The Air Corps Construction Mission

by Charles Hendricks

The agreement by the leaders of Britain and France in Munich at the end of September 1938 to accede to Adolf Hitler's ultimatums and permit him to dismember the democratic state of Czechoslovakia brought home to America's political leaders that Europe's democracies lacked the strength by themselves to stem the expansion of a militarily resurgent Germany. William Bullitt, U.S. Ambassador to France, reported to President Franklin Roosevelt the next month that the French were particularly overawed by the German bomber fleet, which had grown substantially larger than that of Britain and France combined. The U.S. Army Air Corps, which then possessed only some 1,600 planes, had similarly lagged behind German air power.

In the aftermath of Munich, President Roosevelt moved quickly to overtake German production of airplanes. Summoning his leading military and civilian advisers to the White House in mid-November, Roosevelt observed that "our national defense machine. . .was weakest in Army planes." Setting an ambitious goal of an air force of 10,000 planes and a national productive capacity of 10,000 planes per year, the President, still hoping to avoid unnecessary involvement in a European war, explained that "we must have a large air force in being to protect any part of the North or South American continent."

The defense appropriation requests which the President delivered to Congress in January 1939 reflected his desire for an early expansion of the air arm, although not yet to the goals enunciated two months earlier. Of the $1 billion he sought for both routine and extraordinary defense needs, $300 million was earmarked to expand the Air Corps by 3,000 planes. Some $62 million of that sum was sought for air base construction with the largest sums designated for projects in the Canal Zone. Congress approved the administration's defense requests in appropriation bills passed in April and July.

The Army Quartermaster Corps had earlier in the century added military airfield construction to its traditional tasks of building and furnishing the barracks and other buildings in which Army soldiers and officers lived and worked. The military construction responsibility of the Quartermaster Corps had been questioned during World War I, as General John Pershing assigned construction duties in Prance to his engineers and the War Department created an independent Construction Division of the Army to oversee military base construction in the United States. Congress had restored the domestic military construction function to the Quartermaster Corps in the National Defense Act of 1920. But when, in the spring of 1939, the nation embarked on a program to expand its air power, the War Department, concerned about the ability of the Quartermaster Corps to handle the entire military facilities development program, considered a transfer of responsibility for domestic airfield construction to the Corps of Engineers.

General George C. Marshall played an important role in arranging the transfer of the Air Corps construction mission to the Corps of Engineers.

Assistant Secretary of War Louis Johnson and Army Deputy Chief of Staff Brigadier General George Marshall led the initial effort to reassign domestic airfield construction to the Corps of Engineers. They obtained from President Roosevelt an expression of support for the shift, providing it could be effected without congressional opposition. Seeking to accomplish the transfer without recourse to new legislation, proponents first focused on the provision of the 1920 law that gave the engineers responsibility for the construction of fortifications. Observing that "in order to expedite our defense program, it may be necessary to have the Corps of Engineers construct the Air Corps installations:" Brigadier General George Tyner,

the Army's chief logistics officer, asked Major General Allen Gullion, the judge advocate general, whether runways and hangars, as distinct from airfield barracks, could be classified as fortifications. Gullion agreed that such an interpretation would be possible. But despite the apparent preferences of his War Department superiors, Tyner could not endorse such an administrative nightmare as dividing responsibility for the construction of airfield operating and housing facilities.

The Reorganization Act of April 1939 made such awkward interpretations unnecessary by permitting administrative transfers without prior legislative approval. Secretary of War Harry Woodring quickly suggested the transfer of all of the military construction functions of the Quartermaster Corps to the Corps of Engineers under this authority. Tyner strongly endorsed this more sweeping concept, observing that "construction is a specialized type of engineering, and as such, should naturally fall within the duties of a technical branch rather than a supply branch." He predicted that "the Corps of Engineers. . .will bring to this activity a standard of efficiency not possible under the existing setup."

Major General Robert Beck, the department's senior operations and training officer, objected, however, fearing that assigning this duty to the engineers might reduce their readiness for combat. Beck also recognized that Major General Julian Schley, the Chief of Engineers, was prepared to accept responsibility for the construction but not for the maintenance of Army land and air facilities, and Beck believed that such a division would be unwise. Lacking united War Department support for the transfer, Woodring chose to retain the Quartermaster Corps as his department's agent for constructing domestic land and air facilities in the early months of American mobilization.

The German invasion of Poland in September 1939 and the resulting declaration of war by Britain and France did not immediately produce a rapid expansion of the American mobilization effort that was already underway, but they did hasten the Army's internal reorganization for war. The War Department asked the Chief of Engineers to develop plans for engineer troop units that could build the airfields that would be needed for any foreign deployment of the Army Air Corps. In response, Brigadier General John Kingman,

Assistant Chief of Engineers, Military Division, proposed the creation of an engineer aviation regiment of three battalions with a peacetime strength of 43 officers and 1,050 men. The unit would train with Air Corps personnel in "hasty methods" of rehabilitating captured airfields or "improvising new ones." The first unit of this type, the 21st Engineers, was organized from a newly activated general construction unit in June 1940.

The dramatic German military victories of the spring of 1940, culminating with the capitulation of France in mid-June, led to a rapid increase in American defense preparations. At the President's request, Congress passed in the next five months an initial War Department appropriation and three omnibus supplemental defense appropriations totaling more than $9 billion. Congress appropriated more than $780 million for the construction of Army installations and airfields in this period. Even these large sums, however,

Built by the Quartermaster Corps, Hamilton Field, north of San Francisco, California, was already in use in January 1941.

were inadequate for the extensive building program which the War Department ordered an overburdened Quartermaster Corps Construction Divisionto complete by the time conscripts would arrive the following spring.

The German victories and a May presidential veto of a new rivers and harbors authorization bill convinced General

Schley that military construction would soon supersede navigation and flood control projects as the federal government's largest engineering assignment, and he sought to redirect his department's efforts accordingly. Observing to newly appointed Assistant Secretary of War Robert Patterson in the summer of 1940 that his rivers and harbors "work was drying up," Schley argued that his civil works organization was much better suited to direct the rapidly expanding military construction effort than was the Quartermaster Corps. As it turned out, Corps of Engineers civil works expenditures would remain quite steady through 1943.

The congressional friends of the Corps of Engineers, some of whom had already expressed a willingness to sponsor a transfer of the construction mission to the Corps, now acted to facilitate the Army's use of its engineer construction organization. On 5 August 1940, Senator John Miller of Arkansas announced that he would introduce an amendment to a pending rivers and harbors authorization bill which would empower the Secretary of War to assign any part of the nation's defense construction tasks to the Corps of Engineers. Convinced by Schley's appeal and understanding that General Marshall, now Army Chief of Staff, also supported the measure, Patterson endorsed Miller's rider ten days later and urged him to attach it to the second supplemental defense appropriation bill, which was heading for quick passage.

A more senior senator, Kenneth McKellar of Tennessee, actually proffered the amendment as the Senate debated the appropriation on 29 August. The rider won quick approval, gained conference committee support after General Marshall warmly endorsed it before that group, and then passed the House, albeit in modified form. The House insisted that the authority granted to the Secretary of War to transfer construction functions to the Corps of Engineers expire in mid-1942. The Senate quickly acceded to this change, and the provision became law on 9 September 1940.

Once the War Department possessed explicit authority to transfer construction responsibilities to the Corps of Engineers, Patterson assigned his special assistant Major Sidney Simpson, a reserve field artillery officer, to evaluate the Construction Division's handling of its growing workload. Simpson found that the division suffered from persistent

personnel shortages and administrative difficulties. However, he did not propose that the division's tasks be turned over to the Corps of Engineers; rather he simply concluded that the Construction Division was caught in "a straight-jacket organizational setup in the Quartermaster Corps," and believed its problems could be resolved if it were placed directly under Patterson and perhaps renamed "the Construction Corps."

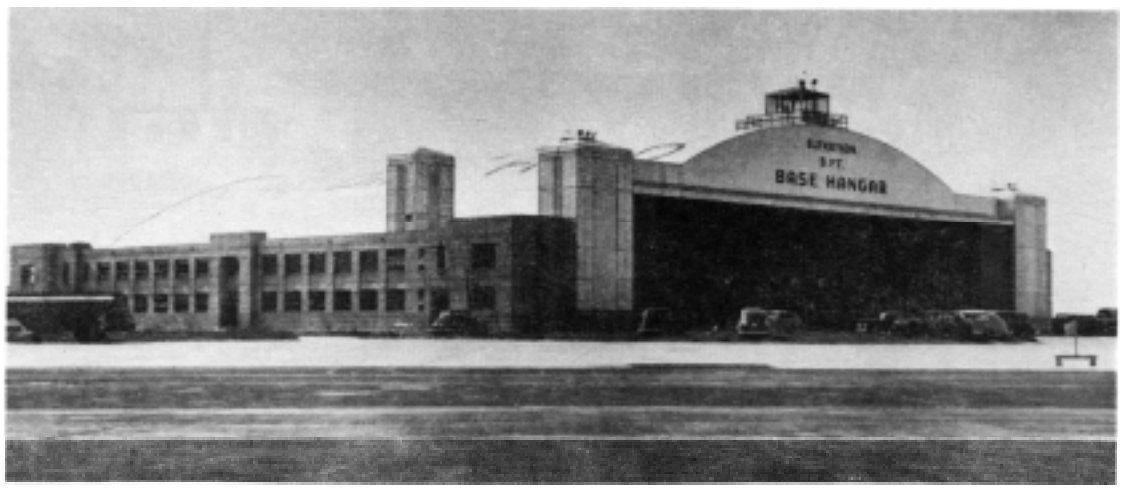
Knowing that incoming Secretary of War Henry Stimson's close associate Benedict Crowell, who had been Assistant Secretary of War during World War I, favored reviving the independent Construction Division utilized at that time, and seeing Major Simpson's Construction Corps as remarkably similar, a group of high-ranking officers and War Department civilians now acted to keep the Corps of Engineers in the picture by asking that Air Corps construction be transferred to the Corps of Engineers. The leaders in the effort were Michael Madigan, a self-made millionaire engineer contractor and top civilian assistant to Patterson, and two career Corps of Engineers officers now holding top Army staff positions: Deputy Chief of Staff Major General Richard Moore and Brigadier General Eugene Reybold, the Army's top supply officer.

Although he had supported such a transfer at the start of mobilization, Marshall expressed serious misgivings about it in late 1940 with the construction program in full swing. However, he decided that he "had to quickly reduce the load on the Quartermaster Corps" and so agreed. The transfer would move about 40 percent of the construction workload, figured in sums expended, and a somewhat smaller proportion of the manpower requirements from the Quartermaster Corps to the Corps of Engineers.

With Stimson's approval, Reybold issued the Air Corps construction transfer order on 19 November 1940. It covered work at all Air Corps stations in the United States and its possessions except in the Canal Zone, where air and land base development contracts had not been segregated. Schley assigned supervision over Air Corps construction to Assistant Chief of Engineers Brigadier General Thomas Robins and the Civil Works Division he had led since 1939. With its expanded mission, the division dropped "Civil Works"

from its title, but Robins' office continued to handle civil works as well as Air Corps construction. Major Ewart Plank assumed immediate control as head of the new National Defense Projects Branch of Robins' Construction Section.

The Quartermaster Corps transferred 83 Air Corps construction projects to the Corps of Engineers between 27 November 1940 and 1 April 1941, a majority of them before the end of 1940. General Marshall reported to the Secretary of War on the latter date that "the transfer of construction has been smoothly accomplished and has not resulted in delay." He opined that the division of construction responsibilities between the Quartermaster Corps and the



Base Hangar No. 2 at MacDill Field near Tampa, Florida, July 1941, six months after the Corps of Engineers assumed responsibility for construction there.

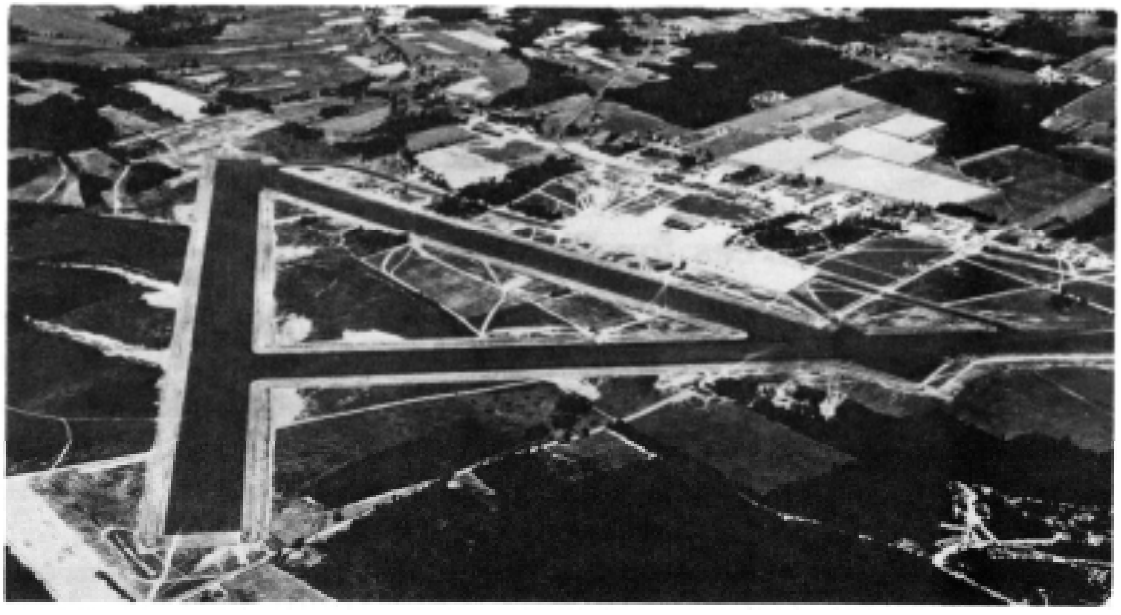
Corps of Engineers was "resulting in closer supervision in Washington and more expert direction on the job by both agencies." Observing that the Corps of Engineers "is charged in time of war with all construction in a theater of operations," the Chief of Staff now concluded that assigning it the Air Corps construction mission in peacetime was "a vital necessity as a means of preparing this organization for its function in the theater of operations in time of war."

At the War Department's behest, Congress would in December 1941 turn over all domestic military construction to the Corps of Engineers. Thus the engineers had responsibility for the domestic military construction solely of the Air Corps for just about a year, culminating in Japan's attack

on Pearl Harbor and the formal entry. of the United States into the war. During that year the Corps of Engineers oversaw some $400 million of Air Corps construction work in the United States and its territories, more than five times the amount handled by the Quartermaster Corps in the previous year and a half. By comparison, the civil works expenditures of the Corps of Engineers in this period averaged just over $200 million annually.

Construction progress on a hangar and control tower at Paine Field near Everett, Washington, October 1941. This was one of the many smaller airfield projects the Corps completed during World War II.

In the continental United States during 1941, the Corps of Engineers developed 42 new airfields, complete with housing and technical facilities, and added similar facilities to an equal number of municipal airports which the Air Corps had arranged to use. The largest of the new fields, on each of which the Corps spent $13-15 million in the year before the United States entered the war, were the Keesler and Sheppard fields in Biloxi, Mississippi, and Wichita Falls, Texas, respectively, each of which was designed to house more than 24,000 troops. The engineers expanded facilities at 25 existing Air Corps stations. They also built new aircraft assembly plants at Fort Worth, Tulsa, Kansas City, and Omaha, and an Air Corps Replacement Center at Jefferson Barracks in St. Louis.



Bradley Field, Windsor Locks, Connecticut, where Providence District of the Corps of Engineers used camouflage techniques to disperse and disguise airfield facilities, 28 August 1941.

With a pre-existing organization of 10 engineer divisions overseeing 45 engineer districts across the country and an administrative policy that granted its regional officials far more decision-making authority than did the Quartermaster Corps, the Corps of Engineers was able to respond quickly and efficiently to the rapidly expanding Air Corps construction program. Experienced in obtaining competitive bids from private contractors, the Corps accomplished its airfield work in 1941 with more than twice the rate of competitive fixed-price contracting than had the Quartermaster Corps. The engineers also developed innovative responses to shortages of materials and money, including timber-frame hangars and sturdy asphalt runways.

By mid-1943 the Corps of Engineers had completed some 1,100 domestic military and civil airfield projects. General Henry Arnold, Commander of the Army Air Forces, commended the Corps for its work on the airfield construction program which, he observed, had "been prosecuted with outstanding efficiency and dispatch." He quoted the remark of his subordinate responsible for the training of heavy bomber crews, Major General Davenport Johnson: "The Second Air Force has some of the finest airfields in the world." Quality airfield construction, both in the continental

United States and abroad, proved to be one of the most important contributions to Allied victory in World War II made by the Corps of Engineers.

Sources for Further Reading

The Corps of Engineers: Construction in the United States (Washington, 1972) by Lenore Fine and Jesse Remington narrates in considerable detail the story of the assumption and execution by the Corps of Engineers of the domestic Air Corps construction mission in World War II and the engineers' related research efforts.

Stetson Conn and Byron Fairchild's *The Framework of Hemisphere Defense* (Washington, 1960) and Mark S. Watson's *Chief of Staff: Prewar Plans and Preparations* (Washington, 1950) describe the strategic context in which the decision to give that mission to the engineers was made.

W. F. Craven and J. L. Cate's *The Army Air Forces in World War II*, Volume 7: *Services Around the World* (Chicago, 1958) discusses the wartime construction of overseas air bases by American aviation engineers.