairlawn, New Jersey, and designed by Henry Wright and Clarence Stein in 1928, came to epitomize Garden City ideals (Figures 6.5 and 6.6).

The Army adopted many of these design principles in the construction of its Inter-War Era neighborhoods. The officer and NCO neighborhoods at Fort Benning, Georgia; Fort Sill, Oklahoma; and Fort Belvoir, Virginia; for example, have curvilinear streets with uniform building setbacks and regular siting of dwellings. These neighborhoods are clearly defined as residential and are suburban in feeling.

Figure 6.5. Radburn, Fairlawn, New Jersey, ca. 1931 (Source: Halbert 1931:722).

Figure 6.6. Radburn, Fairlawn, New Jersey, ca. 1931. Rear views of houses (Source: Halbert 1931:722).

The Better Homes Movement

The Federal government's interest in promoting home ownership began during the early 1920s with the Better Homes movement. These modest efforts increased in scope after the financial crisis of 1929 and its corresponding impact on the housing market, a concept that did not emerge until 1935 when the FHA coined the term, "housing market," in its publication, *United States Housing Market* (Harris 2009:290).

Beginning in 1921 while serving as Secretary of Commerce, Herbert Hoover led the Better Homes in America initiative. The department produced a brochure, "How to Own Your Own Home," and held home ownership seminars across the country. The Better Homes movement, which spanned the period 1919 to 1945, worked to promote home ownership and standardized residential construction. Better Homes in America, Inc., which was established in 1922, educated home owners on construction and design. Small house design was popularized through magazines and trade publications. Eventually, as the small house movement grew, landscape architects began designing neighborhoods for small houses (R. Christopher Goodwin & Associates, Inc. 2019:VIII-309).

Established in 1931 as an early attempt to address unemployment and the collapsing residential real estate market, the White House Conference on Home Building and Home Ownership attempted to understand the root causes of the real estate collapse. The conference recommended strategies for increasing the level of home ownership; improving planning and zoning; strengthening the credit

market; and using new technology to construct better-quality housing (R. Christopher Goodwin & Associates, Inc. 2003:3-44). In his opening remarks to the conference, Hoover promoted single-family home ownership, stating every family has the right to own a house. He further stated that "single-family homes were 'expression of racial longing' and '[t]hat our people should live in their own homes is a sentiment deep in the heart of our race'" (Rothstein 2019:61). The Federal government recognized the importance of providing modest, single-family housing to a majority of the American population, a large percentage of which would not have been able to enter the pantheon of home ownership but for ease in financing and scale of housing.

Better Homes in America published *The Better Homes Manual* as part of the overall White House Conference on Home Building and Home Ownership. The book covered all aspects of new residential construction, with topics ranging from neighborhood design, architectural styles, and house mechanicals, to zoning and landscape design. Architectural styles highlighted in the manual included the English, Italian, Colonial, Dutch Colonial, and the Spanish. Key luminaries of the period, such as Lewis Mumford, Ernest Flagg, George B. Ford, and John Nolen, contributed articles on their respective fields (Halbert 1931).

The Army was well aware of contemporary trends in residential design. Army leaders heeded the expert advice of civilian design professionals, including George B. Ford, who consulted on the design and layout of new Army family housing neighborhoods. In addition, the Army adopted the same architectural styles and housing forms that were promoted in *The Better Homes Manal*.

The promotion of home ownership was the singular purpose of the manual, with the benefits of the single-family house, or "the most important dwelling" permeating the document. Single-family home ownership was promoted throughout the manual for its ability to encourage cooperative social living and good citizenship (Halbert 1931:195). The construction of all other types of housing were necessary evils. While recognizing the demand for multi-family units, the manual cautioned:

> This demand must be met, but because these socially inferior types of dwellings with their possibilities of land overcrowding and cramped living quarters can underlive the one-family house and drive it out, just as Oriental labor can underlive and drive out white labor, it must be restricted to certain specified sections of the community and may be strictly regulated so that it will provide

> the essentials of wholesome living –light, air, room-space, sanitation—for its inhabitants (Halbert 1931:655).

Hoover, as president, asserted that families that sacrificed and saved had an inherent right to home ownership (Rothstein 2017:61). In this manner, home ownership achieved government sanction as the symbol of the American dream.

Positive social benefits were attributed to single-family home ownership. By contrast, all forms of multi-family housing units ranging from boarding houses, to duplexes, and multi-family apartment buildings, be they existing or proposed new construction, were maligned. Several of the manual's contributors almost exclusively attributed real estate speculation as the reason for the construction of multi-unit buildings. While this certainly may have been true where land values were high, the authors neglected to consider other causes for their proliferation in select communities.

However, not all design professionals were enamored with the small house movement. Planner Thomas Adams criticized the small house for its wastefulness. The bungalow, in particular, was singled out for its inefficiency. While he praised the bungalow for its efficiency in terms of plan (he likened it to an apartment), he highlighted several inefficiencies in terms of siting and construction. He specifically had concerns about the bungalow's relatively high cost of heating when compared to other housing types (R. Christopher Goodwin & Associates, Inc. 2019:VII-310).

With the exception of major cities such as Chicago and New York, where a tradition of constructing apartment buildings was more common, the construction of new multi-family housing was strongly discouraged. A variety of negative attributes were ascribed to such buildings, with multiple experts blaming speculators for their construction. Apartment buildings, even those of the "model" class could not meet the needs of children, with their lack of yards or access to nature, light, and sunshine (Halbert 1931:195). In his essay for the *Better Homes Manual*, James Ford, Director of the Better Homes in America, listed the deficiencies with multi-unit dwellings. In addition to inadequacies in siting, fireproofing, a lack of privacy, apartments created crowding "caused by shortage of housing, poverty or ignorant racial habit" (Halbert 1931:617). What remained unclear in the *Better Homes Manual* was how single-family homeownership was going to meet the demand for housing, address

the social ills attributed to high-density urban living, or offer opportunities to racial and ethnic minorities who experienced housing discrimination.

In terms of how speculation factored into the construction of houses, it "played a great part in destroying them, in blighting whole sections of our cities. . . From the one-family house which used to universal it has led us to the multi-family house. . . These multi-family dwellings are popularly supposed to have investment value. . . From the social point of view its destructive effect upon family life is a matter of concern" (Halbert 1931:653).

Despite its bias towards single-family home ownership, the *Better Homes Manual* highlighted three apartment buildings projects, two for African Americans and one for working class Whites. The Amalgamated Clothing Workers project consisted of a cooperative housing project in New York City for White union members. Two projects were completed: one in 1927 and the second the following year. The projects provided 511 units, with rents ranging from $11 per room per month to $12.50 per room per month (Halbert 1931:727). Amalgamated's workers' union formed a cooperation to finance and develop the project, which consisted of five-story walk-up apartments spread among six buildings. Purchase of the units extended to all union employees in the city. Prospective buyers paid $500 per room in return for stock in the Amalgamated Clothing Workers Corporation that was equal to the amount of the purchase; residents then paid the aforementioned monthly rent (Halbert 1931:728). Those unable to afford the down payment could obtain 10-year loans through the Amalgamated Bank or the Amalgamated Workers Credit Union. At the end of the loan period, the resident owned his unit outright. Subleasing of units was prohibited and prospective residents were interviewed by the stockholders' membership committee before being admitted into the cooperative (Halbert 1931:727,728).

The Architects' Small House Service Bureau

The Architects' Small House Service Bureau of the United States, Inc. was an organization of architects from the country's leading architectural firms. The Bureau was "controlled" by the American Institute of Architects and "endorsed" by the U.S. Chamber of Commerce. It produced plans for three, four, five, and six-room houses, and was the only housing bureau to do so (Halbert 1931:182). The Bureau provided "many of the privileges of architectural service at a price within the reach of all"

(Halbert 1931:183). It did not provide any plans for duplexes or apartment buildings; the services were strictly limited to stock plans for single-family residences of not more than six principal rooms (Halbert 1931:187).

Between 1919 and 1934, the organization published plans and articles about residential construction, which were presented in a monthly magazine, *The Small Home*, and in plan books, including *Your Future Home, How to Plan, Finance, and Build Your Home*, among others (Tucker 2008). The Bureau established regional offices across the country to assist future home owners, with each region publishing its own version of *Your Future Home* (Architects' Small House Service Bureau 1922). In the upper Midwest, it teamed with the lumber industry to help promote its designs. Weyerhaeuser Forest Products published a regional version of *Your Future Home*.

Unlike the mail-order catalogue like Sears and Aladdin, the Architects' Small House Service Bureau furnished only the plans; materials were not included. The cost of plans ranged from $15 to $35, with the majority costing $25.50 or $30.50. Additional documents, such as blueprints, specifications, surveys, and agreements each cost extra (Architects' Small House Service Bureau 1922; Weyerhaeuser Forest Products 1923:164).

To be clear, many of the houses designed by the Bureau were very small, with some featuring only three rooms: kitchen, living room, and one bedroom contained in just under 13,000 cubic feet on one floor (Figures 6.7 and 6.8). Many of the designs had similar square footage as found in urban apartments. The basement housed the laundry room. A larger, two-story, house could feature three bedrooms, in addition to the dining room, living, room, and kitchen in 22,084 cubic feet. The laundry room and billiard room were contained in the basement (Figures 6.9 and 6.10). Drawings included landscaping, and as an acknowledgement to the growing importance of the automobile, garages.

Housing Units Created during the 1920s

The Bureau of Labor Statistics undertook a survey of permits issued for new construction in 319 cities across the country in 1928. A total of 385,429 permits were issued, of which 47.2 per cent (n = 181,989) were for residential construction and 52.8 per cent (n = 203,440) were for nonresidential

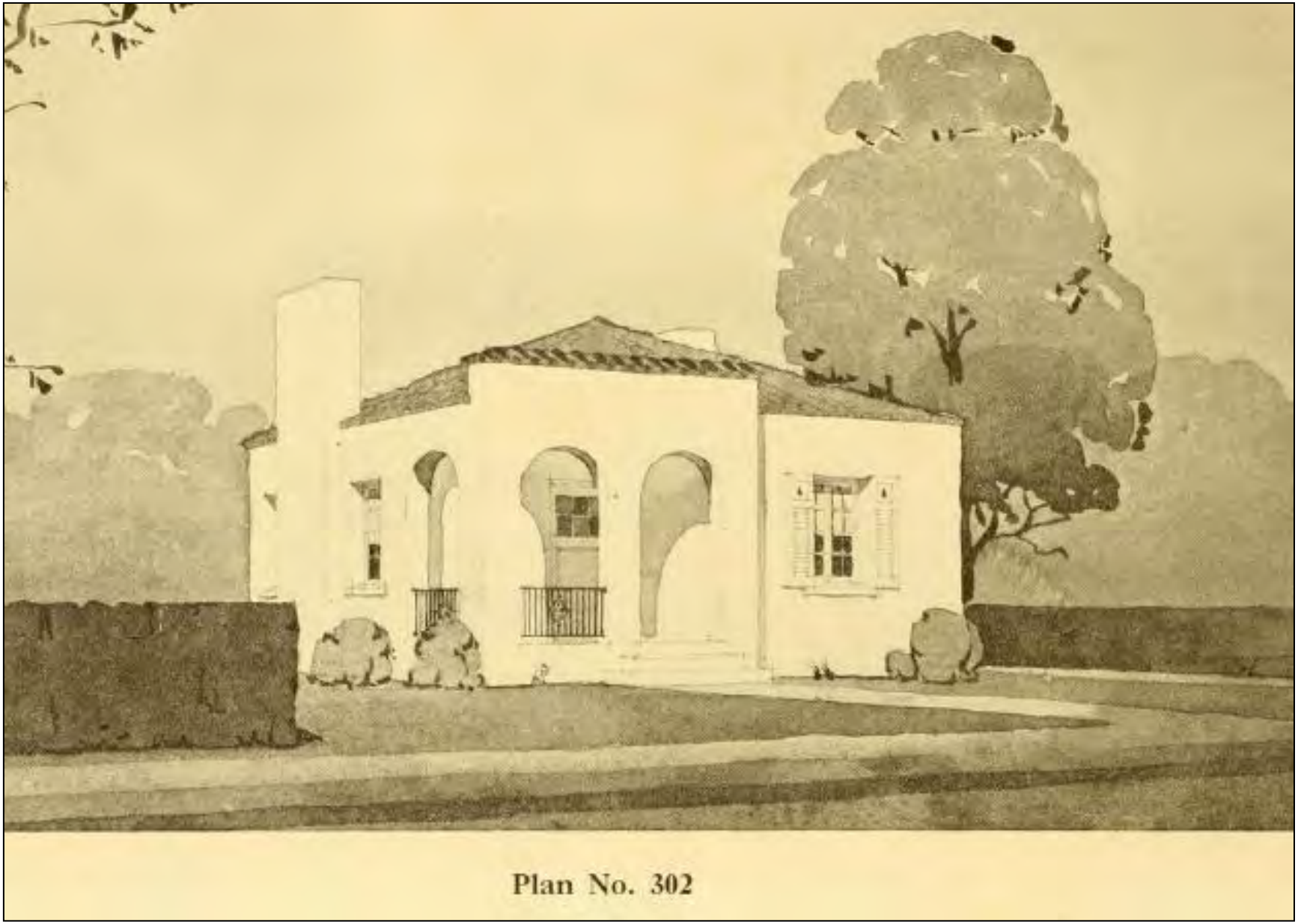


Figure 6.7. Elevation No. 302 (Source: Architects' Small House Service Bureau 1922).

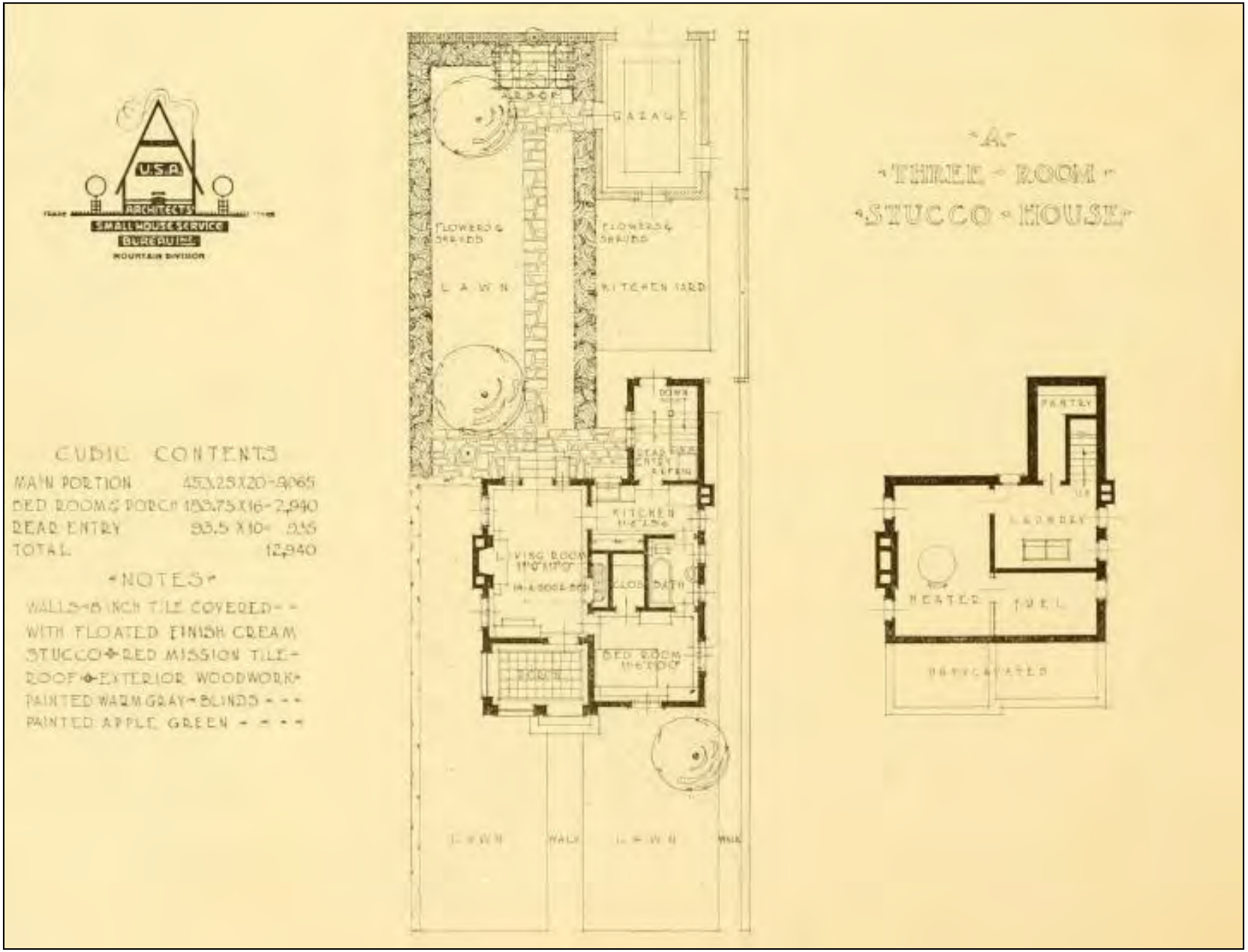


Figure 6.8. Plan No. 302 (Source: Architects' Small House Service Bureau 1922).

Figure 6.9. Elevation No. 601 (Source: Architects' Small House Service Bureau 1922).

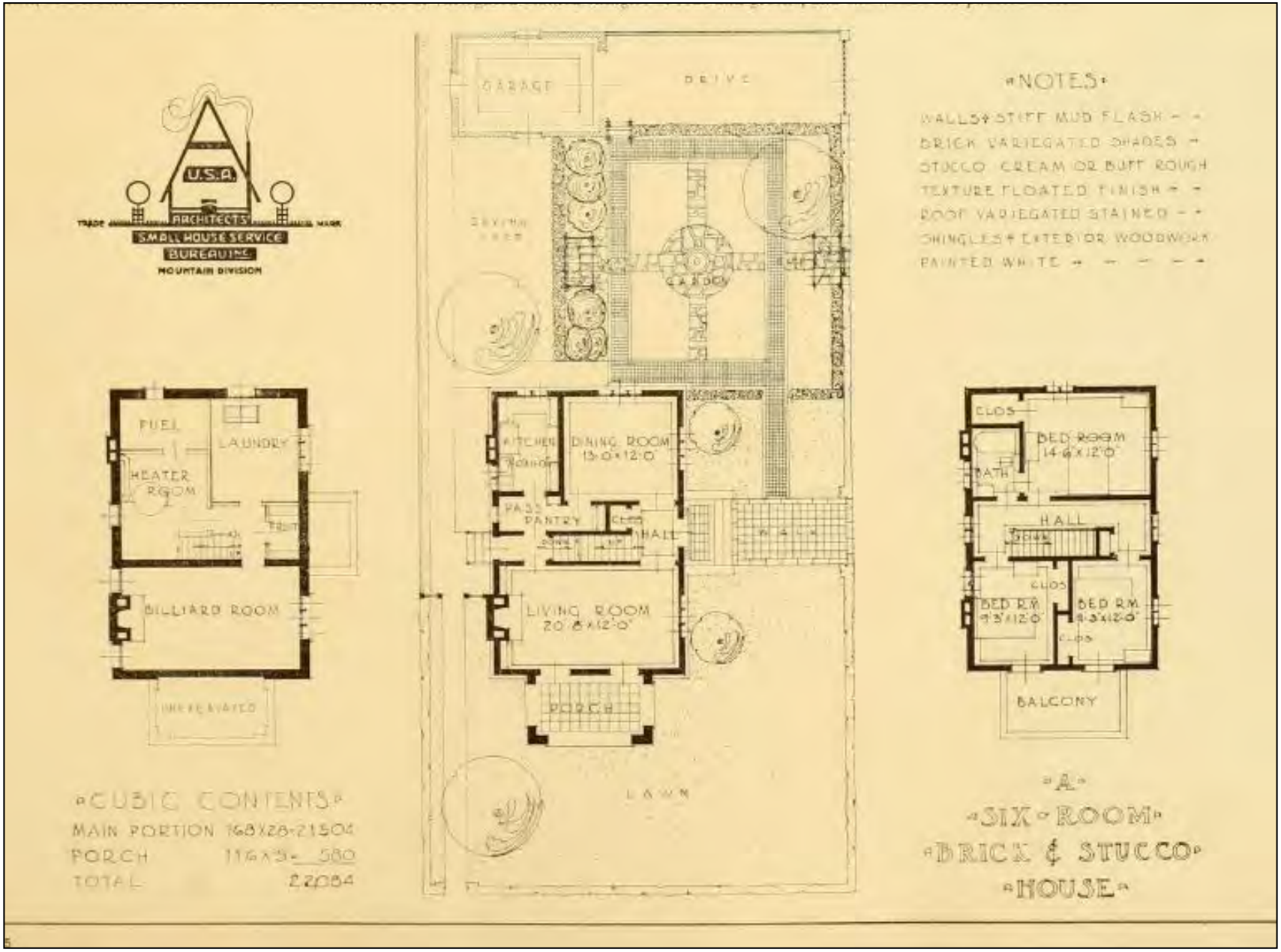


Figure 6.10. Plan No. 601 (Source: Architects' Small House Service Bureau 1922).

buildings. In terms of residential building construction, 145,322 permits were issued for single-family houses. This figure represented 37.7 per cent of the total number of new building permits and 79.8 per cent of the total of new residential building issued. Two-family dwellings were the second most common type of residential buildings for which building permits were issued; however, this building type comprised only 5.2 per cent of the total number of new permits. Private garages represented the largest number of nonresidential buildings for which permits were issued. Over 40 per cent of nonresidential building permits were issued for this building type (United States Department of Labor 1929:142). The large number of garages that were constructed is a testament to the influence the automobile by then had in American culture.

Even though single-family housing contributed a significant percentage to new building permits in 1928, those figures represented a decline from the previous year. Over 20,000 more residential dwelling units were constructed in 1927 than in 1928. This decrease in the number of units resulted in a decline in the number of families who had access to single-family housing. By contrast, the number of permits issued for multi-family apartment housing increased during the same time period. The Bureau of Labor Statistics did not provide an explanation for these changes (United States Department of Labor 1929:144). Figure 6.11 tabulates the number and percentage of families provided for various classes of housing.

As Figure 6.11 illustrates, the construction of single-family and two-family housing as reflected in building permits issued peaked between 1923 and 1925, while multi-family housing construction fluctuated. In 1926, the number of single-family housing units declined to 188,074, from a high of 226,159 the year before. A similar trend occurred with the number of two-family housing. More than 86,000 two-family units were constructed in 1925, but only 64,298 had been constructed in 1926. As the construction of single-family and two-family units declined between 1925 and 1926, the opposite was true for the construction of multi-family apartment buildings. Those units increased from 178,918 in 1925 to 209,842 in 1926 (United States Department of Labor 1929:144). These figures represent the overall real estate bubble and unstable real estate market that characterized the period.

The percentage of families provided with single-family housing reached a peak of 58.3 per cent in1921. That percentage declined each year between 1922 and 1928, when the percentage reached

TABLE 3.—NUMBER AND PER CENT OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF DWELLINGS IN 257 IDENTICAL CITIES, 1921 TO 1928, INCLUSIVE

Year	Number of families provided for in—				Per cent of families provided for in—		
	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]	All classes of dwellings	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]
1921	130, 873	38, 858	54, 814	224, 545	58. 3	17. 3	24. 4
1922	179, 364	80, 252	117, 689	377, 305	47. 5	21. 3	31. 2
1923	207, 632	96, 344	149, 697	453, 673	45. 8	21. 2	33. 0
1924	210, 818	95, 019	137, 082	442, 919	47. 6	21. 5	30. 9
1925	226, 159	86, 145	178, 918	491, 222	46. 0	17. 5	36. 4
1926	188, 074	64, 298	209, 842	462, 214	40. 7	13. 9	45. 4
1927	155, 512	54, 320	196, 263	406, 095	38. 3	13. 4	48. 3
1928	136, 907	43, 098	208, 673	388, 678	35. 2	11. 1	53. 7

[1] Includes 1-family and 2-family dwellings with stores combined.
[2] Includes multifamily dwellings with stores combined.

Figure 6.11. Number and Percentage of Families Provided by Class of Housing (Source: Department of Labor 1929:144).

a low of 35.2 per cent, even though the number of single-family housing units constructed were nearly the same in 1921 (n = 130,873) and in 1928 (n = 136,907). The percentage of families served by two-family housing units declined significantly from over 21 per cent in 1922, 1923, and 1924 to just over 11 per cent in 1928. Multi-family dwellings were the only housing type to increase the percentage of families they served, growing from 24.4 per cent in 1921 to 53.7 per cent in 1928 (United States Department of Labor 1929:144).

Army Installation Planning and Architectural Design Between 1926 and 1940

In 1926, the Congress enacted Public Law No. 45 that authorized the establishment of the Military Post Construction Fund to fund the construction of housing for Army officers, NCOs, and enlisted personnel. The Construction Service of the Quartermaster Corps was involved in planning for the program and charged with implementing the program between 1926 and 1940. The goal of the Army housing program was to build comfortable quarters for officers and NCOs that reflected an appropriate design ethic and were buildable within the cost limitations set by Congress (Chambers 1928:24).

Under Major Cheatham, Quartermaster General between 1926 and 1930, the Army relied both on officers with professional architecture and engineering backgrounds within the Quartermaster Corps,

civilian employees, and civilian consultants to merge the military tradition with contemporary principles of city planning and landscape design in use in the civilian sector (USACE Seattle 1997:55). The military tradition was to construct barracks, officer housing, and NCO housing in regimental units to strengthen the unity of command within the regiments. In contrast, adopting contemporary city planning principles meant incorporating aesthetically pleasing environments that contained vistas, axes, and irregular lines into typically regimented and stratified installation plans (USACE Seattle 1997:55). Army professionals in the Quartermaster Corps were fully conversant with the trends in house design and city planning in the civilian arena and incorporated those ideas into planning Army installations and the architectural designs for housing.

This section presents a discussion of installation planning as practiced in the development of Inter-War Era Army installations and the evolution standardized house plans designed for the Army housing program. Army planners realized that city planning principles should be incorporated into development plans for the large installations under construction or expanded during the period. In housing, the Army adopted compact architectural designs that related to the local architecture and the local climate.

Installation Planning

As the Army faced the task of expanding existing permanent installations and new installations that now resembled small cities, the Quartermaster Corps undertook a comprehensive approach to planning and design of facilities. The Quartermaster Corps had talented military professionals with architectural and engineering degrees and augmented their expertise through employing hired civilian talent. The Army also consulted with civilian architects and city planners to guide them in the emerging field of urban planning. Thus, the Army adopted contemporary theories about urban planning and design from the civilian sphere to plan military installations.

Installation planning was critical to the implementation of the Inter-War Era Army housing program. The installation plan served two purposes. The plan established the overall organization of the installation through the placement of functional areas to create a cohesive environment. A comprehensive plan also provided guidance for determining locations for future construction. Accurate and up-to-

date installation plans were imperative to allow the placement new buildings during the multi-year building program (Nurse 1928:14; Lamb 1938:25).

In order to understand how the installation plan changed during the Inter-War Era, a brief discussion on the design and layout of nineteenth century posts is provided. The nineteenth-century Army post accommodated at most two companies (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 1:8). A company of men in the Civil War numbered 100 when at full strength (North Carolina Museum of History n.d.). The traditional post plan was laid out with buildings grouped around a parade ground. The barracks were sited along one side of the parade ground; the officer housing was placed along the opposite side of the parade ground (USACE Seattle District 1997:36). The administration building was placed at one end of the parade ground. NCO housing, support buildings, warehouses, and utilities typically were separated geographically from the main parade area (R. Christopher Goodwin & Associates, Inc. 1995 Vol. I:154). A classic example of a frontier post is the Old Post at Fort Sill, Oklahoma.

During the late nineteenth and early twentieth centuries, military planners concentrated troops into larger installations. In these cases, an installation was expanded either by enlarging the parade ground to maintain the relative positions of officer housing and enlisted barracks, or by building a second parade ground nearby. The plan of Fort Bliss, Texas, exemplifies a parade ground that was extended to accommodate additional troops (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:36). The plans of Fort Sill, Oklahoma, and Fort Riley, Kansas, exhibit the pattern of adding additional parade grounds. At Fort Sill, the Old Post was left intact when additional artillery troops arrived in the early twentieth century. A second, larger, parade ground was established west of the Old Post. The second parade ground was lined with barracks on one side and officer housing on the other side (R. Christopher Goodwin & Associates, Inc. 1995 Vol.3:142). At Fort Riley, when the artillery joined the cavalry during the late nineteenth century, a separate artillery area complete with parade ground, housing, and barracks was established adjacent to the cavalry area. The plan for Fort Sam Houston, Texas has both separate parade grounds and the subsequent expansion of a parade ground area as the number of personnel assigned to the garrison expanded (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:135-136).

By the Inter-War Era, the traditional Army layout became unworkable due to the large numbers of personnel stationed at the installations established and/or expanded at this time. Military installations had become the size of small cities. The challenge for Construction Division planners was to develop efficient, cohesive, and pleasant environments within reasonable expenditures (Grashof Vol. 1 1986:47).

Quartermaster Corps officer First Lieutenant Howard B. Nurse argued that the future of installation planning depended upon the systematic application of the principles derived from city planning (Nurse 1928:14-16). Nurse was a trained architect and construction engineer. He had worked as an architect in Rochester, New York, specializing in residential and apartment designs. Nurse joined the Construction Division during World War I and subsequently transferred to the Quartermaster Corps (*Who's Who in the Construction Division* 1920:171). In 1928, Nurse wrote, "The planning and developing [of an installation] must take such form as will secure the healthful conditions, promote the scientific training of troops, and also furnish the means of social intercourse." To achieve these ends, Nurse recommended a comprehensive plan for installation growth. He explained five urban planning principles: (1) unity, or the coordination of the various parts; (2) consonance in design of recurring patterns; (3) natural beauty, even while accepting natural differences in designs; (4) balance, usually along an axis; and (5) radiation, whereby parts of a community radiate from the center and return. He found parallels for these principles in examples of natural design, and even compared the military community to a living organism. Nurse advocated using topography in the design and layout of streets, avoiding straight lines, especially in residential areas (Nurse 1928:14-16).

George B. Ford (1879-1930), an internationally known urban planner, provided guidance on and reviewed installation plans. He had final approval over the placement of new buildings proposed for construction on the approved installation plans (Bash 1929:11). In a 1929 article in *The Quartermaster Review,* Ford explained that the goal of his consulting work with the Construction Division was to combine efficient, workable plans and planning concepts used in the City Beautiful and Garden City movements. Although Ford praised the efficiency of design of traditional military posts, he criticized the use of straight lines in a post design. "However, it has been a well-known tradition of the Army in the past that whereas Army buildings and layouts must be practical, nevertheless they should look

military. There seemed to be a feeling that any building or layout that was not foursquare and austere was effeminate and unworthy of the Army." Ford believed that a post design should be harmonious with the natural surroundings, while simultaneously offering a unity of design and utility. He advocated creating useful and aesthetically pleasing environments by incorporating the concepts of vistas, axes, and irregular lines (Ford 1929:19).

A landscape professional working in the Construction Division, E. Mack Hallauer, explained that the way to view an installation was as a small city, where distinct, hierarchical areas included residential areas, industrial areas (i.e., shops, warehouses, railroad spurs, heating plants, etc.), administrative areas, community services (i.e., hospital, fire station, chapel, post exchange, service clubs), and recreation areas (i.e., gymnasium, theater, recreational facilities). The residential areas were subdivided into officer family housing ("executive living area"), NCO family housing ("office workers area"), and housing areas for enlisted men ("the industrial living area") (Hallauer 1939:28-31). Hallauer stated that a good installation plan must be governed by a concern for unity among the features, practicality for the inhabitants of the post, and an "interesting simplicity" in creating a good design. The goal of an installation plan is "to achieve unity of the layout, tying in or uniting all subordinate areas into a harmoniously merged unit" (Hallauer 1939:28-39).

Army planners applied these master planning concepts at both established and new installations to design functional, hierarchical arrangements of buildings and open space to allow the ordered development of these expanded posts. George B. Ford identified how city planning principals were applied to the installation plans Fort Sam Houston, Texas; Fort Lewis, Washington; and Fort Benning, Georgia. At Fort Sam Houston, Texas, new development was located in an area north and east of the existing installation. The parade ground was expanded into a large winding swath of ground that separated the barracks on one side from the new officer housing on the opposite side. While some officer housing faced the parade ground, most officer housing was placed along streets parallel to the parade ground. Ford noted with approval that the "old Spanish treatment" for the architecture of the housing harmonized with the architecture of the older sections of the installation (Ford 1929:21; R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:139).

The plan for the new permanent construction at Fort Lewis, Washington, one of the former World War I mobilization camps, also used a parade ground as an element of beauty and a natural vista. The parade ground separated the officer housing area from the barracks. The housing for the commanding officer and staff officers was placed in a semi-circle at one end of the parade ground so these officers could "look directly down its axis to the glorious mountain [Mount Rainier] in the distance" (Ford 1929:21). The officer housing located in the Broadmoor neighborhood southwest of the parade ground was arranged as a suburban neighborhood. No officer housing fronted onto the parade ground. Instead, the houses were arranged along curvilinear streets and set in large yards. Open spaces were distributed throughout the neighborhood. Plans also included the placement of single and groups of trees, such as Douglas fir and Norway spruce (USACE Seattle District 1997:55-56) (Figure 6.12). The NCO officer housing neighborhood was placed on the north side of the parade ground along U-shaped streets (Figure 6.13).

Fort Benning, Georgia, another World War I temporary training camp, presented other planning issues. The installation plan at Fort Benning represented a period of transition from a temporary camp into a permanent installation. Construction of permanent officer and NCO housing and a few other permanent buildings had occurred during the early 1920s following an installation plan prepared in 1924 (Robinson Fisher Associates 1987:14). As George Ford recalled, "the permanent buildings seem to be scattered at random all over the post" (Ford 1929:21). In the installation plan proposed by Ford, the NCO housing remained a separate neighborhood with individual houses placed along looping roads. The existing officer housing also remained a separate neighborhood with houses aligned along a horseshoe-shaped loop road. Additional officer housing required at the installation was planned to be dispersed in smaller neighborhoods near the existing officer house and sited along the hillcrests north and east of the parade ground (Ford 1929:21). The whole officer housing area was tied together through curving narrow residential streets for individual neighborhoods that were linked to a wide boulevard fronting onto the parade ground (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:33). The additional housing units constructed at Fort Benning were in the Spanish Colonial Revival style (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:30).

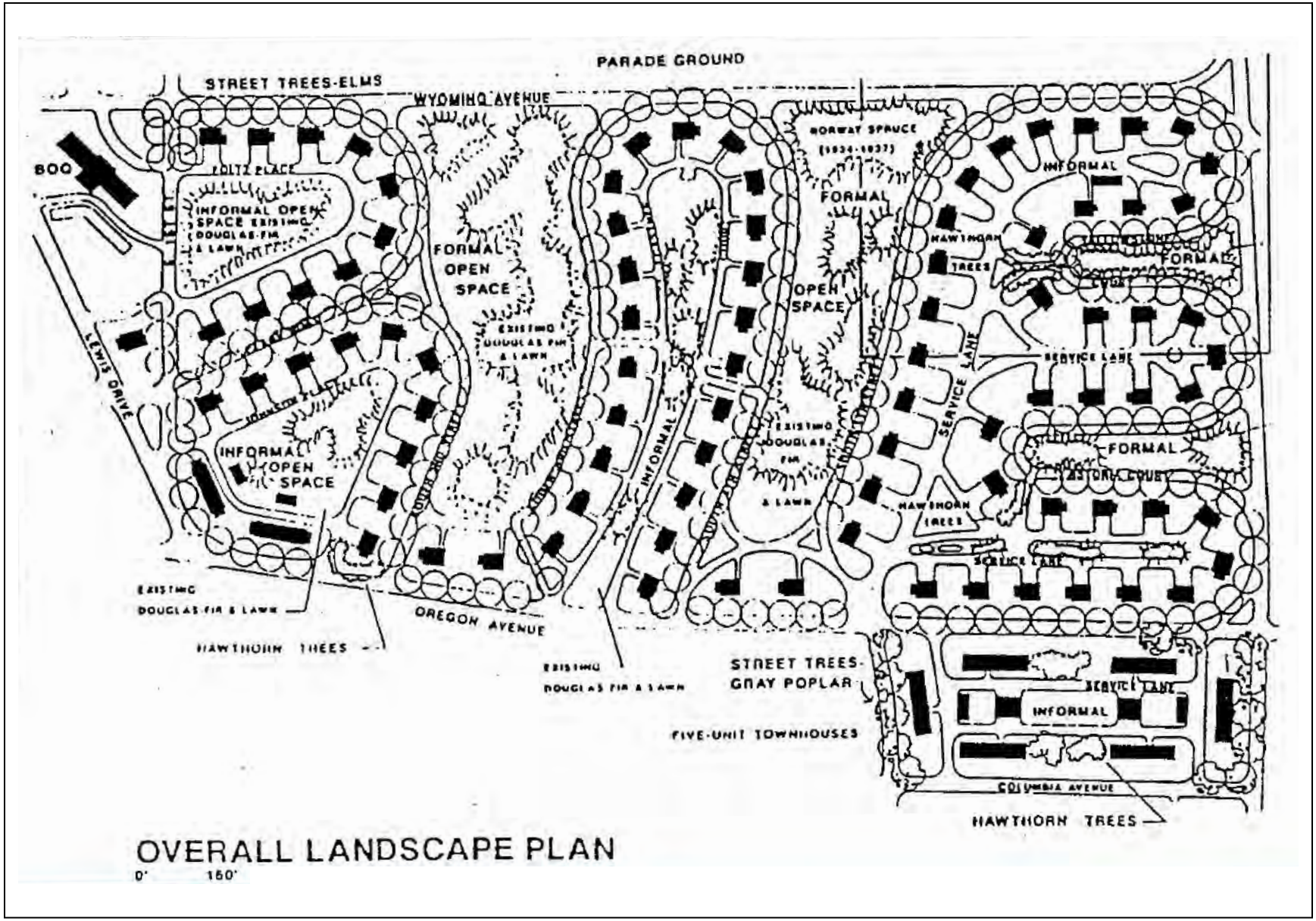


Figure 6.12. Plan of Broadmoor neighborhood for company officer housing located south of parade ground, Fort Lewis, Washington (Source: USACE Seattle District 1997:56).

Figure 6.13. Aerial photograph of Greenwood neighborhood showing one-story and one-and-a-half story NCO housing in foreground on right of image, Fort Lewis, Washington (Source: U.S. Department of the Army 2021).

New construction of officer and NCO housing at other installations was sited to harmonize with the existing plan. At Fort Sill, Oklahoma, new officer housing was sited in a separate neighborhood at the east end of the early twentieth century parade ground. The officer housing neighborhood combined straight streets with shorter curved streets. The NCO neighborhood was sited near the west end of the parade ground along straight streets (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:147). At Fort Riley, Kansas, the two nineteenth-century parade grounds remained intact. The officer and NCO housing constructed during the Inter-War Era was placed in separate groups in areas outside, but adjacent to the main post area (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:131).

Thus, the principles of the urban planning and suburban neighborhood design as articulated by Nurse, Hallauer, and Ford were applied to Army installation plans developed and/or expanded during the Army housing construction program between 1926 and 1940. Post planners encouraged the or-

ganization of the installation along functional activities. Parade grounds often continued to serve as the nuclei of installation plans and became both operational areas and visual landscape elements by providing axes to link areas of the installations (Hallauer 1939:29). Planners encouraged the maximum use of open space near public areas, and emphasis was placed on designing boulevards and vistas (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 1:208). Officer housing was grouped into neighborhoods that featured curvilinear streets, generous spacing between houses, and formal open spaces. NCO housing neighborhoods also were designed with space between houses and some curvilinear streets (USACE Seattle District 1997:55-57).

Formal landscaping also was encouraged. By 1931, the Landscape Unit in the Planning Branch in the Construction Division formulated design criteria appropriate for landscaping military posts in different regions of the U.S. Recommendations were made about general planting design principles, such as using trees and shrubs for vegetative screening and planting trees to shade houses to ameliorate climate conditions (Hallauer 1939:28-31). Plans for standardized landscape treatments to accompany standardized house plans were issued in 1933-1934. The plans emphasized landscaping around building foundations and placement of trees. The Landscape Unit also provided recommendations of plants and their care when requested (USACE Seattle District 1997:57-61).

Writing in 1939, Hallauer summed up the progress with respect to installation planning and noted with approval:

> Layouts indicate an effort toward adherence to the principles of design and planning…Standards road widths, set-back and economical spacing of building, walk locations, spacing and location of street trees, etc., have been adopted… Community areas within the blocks of quarters have been encouraged – allowing spaces for group garages, play areas for children and general recreational areas for all concerned in these blocks. Garages and objectionable views are screened from view by shrub planting while trees provide for shade (Hallauer 1939:30).

Architectural Styles and Housing Types

During the Inter-War Era, the Army provided family housing to married commissioned officers and married NCOs in the three highest grades (Grashof Vol. 1 1986:i, 9-11). The Army's housing policy was to build family housing that reflected both the stratified hierarchy of military rank, and equal treat-

ment within the same military rank. Typically, the largest house on an installation was assigned to the post commander or to the highest-ranking officer in residence at the installation. Field officers above captain typically were assigned larger houses than captains and lower-ranked commissioned officers. NCOs were assigned smaller quarters than commissioned officers. The stratification of housing by military rank was equivalent to the housing of executives and office workers in the civilian market (Hallauer 1939:28-31).

The Army officer and NCO family housing constructed from 1926 through 1940 is recognizable by the architectural styles, the two-story massing, building materials, and the widespread use of standardized plans. As in the civilian market, the Quartermaster Corps preferred to construct single family housing, though duplex and multi-unit housing was constructed in lesser numbers. The architectural styles typically chosen for Army housing during the Inter-War Era were the Spanish Colonial Revival and Colonial Revival styles popular in the civilian housing market. The new housing, though, had to comply with strict cost limitations imposed by the Congress, which encouraged efficiency both in design and in construction as discussed below.

When planning for the permanent Army housing program, the Construction Division of the Quartermaster Corps took the opportunity to redesign and to produce a series of new standardized plans for Army family housing. The goal of the Army's Inter-War Era permanent housing program was to provide "comfortable quarters for the families" (Chambers 1928:24). The preference for single-family houses was determined after Army wives rejected the idea of apartment living (Chambers 1928:25). The single-family house was the primary house choice in the civilian market and was promoted by magazines and professional influencers. The general tenor of the magazines was to disparage multi-family housing and apartments. In 1926, the Army's definition of a comfortable house for the mid-ranking company officer became a single-family house containing three bedrooms, one bath, a dining room, a sitting room, and a kitchen similar to the civilian market (U.S. House of Representatives 1926:30-31).

While many civilian houses were constructed of wood-frame with wood cladding, the Army required the use of fireproof materials for housing construction to avoid fires that were common in the World War I temporary wood-frame buildings and to reduce maintenance costs. Thus, new quarters were constructed using permanent materials, such as concrete, concrete block, hollow clay tile, stucco,

or brick for exterior walls, and tile or slate for the roofs. “We do not want to go and build a wooden house, especially when it contains less accommodations than we feel it ought to have, and we do not want to build them anyway, on account of the upkeep,” Colonel Casey, Quartermaster Corps, testified before Congress in 1926 (U.S. House of Representatives 1926:31).

Control of costs also was a factor that contributed to the design of the new standardized house plans. In 1926, the Quartermaster General requested Congress to raise the approved cost limits for two types of officer housing: $12,500 for company officer housing, i.e., captains and lower rank officers, and $14,500 for officers above the rank of captain (U.S. House of Representatives 1926:6, 30-31). The Army argued that it was impossible to procure a “suitable house, that is, a house of permanent, fire-resisting construction, of the minimum of accommodation we feel we can put a man into, for less than those estimated limitations” (U.S. House of Representatives 1926:30). The Quartermaster Corps also reported that construction costs had risen 110 per cent over 1909 construction costs which was the basis for the cost limits then in effect (U.S. House of Representatives 1926:32). In 1928, Congress approved the increased cost limits for the two types of officer housing. The NCO quarters had no set cost limits, but the Secretary of War set an administrative limit of $6,000 or $7,000 per quarters (Bash 1929:13; “Housing the Army” 1931:13-14). The cost limits also had to include the provision of utilities, such as sewer and water connections, and, in some cases, roads, sidewalks, and grading (“Housing the Army” 1931:14).

Standardized plans also provided a way to control the overall design program for the nationwide Army housing construction program. The Quartermaster Corps had used standardized plans since the second half of the nineteenth century. Standardized house plans could be replicated on a single installation and reused again or adapted for other installations. By 1928, Cheatham told Congress that the Quartermaster Corps office had prepared sufficient “plans, …which are suitable for almost any section of the country. Instead of having to delay and having to get a big working force of architects and draftsmen, we are now, on comparatively short notice, able to carry out the building program here presented” [1928] (U.S. House of Representatives 1928:37). The standardized house plans were particularly useful during the 1930s when the PWA and WPA funding for permanent construction was at its highest level.

The development of the house plans and architectural styles benefitted from consulting civilian architects employed by the Secretary of War. The role of the civilian architectural advisors was to review and approve floor plans and elevations for new housing construction (Bash 1929:11). The Quartermaster General requested recommendations for architectural consultants from the AIA. As Major General Cheatham explained, the Army wanted to ensure that the housing designs were "in keeping with the best architectural practices" (Secretary of War *Annual Report* 1926:36; U.S. House of Representatives 1926:23). Two architectural advisors have been documented to date: William A. Delano (1874-1960) of Delano and Aldrich, New York City and Arthur Loomis Harmon (1878-1958), a partner in the firm of Shreve, Lamb & Harmon of New York City (Cooke 2001:51; U.S. House of Representatives 1928:40; Withey 1970:552).

The architectural styles selected for the Army housing program beginning in 1926 were drawn from U.S. architectural history. The styles reflected the "national character" and were familiar to the majority of people (Wheaton 1928:11). The Quartermaster Corps promoted two architectural styles: the Colonial Revival, called "Georgian", on the Atlantic seaboard and "Spanish Mission", i.e., Spanish Colonial Revival, in the Southwest (Wheaton 1928:11). "Both of these styles were brought over by the original founders of the settlements in those respective sections, and, while they maintain a major popularity in their original zones, they have spread throughout the central and western states until they have covered the land" (Wheaton 1928:11). One advantage of choosing these styles for the appropriate locations was that construction could be accomplished using local materials and methods (Wheaton 1928:13). Both styles also were popular in the civilian housing market as evidenced in house catalogs and popular literature.

The Colonial and Spanish Colonial Revival styles were not unknown by the Quartermaster Corps. Examples of early versions of both architectural styles were located in the Quartermaster Corps standardized plans for the period 1890-1917 (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 1:181, 183, 185). The Colonial Revival style building constructed prior to World War I often was two-and-a-half stories with brick walls and featuring such elements as front facing gables, sometimes fully pedimented or with broken pediments; denticulated wood cornices; and brick segmental arches over windows. In some cases, front gables contained tripartite windows (Grashof Vol. 4:148-153A). One

early use of the Spanish Colonial style was at Fort Sill, Oklahoma, when the second parade ground was constructed. Elements used in the pre-World War I Spanish Colonial style were stuccoed exterior walls, red tile roofs, and graceful curved gables (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 3:142). The early use by the Quartermaster Corps these revival styles represented a transitional period from the Victorian house forms to the simpler revival styles.

As explained by Lieutenant Colonel Wheaton, the use of the Colonial and Spanish Revival styles was linked to the area of the U.S. where they were planned for construction. Yet there was room for subtle variations to be incorporated into the design. The expression of the Colonial Revival style in New England was different from that found in the Mid-Atlantic states (Wheaton 1928:13). For example, a Dutch Colonial Revival was planned for construction in New York, while a "Mount Vernon" style for officer quarters was planned and constructed at Fort Belvoir, Virginia. The style was linked to Mount Vernon because the house had both an entrance front and a garden front (Grashof Vol. 1:49). The Spanish Colonial Revival also was planned to allow for regional variations. The Spanish Colonial Revival planned for Fort Sam Houston, Texas was designed to reflect the Spanish missions in Texas. The Spanish Mission style planned for California reflected the missions found in that state (Wheaton 1928:12).

As originally proposed, the Georgian Colonial Revival style was planned installations located in New England and southward to Fort Monroe, Virginia (Wheaton 1928:11). The area from Langley Air Force Base, Virginia south to Fort McClellan, Alabama, was planned to receive stucco buildings and tile roofs based on what had been constructed at Langley Air Force Base. No architectural style was ascribed to the stucco and tile buildings. Spanish Colonial Revival style was planned to be constructed in Texas and along the southern border to California. In the "northern, central and northwestern parts of the country[,] the architecture at the separate posts has been governed by the type already existing at those posts" ("Housing the Army" 1931:13).

As constructed, installations where the Colonial Revival style appears are Fort Belvoir and Fort Myer, Virginia; Aberdeen Proving Ground and Fort Meade, Maryland; Fort Lewis, Washington; Carlisle Barracks, Pennsylvania; Fort Knox, Kentucky; and Fort Riley, Kansas. The Colonial Revival style was typically built in brick or stone with slate roofs. The Spanish Colonial Revival style originally meant for use

only in Texas and California in actuality was also constructed in the South (i.e., North Carolina and Georgia), the Western Plains and the Southwest. The Spanish Colonial Revival style appears at Fort Bragg, North Carolina; Fort Sill, Oklahoma; Fort Sam Houston and Fort Bliss, Texas; and Fort Benning, Georgia. Predominant materials included hollow clay tile finished with stucco and ceramic roof tiles. Other regional designs included French Provincial in the Gulf States such as Louisiana and Alabama, and the English Tudor Revival style at select Air Corps installations (R. Christopher Goodwin & Associates, Inc. 1995 Vol. 1:208; USACE Seattle District 1997:48; "Housing the Army" 1931:13).

As designed, the family housing expressed the architectural style through materials and exterior finishes and ornamentation. The most elaborate ornamentation was reserved for the commanding officer's house, while NCO quarters typically exhibited minimal ornamentation. An example of the Georgian Colonial Revival style is company officer housing in Belvoir Village at Fort Belvoir, Virginia. Constructed in 1934-1935, each officer quarters is a red brick, two-story house with a five-bay symmetrical façade with a side gable roof. The dwelling incorporates many of the style's character-defining features. These features include dormer windows on the roof; a door surround; and one-story, flat-roofed, brick side wings (Figure 6.14). The houses in the neighborhood exhibited variations in the treatment of the entry doors with flush pedimented or arched door surrounds with supporting pilasters or Tuscan columns (Peeler 2010:11-12). The company officer quarters constructed at Fort Belvoir contained a large living room, a dining room, kitchen, entrance hall, and a maid's room with bath on the first floor. The second floor contained a master bedroom, dressing room and bathroom, two bedrooms, and a second bathroom. The attic had a floor for extra storage, while the basement contained the furnace room, laundry and storeroom. The one-story wings contained a garage on the kitchen side and sun porch off the living room (Pitz 1936:8, 13). Field officer quarters at Fort Belvoir were differentiated by three roof dormers; pedimented, gable-roofed porticos; two-story addition on the side elevation that contained a sun porch on the first floor and the master bathroom on the second floor; and a second story over the garage for use as a maid's quarters (R. Christopher Goodwin & Associates, Inc. archive). Examples of installations with brick five-bay houses in the Georgian Colonial Revival style are Fort Meade, Maryland; Fort Riley, Kansas; Fort Lewis, Washington; and Fort Knox, Kentucky. Examples faced in local Port Deposit granite appear at Aberdeen Proving Ground, Maryland.

Figure 6.14. Colonial Revival style company officer quarters constructed 1934-1935, Fort Belvoir, Virginia (Source: U.S. Department of the Army 2021).

The Spanish Colonial Revival style was characterized by hollow clay tile exterior walls finished with rough stucco and a gable roof clad in ceramic tiles with overhanging eaves featuring decorative wood brackets. The Spanish Colonial Revival style was used to build both one-story bungalows and two-story houses. The initial use of the Spanish Colonial style was in the design of the one-story bungalow (Bash 1929:9; Chambers 1928:25-26). The bungalows as constructed at Fort Bragg, North Carolina, had a seven-bay façade with a central wide-core flanked by front-gabled sections which enclosed a paved patio (Longleaf Historic Resources 2001:36). The bungalow house type also appeared at other installations in the south and southwest, such as at Fort Benning, Georgia (Figure 6.15). The floor plan for the one-story bungalow included an entrance hall and a central living room. One wing contained the three bedrooms and two bathrooms. The opposite wing contained the dining room, the kitchen, and maid's room (Figure 6.16) (Chambers 1928:25).

Figures 6.15. Spanish Colonial Revival style one-story bungalow constructed 1930, Fort Benning, Georgia (Source: R. Christopher Goodwin & Associates, Inc. ca. 1993).

The costs of building the one-story Spanish Colonial style bungalow became the subject of an inquiry conducted by the Office of the Adjutant General. It was thought that the construction of large roof areas and asymmetrical foundations was too costly. The Quartermaster Corps studied the comparative costs of building one-story bungalows and two-story houses and found that the two-story house was cheaper to build and provided more cubic feet. The Secretary of War approved the recommended action that "the two-story type of officers' quarters will be given primary consideration in all construction in the U.S." (Grashof Vol. 1 1986:50-53).

However, one-story officer bungalows continued to be built at overseas installations in Panama and Puerto Rico, and at Schofield Barracks and Wheeler Army Airfield, Hawaii (Grashof Vol. 1 1986:53; Mason Architects Inc. 2003:3-44, 3-55ff). The mission style buildings at Schofield Barracks and Wheel-

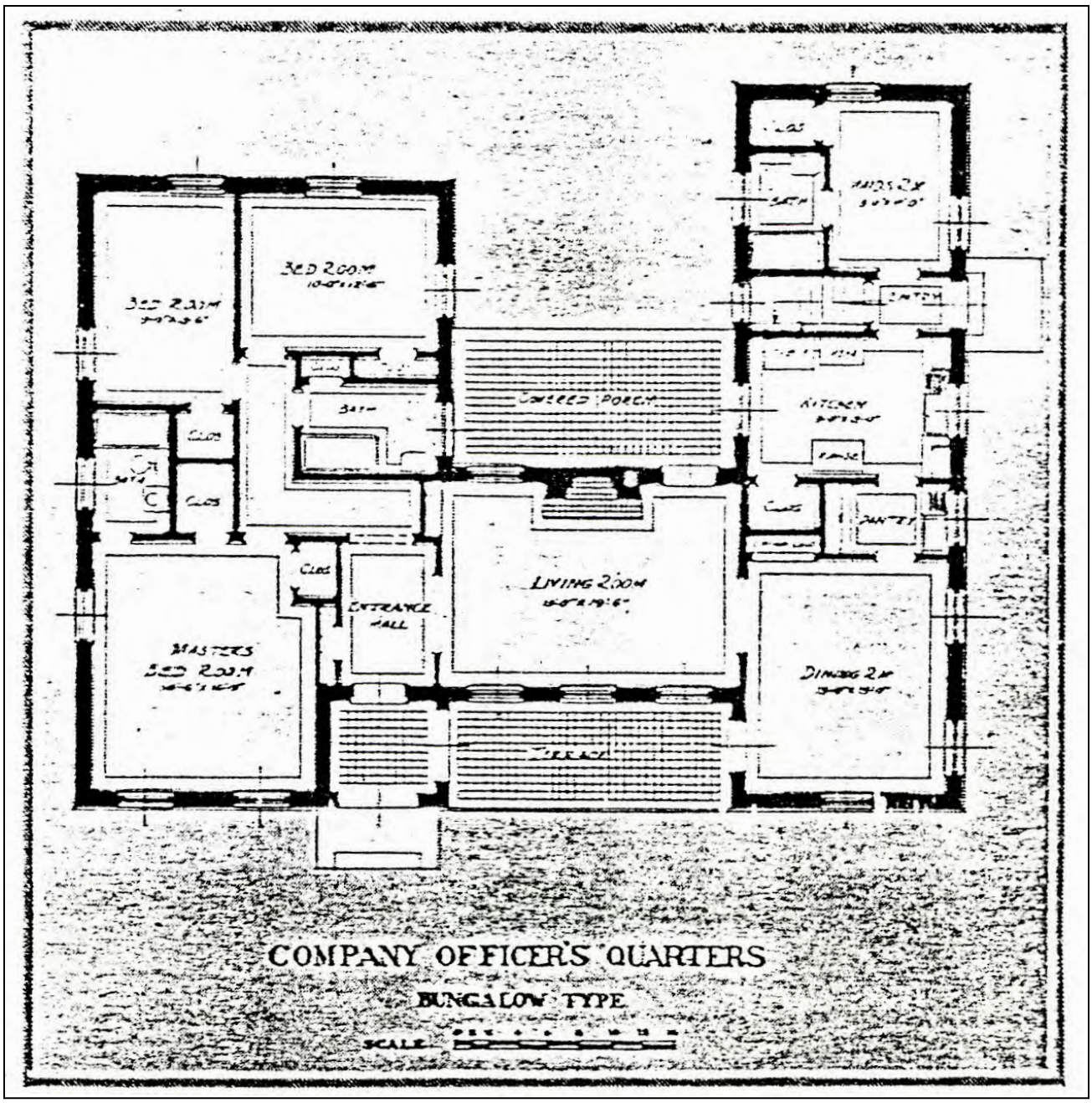


Figure 6.16. Floor plan for one-story Spanish Colonial Revival style bungalow (Source: Chambers 1928:25).

Figure 6.17. Mission style housing constructed in 1932 at Wheeler Army Airfield, Hawaii (Source: U.S. Department of the Army 2021).

er Army Airfield constructed in 1932 are stuccoed concrete block. The units originally were built with flat roofs. Hipped roofs were added shortly after construction to drain the roofs during rainy periods (Mason Architects, Inc. 2003:3-44, 3-58) (Figure 6.17).

The house plans adopted for the Army housing program reflected the hierarchy of military rank, i.e., the size of the quarters and the number of rooms correlated with military rank. Quarters were designed for general officer/field officers, company officers, student officers attending short-term training programs, and NCOs. The house plans during the Inter-War Era were similar to the designs in the civilian market. They are compact floor plans that fit in a square or rectangle with the façade wider than the side elevation. This was different from the pre-World War I standardized plans that often contained a linear arrangement of rooms in a house with a longer side elevation than front façade. The same floor plan was adaptable for construction in either the Colonial Revival or the Spanish Colonial style.

Quarters for general and field officers above the captain rank contained a living room, dining room, kitchen, four bedrooms, and two bathrooms, a maid's room and bath, and ample closets and storage space (Chambers 1928:25) (Figure 6.18). These buildings often had two-story porches with a sun porch on the first floor and a sleeping porch on the second floor (Chambers 1928:24-25). General and field officer quarters typically were assigned single-family houses.

Quarters for a company officer, i.e., captain and below, contained "a living room, dining room, kitchen, three bedrooms, one of which may be used as a study, and where possible with two bathrooms, a maid's room and bath, and ample closets and storage space". The overall dimensions of the house were slightly smaller in dimensions than quarters designed for field officers (Figures 6.19, 6.20, 6.21, and 6.22) (Chambers 1928:25). The typical house was two story with a one or two-story porch on the

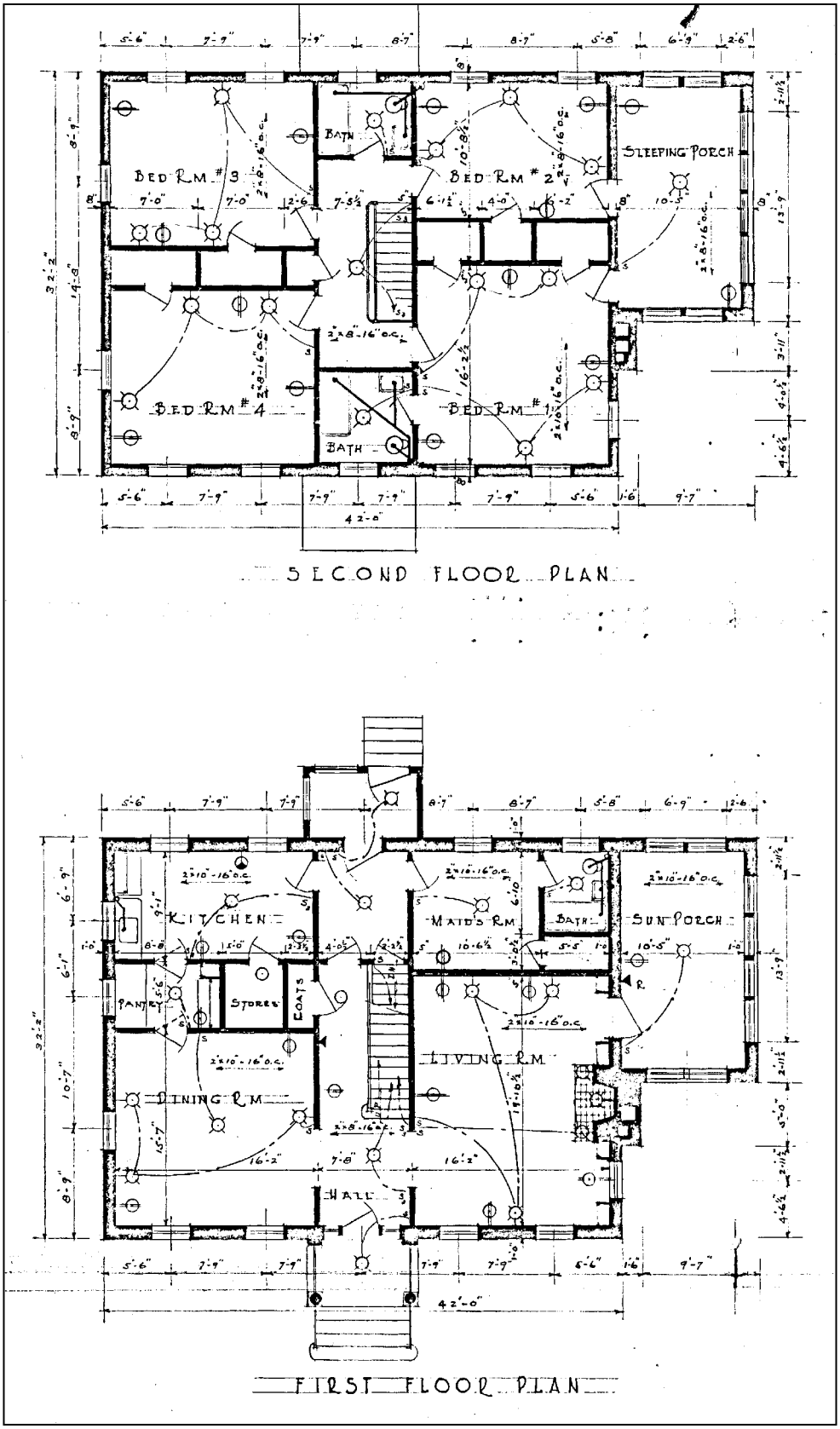


Figure 6.18. Floor plan for two-story field officer quarters at Fort Lewis, Washington (Source: U.S. Department of the Army 2021).

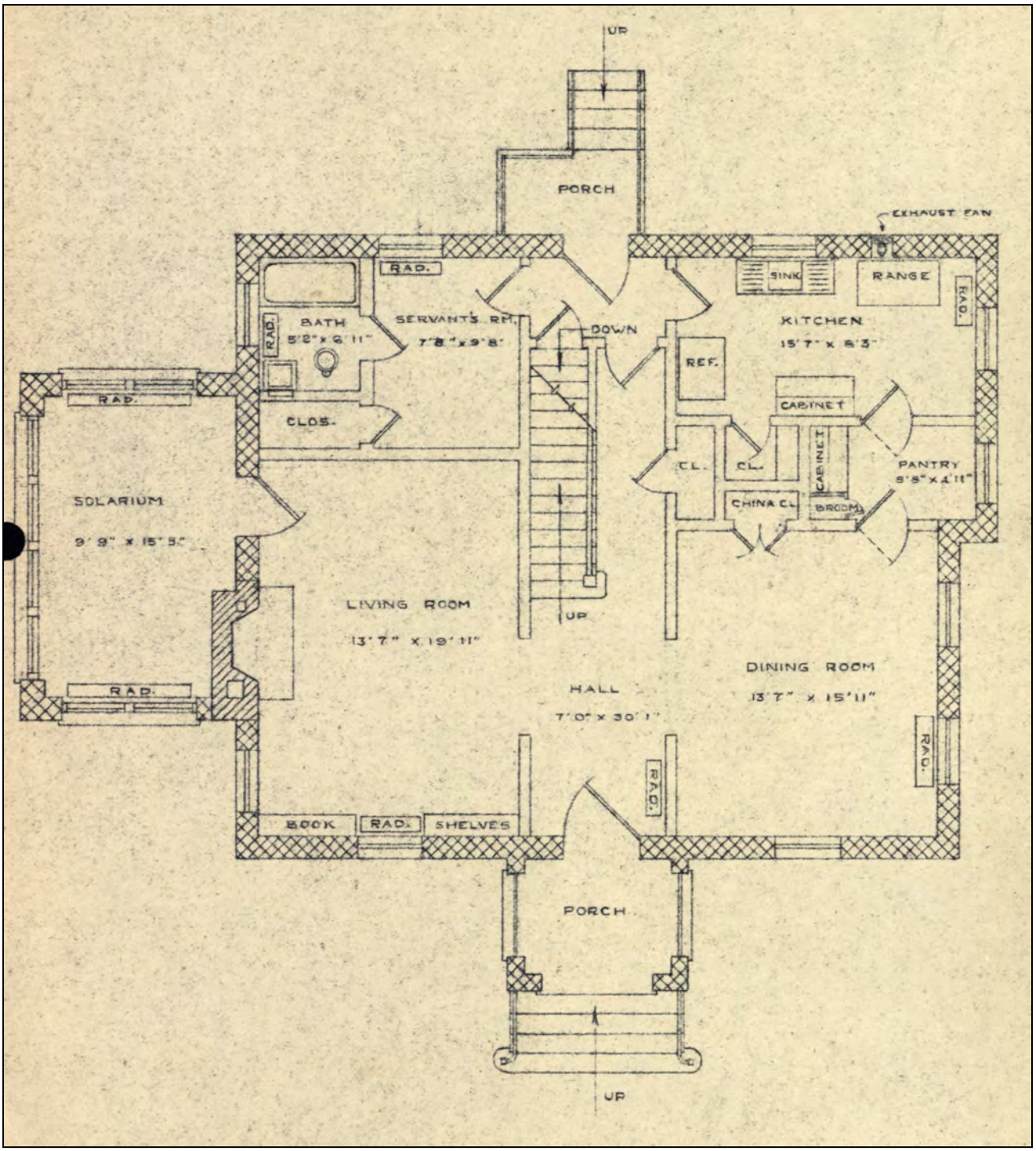


Figure 6.19. Typical first floor plan for company officer quarters (Source: Fort Sill Digital Archive 5000A_B5083_BB07_B51_PF158).

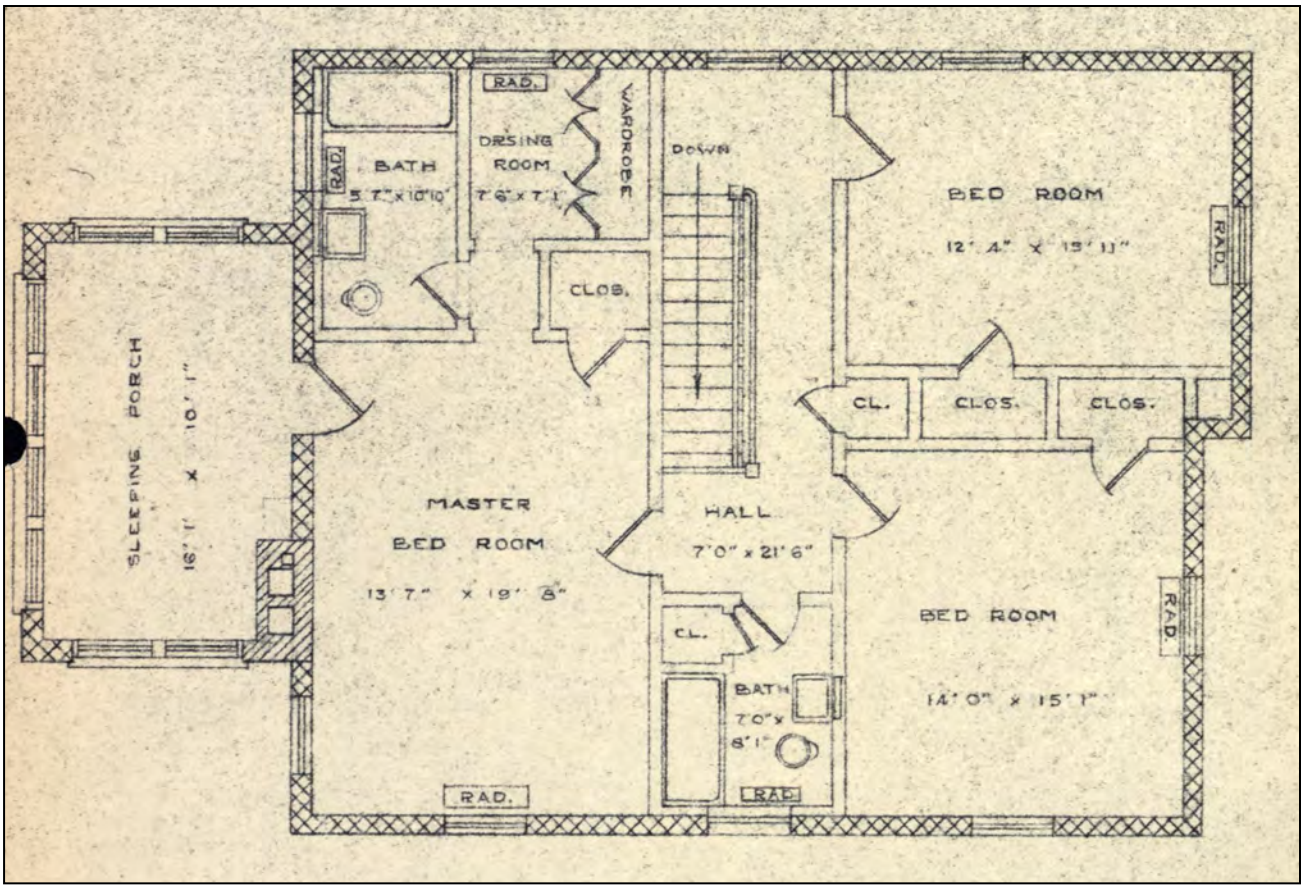


Figure 6.20. Typical second floor plan for company officer quarters (Source: Fort Sill Digital Archive 5000A_B5083_BB07_B51_PF158).

Figure 6.21. Spanish Colonial Revival style company officer quarters constructed in 1934, Fort Sill, Oklahoma (Source: Fort Sill Digital Archive 500A_B518_P22932_Construction_Oct1934).

Figure 6.22. Colonial Revival style company officer quarters constructed in 1931 in the Broadmoor neighborhood at Fort Lewis, Washington (Source: U.S. Department of the Army 2021).

side elevation. Prior to World War I, company officer quarters typically were duplexes. During the Inter-War Era, the single-family house became the preferred option. Yet, duplex housing for company officers was not eliminated entirely from the Inter-War Era construction program and continued to be built as duplexes, triplexes, and quadplexes (Figure 6.23).

Married student officers stationed for short periods at installations hosting training and higher education schools were allotted quarters in two-story apartment buildings having four units. Student officer apartments contained a living room, dining room, kitchen, two bedrooms, and bath, with provision "for a servant under the same roof" (Chambers 1928:15). Each unit had a separate entrance (Chamber 1928:15) (Figures 6.24 and 6.25). Student officer apartments appear at Fort Benning, Georgia; Fort Riley, Kansas; Fort Lewis, Washington; and Fort Sill, Oklahoma.

Figure 6.23. Multiple officer housing (Building 451) constructed in 1939 at Fort Belvoir, Virginia (Source: R. Christopher Goodwin & Associates, Inc. ca. 2010).

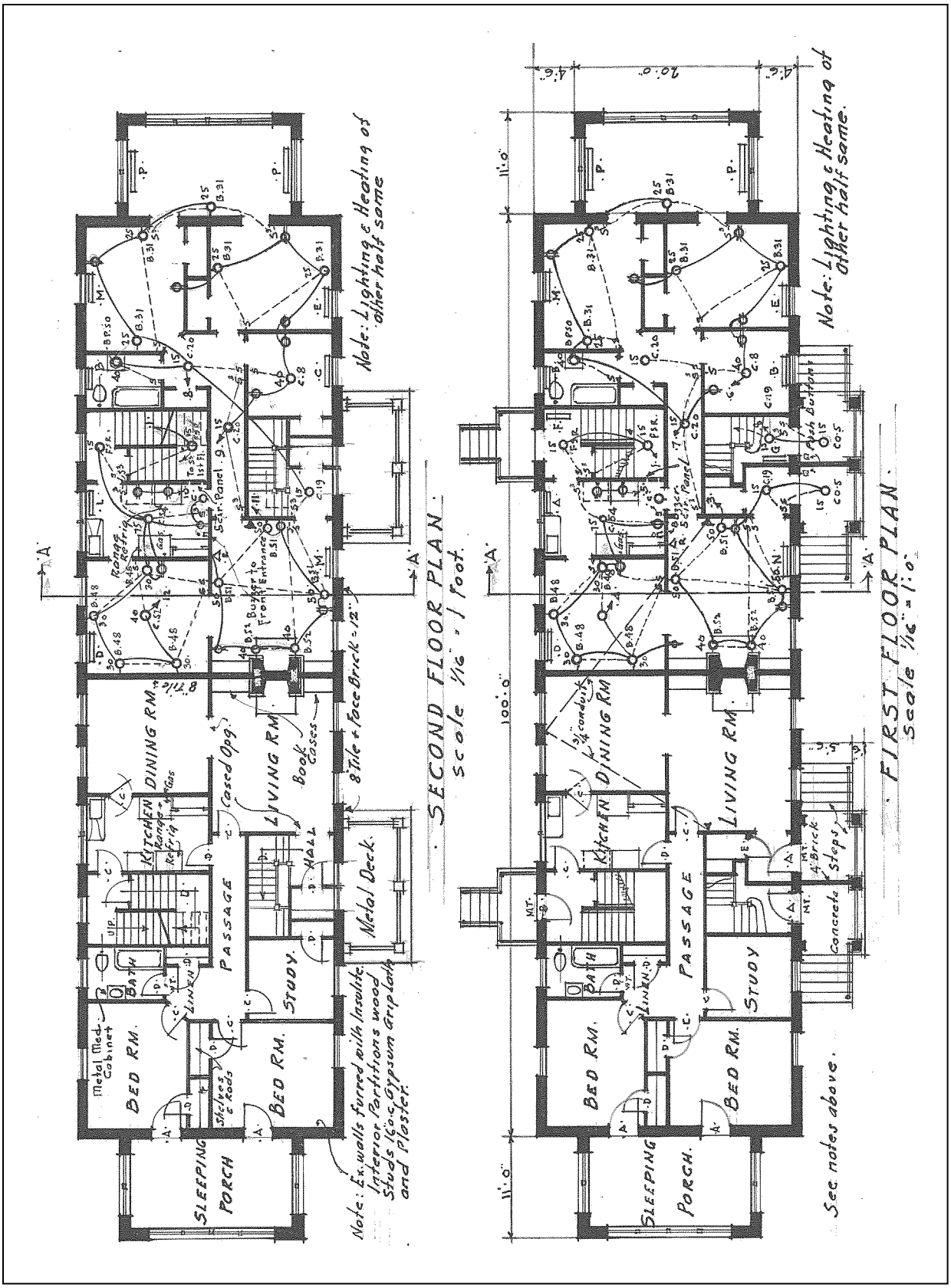


Figure 6.24. Typical floor plan of four-family student apartment building at Fort Lewis, Washington (Source: U.S. Department of the Army 2021).

Figure 6.25. Spanish Colonial Revival style four-family apartments built in 1934 at Fort Sill, Oklahoma (Source: Fort Sill Digital Archive 500A_B513_P22616_FrontSideView_Jul1934).

NCO quarters built during the Inter-War Era exhibit the most variations in floor plans. The basic NCO house contained "a good-size living room, kitchen and two bedrooms and bathroom, together with necessary closet and storage space…" (Chambers 1928:25). Later a breakfast nook was introduced between the kitchen and the living room (Wheaton 1928:11) (Figure 6.26). The first NCO quarters constructed under the Army housing program were one-story buildings constructed either of brick or stuccoed hollow clay tile with tile roofs (Figures 6.27, see Figure 6.13). The NCO houses could appear as either Colonial Revival or Spanish Colonial Revival styles depending on the construction materials (Figure 6.28).

During the 1930s, efforts were undertaken to provide additional rooms to NCO families. The one-and-a-half story NCO quarters, which resembled a Cape Cod house in the civilian market, provided a large living room, dining room, kitchen, two bedrooms, and a bathroom on the first floor and two bedrooms on the upper story (Pitz 1936:12) (Figure 6.29). The one-and-a-half story NCO quarters typically was constructed in the Colonial Revival style.

By 1930, the two-story duplex NCO quarters proved to be the most cost effective to build and provided more space. The two-story duplex had a living room, dining room and kitchen on the first floor and

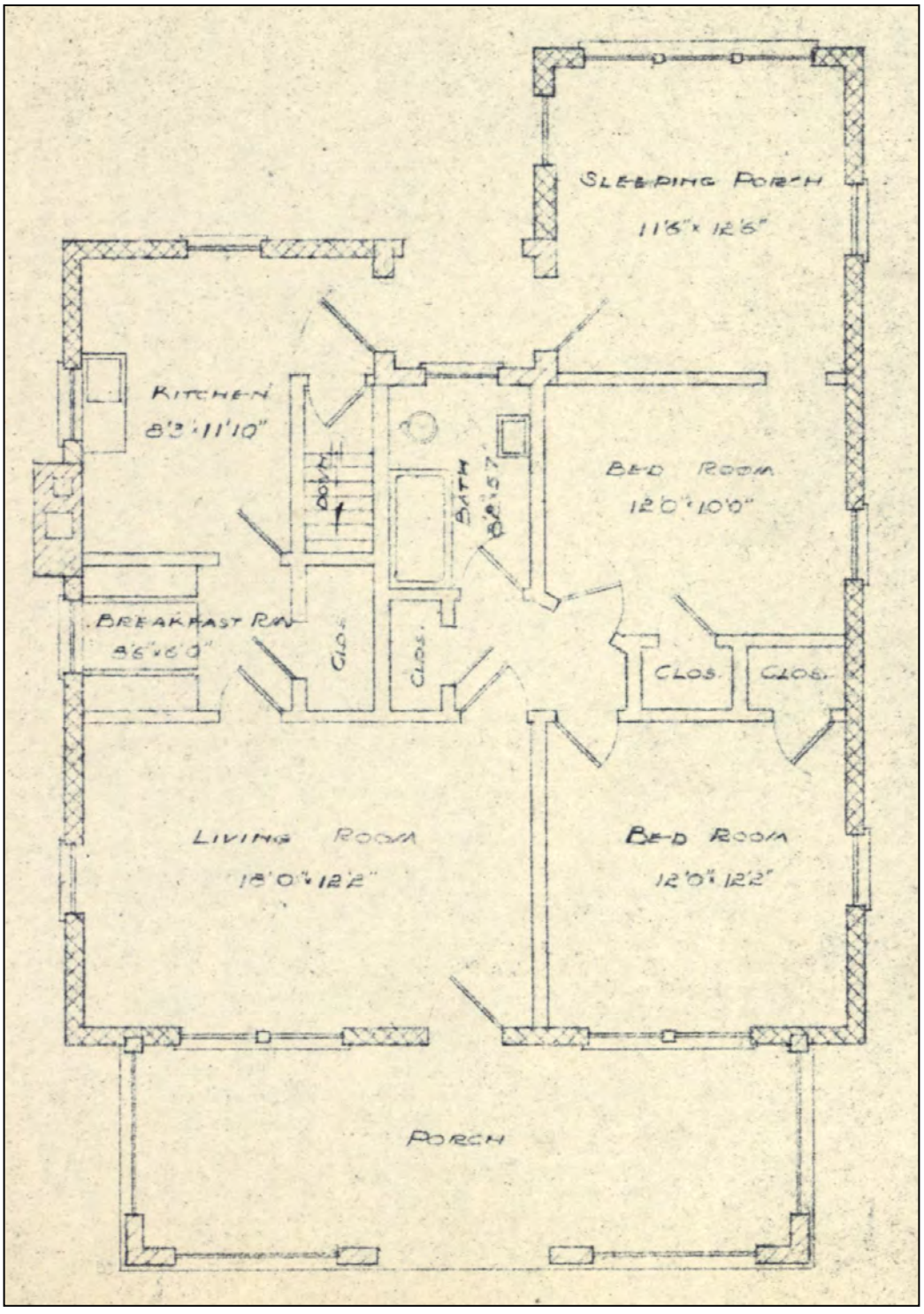


Figure 6.26. Typical floor plan for the one-story NCO quarters with breakfast nook (Source: Fort Sill Digital Archive 1800A_B1822_BB07_B543).

Figure 6.27. One-story NCO quarters (Building 1401) in brick built in 1933 at Fort Bliss, Texas (Source: R. Christopher Goodwin & Associates, Inc. ca. 1993).

Figure 6.28. One-story NCO quarters in the Spanish Colonial Revival style, constructed 1934, at Fort Sill, Oklahoma (Source: Fort Sill Digital Archive 1800A_B1822_P23234_SingleNCOQtrs_Aug1934).

Figure 6.29. One-and-a-half story NCO housing constructed between 1930 and 1934 at Fort Belvoir, Virginia (Source: U.S. Department of the Army 2021).

three bedrooms and a bathroom on the second floor ("Housing the Army" 1931:14). The two-story duplex also often included a two-story sleeping porch on the side elevation (Grashof Vol. 1 1986:48-49; "Housing the Army" 1931:14) (Figure 6.30). The two-story NCO quarters identified as the Fort Monmouth type could be built using brick and stone to reflect the Colonial Revival style, but also in stucco to reflect the Spanish Colonial Revival style (Figures 6.31 and 6.32).

Guidance about where to construct the various types of NCO quarters in the continental U.S. was issued by the Secretary of War in 1930. The guidance contained the following directives:

- The Fort Bliss, Texas, type of NCO quarters was to be built in the South as far north as North Carolina and Oklahoma (see Figure 6.27).
- The Fort Belvoir, Virginia, type of NCO quarters was to be built in the middle latitudes or in the North where single sets of quarters were allowed (Grashof Vol. 1 1986:53-54) (See Figure 6.29).

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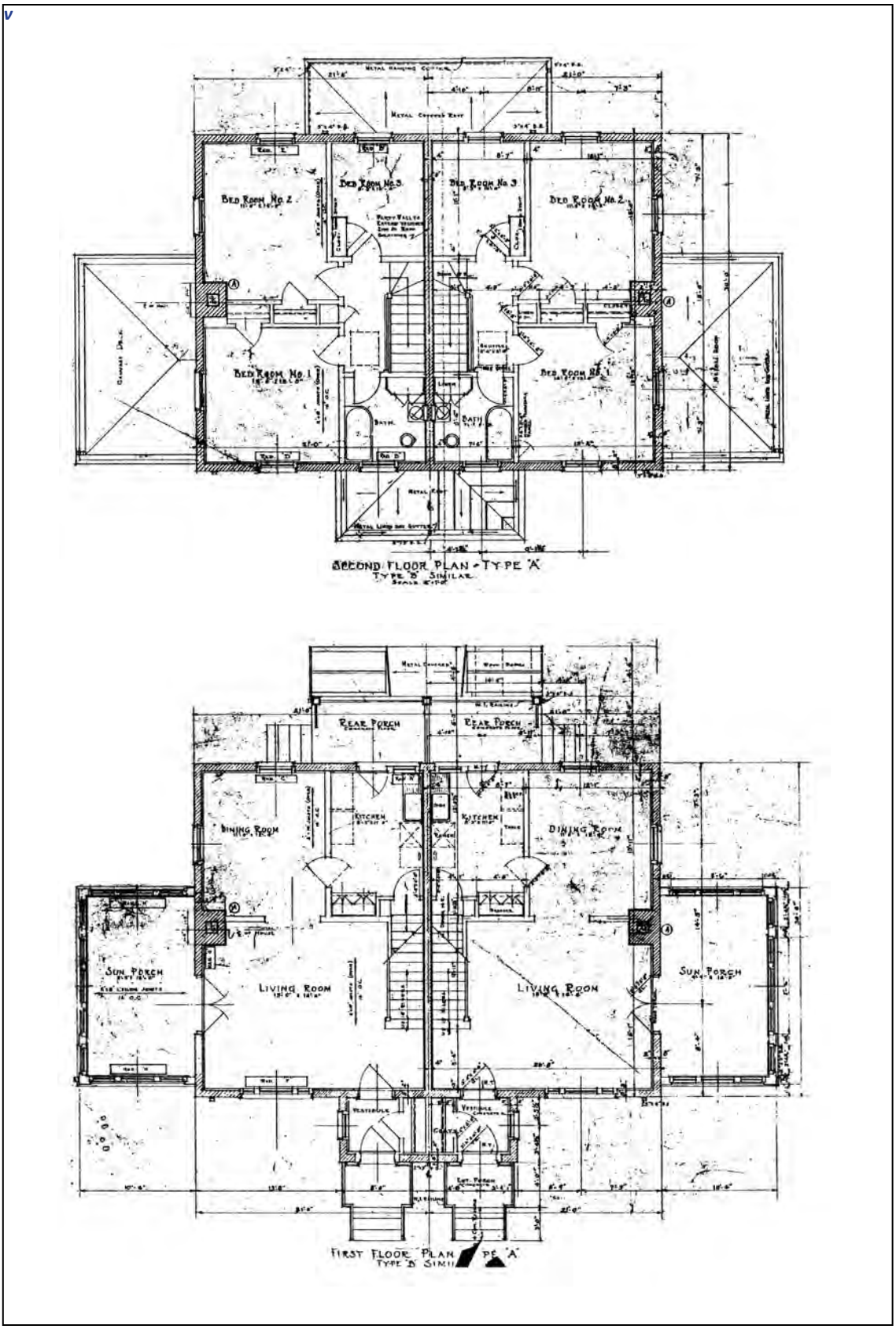

Figure 6.30. Floor plan of two-story, duplex NCO quarters drawn by Construction Division, Quartermaster Corps (Source: Presented in R. Christopher Goodwin & Associates, Inc. 2010).

Figure 6.31. Two-story, duplex NCO quarters constructed in 1939 in the Colonial Revival style at Carlisle Barracks, Pennsylvania (Source: U.S. Department of the Army 2021).

Figure 6.32. Two-story, duplex NCO quarters constructed in 1940 in the Spanish Colonial Revival style at Fort Sill, Oklahoma (Source: Fort Sill Digital Archive 300A_B303_BB04_B387).

- The Fort Monmouth, New Jersey, type of NCO quarters was to be built in the North (Grashof Vol. 1 1986:53-54; "Housing the Army" 1931:14) (See Figure 6.31).

In neighborhoods of NCO housing, not all buildings were necessarily identical. In Spanish Colonial Revival style neighborhoods, the roofs over the full-façade porch varied between hip and front-facing gable roofs. In neighborhoods of one-and-a half story NCO quarters, the variations were centered on the entries: a flush surround with entablature or a one-bay porch with an arched roof (See Figure 6.29). In neighborhoods of two-story NCO housing, the roofs could vary between side gable and hip roofs. The entries could vary between flush surrounds, open porches, and enclosed projecting vestibules.

The interiors of the housing built during the Inter-War Era were designed to be functional with no excessive ornamentation. A description follows of a typical interior of a two-story NCO house constructed in 1930. The interior walls and ceilings were plastered. The plaster was applied to wood lath and later over "Steeltex" laths. Hardwood flooring was typically installed. The simple 8-inch wood baseboards have quarter molding at the base and narrow molding at the top. A narrow wood picture molding is located below the ceiling. The window and door openings have approximately 4-inch wood surrounds with molded outer and inner edges and a top lip molding in the first floor rooms. The stairway from the first floor to the second floor was straight and a curve of the three steps at the top. A square newel post supported square wood balusters with an ogee wood handrail. Radiators were present for heat. Bathrooms had tile wainscotting (R. Christopher Goodwin & Associates, Inc. 2010). Where fireplaces were provided, the fireplace hearth was enframed in an exposed brick surround capped by a wood mantelpiece surround (Figure 6.33; see Figure 6.29) (Bash 1929:11, 16; "Housing the Army" 1931:14).

The houses of commissioned officers had higher grade finishes than NCO quarters. Officer quarters also had plaster walls and hardwood floors. Interior ornamentation included baseboards and built-in features, such as enclosed cabinets in the dining room. Fireplace hearth surrounds and mantels were more elaborate (Bash 1929:11, 16) (Figure 6.34; see Figure 6.14). Stairways also had more elaborate hand rails.

Figure 6.33. Interior of one-and-a-half story NCO quarters constructed between 1930 and 1934 with Mrs. Wolfe, Fort Belvoir, Virginia, published in The Quartermaster Review (Source: "Housing the Army" 1931:14; Fort Belvoir Cultural Resources Management Program var.).

Figure 6.34. Interior of dining room of company officer quarters constructed 1934-1935, Fort Belvoir, Virginia (Source: Fort Belvoir Cultural Resources Management Program var.).

During the Inter-War Era, more amenities became available for family housing. Before the Inter-War Era, coal was the primary method to heat housing units, to provide hot water, and to cook food. Typically, coal-fired heating units were installed in the basements to provide both heat and hot water. By the Inter-War Era, some family housing units were connected to local gas utilities that supplied heating, hot water heaters, and cooking ranges (R. Christopher Goodwin & Associates, Inc. vertical files). One innovation installed in family housing units during the 1930s was thermostatic control equipment that regulated a consistent interior temperature and the consumption of fuel (Bash 1929:15-16).

Kitchens appliances also were being improved. Cooking had been done on coal burning ranges. By 1929, the coal burning cooking ranges were being phased out, first in the officer quarters followed by the NCO quarters. The installation of gas cooking ranges was preferred where gas was available, but electric ranges were selected when gas was unavailable. By 1929, approximately 3,000 housing units were equipped with electric cooking facilities and 3,000 housing units with gas cooking facilities. An additional 1,500 officer housing units and 4,000 NCO units needed to be switch from coal fired cooking equipment to either gas or electric cooking equipment (Bash 1929:17). Electric refrigeration also became popular during the 1930s. By 1929, the Army had purchased and installed approximately 200 "mechanically cooled" refrigerators mostly in officer quarters. Until the time when additional funds allowed for the installation of more refrigerators, ice boxes continued to be the standard refrigeration installed in quarters (Bash 1929:13).

Garages were another amenity that were constructed in greater numbers during the Inter-War Era as automobiles became the primary mode for family transportation. The Construction Division began to plan for garages to house automobiles in family housing neighborhoods. Some officer houses were built with attached garages, such as the senior officer housing at Fort Belvoir, Virginia, discussed earlier in this section. In general, however, detached multiple-unit garages were located along service alleys behind the family housing units. The garages typically were constructed using the same materials as the family housing in the neighborhood, though with simple detailing (R. Christopher Goodwin & Associates, Inc. 1995: Vol. 2:431; HABS 2007) (Figure 6.35).

Figure 6.35. Typical multiple car garage at Fort Meade, Maryland (Source: R. Christopher Goodwin & Associates, Inc. ca. 1996).

Conclusion

The Inter-War Era marked a fundamental shift in housing policy. During a period when 45 per cent of the American population owned its own houses, housing reformers and the Federal government advanced the construction of modest dwellings. This effort attempted to bring larger segments of the population into the ranks of home ownership. A severe shortage of adequate housing coupled with consumerism pushed legions of Americans to become home owners. Following the economic prosperity that accompanied the end of World War I, aspirational home owners entered the housing market. The subsequent plummet of the housing market contributed to the financial collapse resulting from the stock market crash of 1929.

In an effort to restore economic security, the Federal government enacted a number of programs and policies that facilitated home ownership and lowered unemployment. Efforts to provide affordable housing began before the stock market crash; those initiatives gained new found momentum

during the Great Depression. Home ownership, and specifically, the construction of modest, functional houses with limited architectural stylistic references, was seen as the most effective means of emerging from the financial crisis. New home owners took advantage of easy financing implemented during the Depression to attain the American dream.

While Army officers and NCOs did not own the houses they lived in, the Army took cues from the civilian sector to design dwellings that referenced compatible private-sector housing set in neighborhoods that incorporated elements of suburban design. The Army collaborated with experts in the civilian fields of city planning and architecture to achieve these designs. Similar to the civilian market, the Army developed stratified neighborhoods based on rank. The Army relied on the Federal appropriations process and the 1930s New Deal relief programs to provide sufficient funding to meet its housing needs. In this way, the Army housing program supported the Federal government goals to employ relief workers to complete necessary projects within their budgeted construction caps.

Chapter 7. Conclusion

The Army's Inter-War Era housing program met a critical housing shortage on Army installations across the country. The Army had talented officers supported by civilian staff in the Quartermaster Corps, and actively consulted with civilian experts in urban design and architecture to develop neighborhoods and housing that were compatible with the civilian market and that supported the military mission.

The resulting housing program drew upon the military's established history of standardized architectural design and construction specifications, integrated design trends popularized through the Garden City and City Beautiful movements and the Small House and Better Homes movements, and met then-current quality of life standards for housing systems and amenities. The Army continued their established pattern of constructing standardized military housing that adapted popular housing trends to a military context on a nationwide scale. In doing so, Army housing not only reflected the popular civilian market, but also fostered cohesion in the military community that contributed to morale. Personnel regularly were reassigned to different installations across the nation. The similarity of residential neighborhoods and housing at installations nationwide made family transitions easier; familiar neighborhood and housing design contributed to a sense of domestic stability.

Military housing during the period was constructed in a variety of styles, ranging from the Colonial Revival to Craftsman to the Spanish Colonial. Style was tailored to reflect regional housing patterns; floor plans typically were not. Houses were constructed within strict cost limitations, applying cost ceilings imposed by Congress that escalated with military rank. Standardized plans contained costs, supported efficient construction, and consolidated program management and oversight.

Army housing neighborhoods and house design reflected the established hierarchy of military rank. Military rank determined neighborhood and the size and number of rooms of assigned dwellings. Neighborhoods were segregated by rank, but installation housing generally was designed in similar architectural styles, establishing cohesion in the design of the cantonment. Officer housing was designed with accommodations for servants, while none of the housing promoted by the Better Homes

movement or the kit-housing market made similar provisions. This difference reflects the living expectations of Army officers of the period. As noted by E. Mack Hallauer, officer housing equated to the executive living area and the NCO housing corresponded to office worker housing in the civilian sector (Hallauer 1939: 28).

By the 1930s, house construction in the civilian market was influenced by two public objectives: economic recovery of the construction sector and affordable housing for as many people as possible. To those ends, small houses in suburban settings were promoted. Kit houses, catalogue plans, and design services offered a variety of modest two- and-three-bedroom models and few larger house designs. Small dwelling designs typically featured compact floor plans consisting of a kitchen, sometimes with an eating nook, a living room, and a dining room. The majority of the designs were wood-frame with wood siding.

In contrast, the military adopted three- and four-bedroom houses as size standards. Exteriors were masonry, which was considered fireproof, had greater longevity, and required lower maintenance costs. The Army's housing program during the 1930s was funded through PWA and WPA to provide jobs for civilian workers and to support the construction industry. The Army military housing program supported the economic recovery of the construction industry and the country.

Both military and private sectors relied on standardized plans to contain construction costs. The Army maintained an entire department dedicated to developing standardized drawings that easily could be adapted by region. The Better Homes movement, the Small House Architects Bureau, and the kit house manufacturers also developed standardized plans that could be adapted to any region of the country. In addition, standardization was expanded to include construction by encouraging use of kit houses offered by catalogue companies that delivered all construction materials to the purchaser ready to assemble.

In general, the construction of multi-family housing was discouraged in both civilian and military contexts. The Army Inter-War Era housing was built during a period when single-family home ownership was promoted by the Federal government, design professionals, and popular culture. The qualities

of good citizenship, productivity, and American identity were attributed to the single-family home. Apartment living was relegated to ethnic and racial minorities and the poor, segments of the population who often were viewed as not fully invested in American society during the period.

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APPENDIX A

LIST OF PREPARERS