The Last Word in Airfields

A Special History Study of Crissy Field
Presidio of San Francisco, California

by Stephen A. Haller
Park Historian
Golden Gate National Recreation Area

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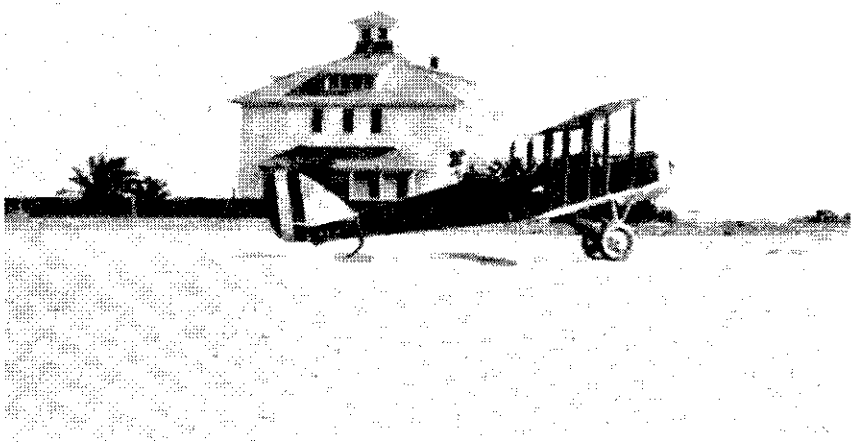


A Crissy Field DH-4 taxiing past the Coast Guard Station.
(California Historical Society, San Francisco)

Management Summary

The Last Word in Airfields

Project Background

This Special History Study of the Crissy Field area of the Presidio of San Francisco was conceived in June 1993, and written over the next six months with the following programmatic needs in mind.

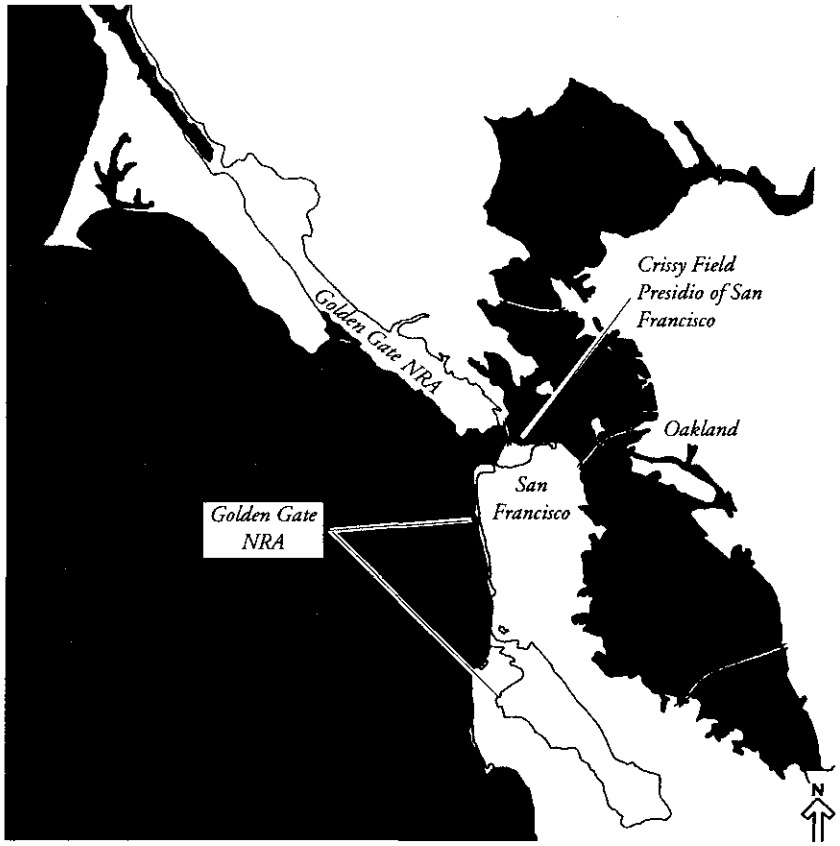
The October 1993 (draft) *General Management Plan Amendment* for the Presidio of San Francisco proposes restoration of the airfield "to its historic appearance," and also proposes restoration of wetlands which were filled to accommodate development of the area. The potential overlap of these two proposals has generated substantial internal controversy which is difficult to resolve for lack of detailed information. A contract for the preparation of a wetlands feasibility study is underway and, at least in a preliminary fashion, will delineate the geographic limits of potential wetlands.

It became clear that the same level of information is needed for the proposed airfield restoration, in order to maintain a balanced approach in upcoming *GMPA* discussions and subsequent detailed Crissy Field planning and site design efforts.

This information will be developed and presented to provide management with detailed data to better inform planning decisions regarding the proposed restoration of the historic airfield, and in particular, support a balanced approach to the interface between cultural resources and natural resources management in the Crissy Field area. The product will be oriented to providing a level of specificity sufficient to implement restoration decisions, and to provide information upon which upcoming site design projects can be based. The focus of the study is intended to be the period when the airfield was developed and operated at Crissy Field, although earlier years are covered in order to provide proper context.

Historical Context

Crissy Field as a whole, and most of its individual buildings and structures are listed as contributing elements to the National Historic Landmark District of the Presidio of San Francisco. Crissy Field is



General location of Crissy Field.

considered significant under National Landmark criteria VIIf (Military Affairs Not Related to World War I or World War II, 1914-1941), VIIIb (War in the Pacific, 1941-1945) and XVIIIe (Technology-Military—Fortifications, Weapons, War Vehicles). For further information on the historical context of the Presidio, see the National Landmark Nomination for the Presidio of San Francisco National Historic Landmark District. The key to the 1994 Base Map at the end of this report contains a list of buildings and structures at Crissy Field that contribute to the National Landmark.

The story of Crissy Field is inextricably intertwined with that of the larger Presidio and its two hundred years of military history, and with the development of civil and military aviation in a nationwide context.

In 1776, when Capt. Juan Bautista de Anza took possession of the Golden Gate's southern headlands, and construction of a military camp began, the Presidio of San Francisco marked the northernmost extent of Spain's American empire at a time of intense international rivalry in the North Pacific. With the collapse of Spain's colonial efforts in Mexico in 1821, the Presidio passed quietly into the hands of Mexico.

In 1846, the United States declared war on Mexico, and California soon passed into American hands. For the next 150 years the United States Army maintained a garrison at the Presidio. Through the Gold Rush, the Civil War, and the Indian Wars, the post played an important role in guarding San Francisco Bay, and facilitating the settlement of the American West.

Coast artillery troops at the Presidio manned successive generations of coast artillery fortifications to protect the strategic harbor through World War II. Infantry, cavalry, and field artillery trained at the post, and served in the field in every American war.

An unusually close relationship existed between the Presidio and the civilian community nearby. Presidio soldiers provided relief to San Francisco following the 1906 earthquake, cavalry troopers guarded National Parks in California, and the open post provided a park-like atmosphere for the local citizenry over the years as the area grew increasingly urbanized around it.

It is the oldest Army installation operating in the American West and one of the longest-garrisoned posts in the country.

Site History Summary

The Pre-American Period: prior to 1846

The Crissy Field area was originally a brackish tidal marsh, fronted on the bay side by a beach backed by sand dunes. This marsh, part of a larger system which extended from the bluffs just east of Fort Point all the way to today's Fort Mason, was probably used by Native Americans for gathering food. On the top of the once sandy promontory to the east, extensive middens of clam and mussel shells have been uncovered, while near the one-time northwestern shore of the marsh, another midden with a Native American burial site has been documented.

The site of the anchorage for the ships which supplied the Spanish Presidio beginning in 1776 lay just offshore. In 1797, one of these vessels, the second *San Carlos*, was caught in a northerly gale, washed ashore and wrecked in the area. Accounts also refer to the occasional use of the shoreline in the area for rodeos and bull and bear fights. [1] The path between the Presidio proper and the Castillo de San Joaquin guarding the harbor entrance is believed to have led along the high ground overlooking the marshland and beach.[2] In all, the Spanish, and later Mexican impact on the landscape was negligible.

Early American Period: 1847-1912

Sometime between 1863 and 1865 the Bay Shore and Fort Point Road Company completed a road along the Presidio shoreline, entering the post near the present-day intersection of Lyon and Jefferson Streets.[3] By

1 Langellier, John Phillip and Rosen, Daniel Bernard, *Historic Resource Study: El Presidio de San Francisco—A History under Spain and Mexico, 1776–1846*; National Park Service, Denver Service Center, 1993, pgs. 58 and 84.

2 Land and Community Associates, *Presidio of San Francisco—Overview Cultural Landscape Report*, National Park Service, Denver Service Center, March 1993, figure 2-2.

3 Grassick, Mary K., (draft) *Historic Furnishing Report, Fort Point*, National Park Service, Harpers Ferry Center, 1993, p.212.

1870 the U.S. Army had built the first of a series of quartermaster wharves, and roadways crossing the area on a north-south axis (to connect the wharf to the main post). In subsequent years, the Quartermaster Corps built a number of warehouses in the area, and corrals appeared for the horses and mules that abounded on any military post. A certain amount of drainage and fill was needed for road construction and other use of this area but the extent of topographic change is not known with any certainty.[4]

Except for the continual use of the roadway of the Fort Point Toll Road (now called Marine Drive), the only nineteenth-century construction in the area which remains extant (although not in its original location) is that of the U.S. Life Saving Station, which was completed in 1890.

The Exposition and World War I Period: 1912-1919

The original marshland was filled prior to 1915 to provide a site for San Francisco's great world's fair—the Panama Pacific International Exposition. Large suction dredges moved slowly westward along the shoreline from Fort Mason to the bluffs near Fort Point, pumping a mixture of sand and mud from the bottom of the bay into the salt marsh. Most of the natural and cultural landscape features from the previous time period were obliterated at this time. Only the footprint of the old toll road, now called Marine Drive, and the sand dunes to the north survive. The former Life Saving Station, under the aegis of the U.S. Coast Guard beginning in 1915, was moved 700 feet west to its present location and a new steel boat launchway was installed.

During the brief Exposition, the western portion of the landfill area contained a race track, one mile in circumference, that was also used as a drill ground and aviation field. Upon the dismantling of the exposition facilities, the Army continued to use the level field for its early air operations until, in 1919, a Board of Officers determined that the site met all the requirements of both the Coast Artillery Corps and the fledgling Air Service for an Air Coast Defense Station—an airfield whose mission was to cooperate with the artillery defenses of San Francisco Bay by scouting for the approach of an enemy, observing and correcting the fire of our guns, and facilitating cooperation with troops in the field.

"Crissy Field," an Air Service Coast Defense Air Station: 1921-1936

The permanent airfield was built in 1921, under the supervision of Henry H. "Hap" Arnold, then a young major, but destined in two decades to lead the largest air force the world has ever known in the most destructive war in history. Arnold named it after Maj. Dana H. Crissy, who had taken off from the (yet unnamed) field in an important test of the practical limits of long-range air power, and died in a crash.

As completed in 1921, the airfield consisted of a "kidney-shaped" open field, with a roughly-graded clay surface.[5] Along the field's southern edge, against the bluffs of the Presidio's uplands, stood hangars for seaplanes and landplanes and a garage, all built in a utilitarian fashion; while farther east was a cluster including an administration building, enlisted barracks, flagstaff and guardhouse, built in attractive mission revival architecture. On top of the bluff overlooking the hangars, were a bachelor officers' quarters and a row of small homes for married officers. Later that year no less an authority than Marshal Ferdinand Foch, commander of the victorious allied armies in World War I, inspected the new installation and pronounced it, "The last word in airfields."[6]

During the early 1920s, the size of the field was limited by a large cantonment of temporary barracks and warehouses that had filled the eastern half of the Presidio shoreline during the World War I expansion. As late as 1925, when this "North Cantonment" began to be removed, Crissy Field extended no more than 3,300 feet in length along the bay front. Constant lobbying by airfield commanders, understandably concerned by the existence of buildings in the landing approaches, resulted in the extension of the landing field by 1,000 feet in 1926. In 1928, when another Board of Officers met to establish the official boundaries of Crissy Field, they claimed the entire northern shoreline of

4 Land and Community Associates, *Cultural Landscape Report, p. 1-1*

5 National Archives, Record Group 18 **(Hereinafter cited as NA and RG, respectively)**, Series 168. Correspondence Relating to Airfields. File 600.1-600.12

6 *Air Service News Letter*, Dec. 12, 1921. **(Hereinafter cited as ASNL.)**

the Presidio extending east some 6,000 feet to Lyon Street. However, this final extension of the airfield was made for safety purposes. The whole length was not normally used for take-off and landing, just 3,050 feet. In fact, special orders warned that the eastern portion of the landing field "is utilized as a Polo Field by direction of the Corps Area Commander. Pilots are cautioned not to land in this area except in emergency."[7]

The landing field itself was a level, grassy, unpaved open field. The entire surface, except for the concrete aprons around the hangars, consisted of "a heavy coating of clay...spread and rolled and top surfaced with loam, and the loam seeded to grass."[8] Keeping the landing field level, covered with grass, and relatively dust-free was a constant battle against taxiing aircraft, hard landings and winter rains. It was a struggle the Army never really won until 1934, when a portion of the field was paved for the first time to provide an all-weather landing mat.

Aerial operations at Crissy Field from 1921 to 1936 consisted primarily of observation of artillery fire for the Coast Defenses of San Francisco, aerial photography, liaison flights for headquarters personnel, special civilian cooperation missions such as forest fire patrols and publicity flights, and support for the U.S. Air Mail Service. Crissy Field was the only military airfield on the west coast specifically built as a coast defense air station, and it was the only Army air base in the eight western states which comprised the Ninth Corps Area that was active on a continuous basis from 1919-1936.

These were particularly important years in the development of military and commercial aviation. Barnstorming adventurers in World War I surplus biplanes set the tone in 1919. Yet by the mid-30s commercial airlines crossed the nation in streamlined DC-3s and flying "clippers" spanned the oceans. Military aviation had progressed from a branch of the Signal Corps to an Air Corps with an independent strategic mission. Crissy Field participated in these striking developments in many important ways. Aviation records were set here, aviators famous for their contributions were stationed here, history-making long-distance flights started and ended here.

Crissy Field was the western terminus of the Army's Transcontinental Reliability and Endurance Test in 1919. Forty-six planes raced west across the country to Crissy Field while fifteen planes left Crissy Field for the east coast. Only nine planes completed the flight and nine men died, including Maj. Dana H. Crissy, after whom the field was to be named.

In 1924, the first Dawn-to-Dusk transcontinental flight ended in triumph at Crissy Field. In doing so, one of the "great goals of the Air Service," to "reduce the time for deploying Army aircraft from one part of the country to another," had taken a giant practical step forward with the successful conclusion of Lt. Russell L. Maughan's flight.[9]

Later that same year the Army's Round-the-World Race stopped at Crissy Field, with Lt. Lowell H. Smith, of Crissy Field leading the round-the-world flyers upon their return. This event has been referred to as "the most important pioneering flight of the time in terms of difficulty and international prestige....The United States went wild when the army fliers returned home from their 175-day epic....The world flight was a triumph of planning and organization, its success virtually guaranteed by a superb army and navy team effort."[10]

In 1925 Crissy Field was used to prepare two Navy seaplanes which made the first attempt to fly from the mainland to Hawaii. Although the attempt was unsuccessful, it is significant nonetheless. The Army's uncompromising advocate of air power, Assistant Chief of Air Service Brig. Gen. "Billy" Mitchell used the unsuccessful flying boat mission as a platform. While one of the planes that had staged out of Crissy Field was still lost at sea, "he charged that these accidents were 'the direct result of the incompetency, criminal negligence and almost treasonable

7 NA RG18 Series 168 File 618.12, Notice to Pilots No. 25, July 24, 1931.

8 NA RG18 Series 169 File 600.1, Office of the Constructing Quartermaster. Dec. 29, 1926.

9 Maurer, Maurer; *Aviation in the U.S. Army, 1919-1939*, Office of Air Force History, Washington, 1987, p.176

10 Gwynn-Jones, Terry; *Farther and Faster: Aviation's Adventuring Years, 1909-1939*, Smithsonian Institution Press, Washington and London, 1991. p.205.

administration of our national defense by the Navy and War Departments.'"[11] Mitchell's statement caused a national furor and, "It marked a turning point in American aviation history."[12] It also led to his famous court martial on charges of insubordination, preferred by President Calvin Coolidge himself.

Two years later, Crissy Field was again the base from which Lts. Lester J. Maitland and Albert F. Hegenberger prepared for their successful non-stop Hawaii flight. The legendary Charles A. Lindbergh himself called it "the most perfectly organized and carefully planned flight ever attempted."[13] In addition, the Air Service and Air Corps tested the first satisfactory artificial horizon and conducted important experiments in "blind flying" at Crissy Field.[14]

In 1936, Crissy Field closed as a first-line air base. Windy and foggy weather had always made for difficult flying conditions; the construction of the Golden Gate Bridge made operating aircraft from Crissy Field even more challenging; and its location near the ocean, though convenient to coast artillery batteries, was vulnerable to enemy bombardment by sea. There was little room for expansion, and the recent activation of Hamilton Field in Marin County offered an up-to date alternative location for the Air Corps.

This is the time period considered to have the highest level of significance in the history of Crissy Field.

The World War II period: 1937-1945

After the Air Corps closed Crissy Field as a first-line air base, the headquarters of the 30th U.S. Infantry Regiment moved into the administration building, and the landing field was increasingly used as an assembly area for the mobilization of troops.

With the coming of World War II, temporary mobilization-type barracks sprang up at both ends of the airfield, and more of the landing field was paved. Only light aircraft now used the field, primarily liaison flights by the various headquarters at the Presidio and medical flights associated with nearby Letterman Hospital.

The former air mail hangar at Crissy Field was used as barracks and classrooms by the Army's highly-secret Military Intelligence Service Language School to train mostly Nisei soldiers as interpreters. Due to the relocation of Japanese-Americans in the spring of 1942, subsequent classes were moved away from the West Coast. This was the origin of the Defense Language Institute. The World War II use of the air mail hangar (Building 640) for the Language School is the second most significant association in the history of Crissy Field.

"Crissy Army Airfield," the post-war years: 1946-1974

In the post war years, the Sixth Army Flight Detachment operated light airplanes and helicopters from the paved strip, now called Crissy Army Airfield. There was a major improvement project in 1959, which resulted in the repaving of the landing mat to its present day configuration and the building of the rip-rap seawall along the shoreline. That same year, the engineer field maintenance building (924) was constructed next to the old landplane hangar. Light planes used the field until February 1974 when it was finally closed to fixed-wing aircraft. The west end of the field continues in use as a helipad for Army and emergency use to this day. The former transportation area to the south of Mason Street and west of Halleck Street was eventually replaced by a retail area serving military personnel, culminating in the construction of a large commissary building in 1989.

In 1972, Golden Gate National Recreation Area was established. When President Richard M. Nixon stopped in San Francisco that September to "push for congressional passage of a Golden Gate National Recreation Area," he made his announcement from Crissy Field, stating "I'll never have a better backdrop."[15] As he spoke to announce the transition from

11 Maurer, *Aviation in the U.S. Army*, p.128.

12 Gwynn-Jones, *Farther and Faster*, p. 210.

13 Maurer, *Aviation in the U.S. Army*, p.260.

14 ibid., p.275-7.

15 *San Francisco Chronicle*, Sep. 5, 1972.

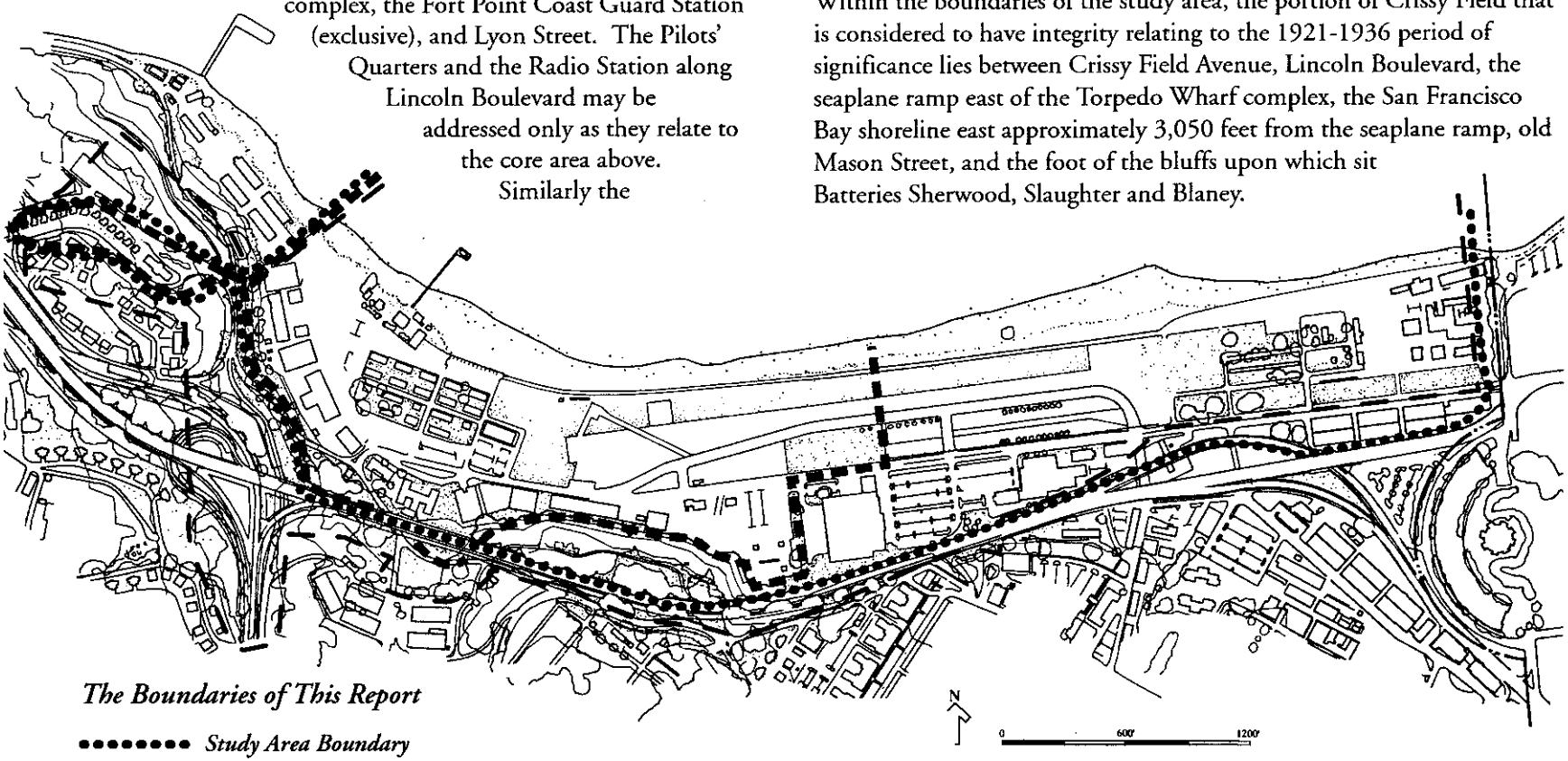
military post to national park, he was flanked by two of the most famous aviators of the century, Charles Lindbergh and astronaut Frank Borman, thus acknowledging and underscoring the historic nature of Crissy Field.

Study Boundaries

The boundaries of this study, as defined in the approved Task Directive, are "the area between Doyle Drive, San Francisco Bay, Crissy Field Avenue, Lincoln Boulevard, the Torpedo Wharf complex, the Fort Point Coast Guard Station (exclusive), and Lyon Street. The Pilots' Quarters and the Radio Station along Lincoln Boulevard may be addressed only as they relate to the core area above. Similarly the Directorate of Public Works area east of Marshall Street will only be addressed if it relates to the core area of the airstrip, hangars and administration complex."

The historic boundaries of Crissy Field are practically identical to the boundaries of the study area, with the exception of the non-commissioned officers' and pilots' housing area, generally west and south of Lincoln Boulevard, which is not a part of the core area of this report.

Within the boundaries of the study area, the portion of Crissy Field that is considered to have integrity relating to the 1921-1936 period of significance lies between Crissy Field Avenue, Lincoln Boulevard, the seaplane ramp east of the Torpedo Wharf complex, the San Francisco Bay shoreline east approximately 3,050 feet from the seaplane ramp, old Mason Street, and the foot of the bluffs upon which sit Batteries Sherwood, Slaughter and Blaney.



The Boundaries of This Report

- *Study Area Boundary*
- *Historic Boundary of 1928*
- *Area of Historic Significance 1921-1936*

Methodology and Scope

Conducted according to the standards and guidelines in *NPS-28 Cultural Resource Management Guideline, Release No.4* (draft of February 1993).

The scope, as defined in the Task Directive, was to be comprehensive, "a complete review of secondary literature and planning documents about the area, and as comprehensive an examination of primary documents as the press of time permits. Research at the National Air and Space Museum, the Library of Congress and the National Archives will be necessary." It was clearly understood that the time period of the report "concentrates on actual physical development of the airfield site, ca. 1912-1993," but that "earlier information may be included if it provides context."

The high visibility of the resource, the lack of thorough factual information, the nature of the threats to the resource, and the scrutiny of the planning process soon made it evident that the subject demanded a complete investigation, and that the results should be made widely available.

The initial task was to review secondary material and supporting work being done on the Presidio by NPS colleagues and contractors to assure proper coordination and prevent duplication. Research in Bay Area newspapers, maps, photographs, manuscripts and other official records followed, and then a research trip to Washington when the extent of Bay Area information became clear.

Field survey work at Crissy Field, analysis of the survey and documentary data, and compilation into a report following the guidelines for history and cultural landscape studies in *NPS-28* followed. The author of this study was very fortunate to have been able to attend a Park Service workshop on "Documenting and Managing Rural Historic Landscapes" around this time, which was inspiring and helpful.

Administrative Context

Crissy Field is a part of the Presidio of San Francisco. The management of the entire area will pass to the National Park Service in October 1994, although certain limited sections of the Crissy Field shoreline have already been permitted to the Service by the Army.

The Presidio of San Francisco has been a National Historic Landmark since 1962, and was placed within the legislated boundaries of Golden Gate National Recreation Area in 1972. This project was conceived in June 1993 as part of *General Management Plan Amendment* planning effort, to provide specific data about the historic and cultural landscape values to park planners and site designers. This document is intended to be used in the next level of design and planning, the development of a site plan for Crissy Field.

The Task Directive was reviewed at Western Region, and approved by the Deputy Regional Director on July 20, 1993.

Summary of Findings

Crissy Field is an extremely significant piece of American history that deserves preservation. The area of highest significance and integrity, the western half of the study area, is recommended for management strategies that preserve, rehabilitate and restore the historic cultural landscape of the era 1921-1936, including the grassy landing field and important airfield buildings.

In the eastern portion of the area, open space, vegetation, and land use values have higher relative significance. Thus management strategies

that enhance and restore the natural communities of beach, sand dune and salt marsh within historic limits are not considered to conflict with cultural values. Except for the World War I warehouses south of Mason Street, historic buildings in this area have been demolished.

It is suggested that the recommendations listed in this report be used to guide site design planning for the Crissy Field area now underway. This project has provided a number of tangible benefits above and beyond what was originally envisioned. The importance of the resource, the lack of thorough factual information, the nature of the threats to the resource, and the scrutiny of the planning process all made it evident that the subject demanded a high level of investigation, and that the results be made widely available. Therefore, a brief document summarizing the significance and historic integrity of Crissy Field was published in October, 1993 in order to provide information to the public during the public involvement phase of the Presidio planning process.

The research materials collected during the course of this project will be turned over to the park's museum collections in an organized manner. Numerous historic photographs, considerable correspondence, and rolls of microfilm will strengthen our study collection in the field of early civil and military aviation.

The interpretation and education mission of the park and its future partners is supported by the dissemination of the information contained in this report through publications, personal services interpretation, informational signage, or other media.

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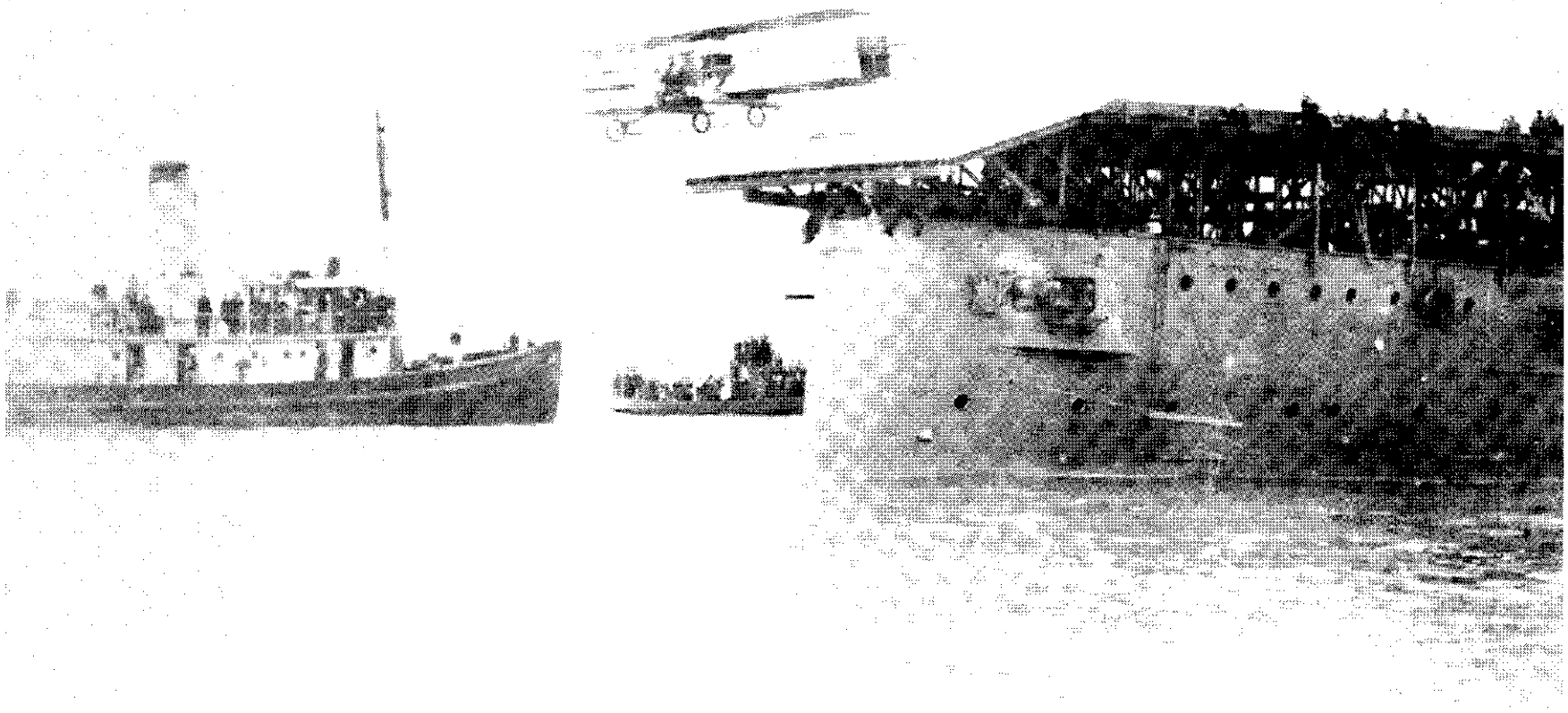
Site History–Chapter 1

In the Beginning



Eugene Ely in his Curtiss biplane, taking off from the temporary flight deck built over the stern of the cruiser U.S.S. Pennsylvania anchored in San Francisco Bay, Jan. 18, 1911. (California State Library)

In the beginning...

The drone of airplanes faintly penetrated the dark and drizzly night. Suddenly the clouds over the Golden Gate glowed with the light of powerful flares that illuminated the entire Presidio. But rather than scurrying from their barracks to repel a surprise attack, the troops at the Presidio of San Francisco swung into formal exercises under eyes of Major General William M. Wright, who commanded the army forces of the entire western United States. The guest of honor at the eerily-illuminated ceremonies was a young major who was destined to rise to the command of the largest air force ever assembled in the most destructive war in world history. That night in 1921, Henry H. "Hap" Arnold formally opened the Air Service's Air Coast Defense Station at Crissy Field.[16]

Over the next fifteen years Crissy Field was a center of activity during what have been called "Aviation's Adventuring Years." When Crissy Field began operations, open cockpit biplanes flown by daredevils without parachutes short-hopped across the countryside and any fairly level field would do for a landing. The army was widely criticized for the appalling loss of life entailed in racing a flight of airplanes across the country in three days.

When first-line flight operations ceased in 1936, a reliable system of airways criss-crossed the nation, the oceans had been routinely crossed in flight, and the Air Corps consisted of high-speed, closed-cockpit monoplanes. The cramped area along the northern waterfront of the Presidio was no longer able to meet the needs of this new generation of aircraft.

* * *

The San Francisco Bay Area was the site of several pioneering developments in military aviation that have a connection to the northern Presidio shoreline that was one day to house Crissy Field. In January 1911, only one year after the first aviation meet had been held in the United States, the Pacific Aero Club sponsored a major aviation meet at Selfridge Field (later Tanforan Park), about ten miles south of San Francisco. The newspapers headlined "daring aviators thrill thousands of spectators" as noted aviators attempted to set speed records, flew along the San Francisco waterfront, and, more important from a military point of view, "attempted to demonstrate the practical application of the aeroplane to military purposes" by working out "the first aeroplane reconnaissance problem in the history of the United States Army" under the watchful eye of Brig. Gen. Tasker H. Bliss.[17]

Another important feat in military aviation occurred a couple of days earlier, when aviator Philip Parmalee took Lt. Myron C. Crissy, a young Coast Artillery Corps officer stationed at the Presidio, aloft in a Wright biplane "to drop from an altitude of 500 feet a bomb [actually a mortar shell with a stick attached to it] that would explode and test the efficiency of its practical use in warfare....At the very far end of the field [Selfridge], Crissey [sic] dropped the bomb from an altitude of 475 feet. Its downward course through the air was easily marked, and when it struck the ground a sharp detonation told the watching crowd that the experiment had been a success." Lt. Paul Beck stated that "This was the dropping of an explosive bomb for the first time in the history of heavier than air navigation,"[18] and though one other source states that British playboy and aviator Claude Grahame-White "was the winner of the bombing...events" at Boston in 1910, perhaps that bomb was not intended to explode.[19]

However, according to Lt. Beck of the Signal Corps, writing in *Sunset* magazine, "What was, perhaps, the most striking and important event of the whole meet, at least from the viewpoint of the army and navy...was fittingly performed by an ex-San Franciscan, Eugene Ely, [who] on January 18th flew from the military camp at Selfridge Aviation Field, to the deck of the U. S. Cruiser *Pennsylvania*, anchored in San Francisco Bay, and a few moments later flew back to camp."[20] Lieutenant Beck correctly prophesied that "This marks an epoch in aviation annals." Indeed, it established all the basics of modern aircraft carrier operations.

16 *Chronicle*, ?/?/1921 (date illegible).

17 *Chronicle*, January 16, 1911.

18 *Chronicle*, January 16, 1911.

19 Gwynn-Jones, *Farther and Faster*, p.144.

20 *Sunset*, March 1911.

Pioneer aviator Glenn Curtiss described the event somewhat differently and more vividly:

> The chance came when we were all at San Francisco and the big armored cruiser *Pennsylvania* was in the bay....The platform was built over the quarterdeck, about one hundred and twenty-five feet long and twenty-five feet wide, with a slope toward the stern of some twelve feet. Across this runway we stretched ropes every few feet so they could catch in grab-hooks which we placed under the main center-piece of the aeroplane, so that catching in the ropes the heavy sand bags attached would drag until they brought the machine to a stop.... When all the arrangements had been completed, and only favourable weather was needed to carry out the experiment, I was obliged to leave for San Diego, and, therefore, was unable to witness the flight.... Ely rose from the Presidio parade grounds, flew out over the bay, hovered above the ship for an instant, and then swooped down, cutting off his power and running lightly up the platform, when the drag of the sand bags brought him to a stop exactly in the center, probably one of the greatest feats in accurate landing ever performed by an aviator. As I have said, the platform was only four feet wider than the planes [wings] of the Curtiss biplane that Ely used, yet the photographs taken from the fighting top of the ship shows the machine touching the platform squarely in the center. When one stops to think that the aeroplane was travelling about forty miles an hour when it touched the deck and was brought to a stop within a hundred feet, the remarkable precision of the aviator will be appreciated....Not only was there not the least mishap to himself or to the machine in landing, but as soon as he had received a few of the many congratulations awaiting him, he started off again and flew back the ten miles to the camp of the 30th Infantry on the Aviation Field, where wild cheers greeted the man and the machine.[21]

There is an obvious discrepancy between the accounts of Curtiss and Beck regarding the origin of Ely's flight. Curtiss was not there at the time, so his statement that Ely took off from the Presidio is suspect and requires further verification. However, the 2nd Battalion of the Presidio's 30th Infantry Regiment was encamped at Selfridge Field to cooperate in the military events at the Air Meet. And photographs do show that the *Pennsylvania* was anchored off of the northern waterfront of San Francisco, in clear view from the Presidio shore.

From this time on, "It became perfectly obvious...that the aeroplane will be of aggressive use in war....It may be that by preparing for war, even along this latest line of attack, we will most effectively bring about that longed-for epoch of universal peace."[22] Beck was certainly right in his first prediction, and tragically wrong in the other. Nevertheless, the Bay Area, San Francisco, the Presidio and some of its units, were inextricably linked with history-making events in the early annals of military aviation.

* * *

While these experiments were going on, the northern shoreline of the Presidio had experienced relatively little change from its original natural state, especially when compared to the vigorous growth occurring at the rest of the post. That natural state was an extensive brackish tidal marsh that extended some two miles along the shore between a high promontory of sand dunes (the site of today's Fort Mason) to the point where the bluffs move in to hug the shore at the harbor entrance (now the site of the former U. S. Coast Guard Station). Against the bluffs to the west was a freshwater pond, fed by springs above, while streams from the Presidio uplands added their freshwater flow to the tidal waters of the Bay. A sandy beach, backed by sand dunes separated much of the marsh in the Presidio area from the open Bay. This "low sandy beach" widened

21 Harris, Sherwood, *The First to Fly: Aviation's Pioneer Days*, Tab/Aero Press, Blue Ridge Summit, Pennsylvania, 1991, p.170.

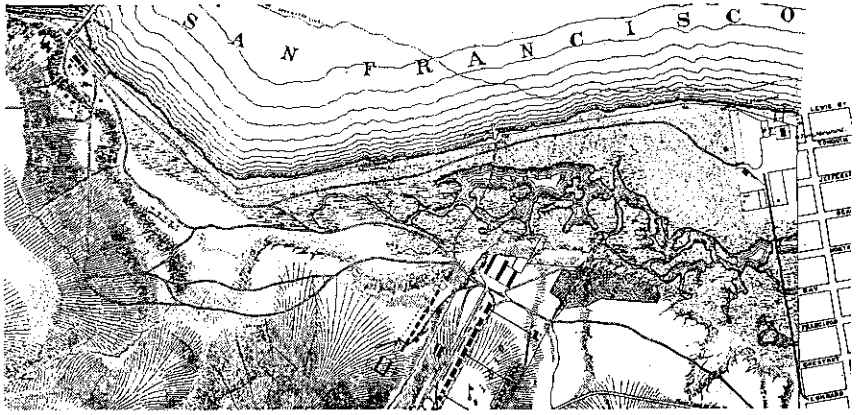
22 *Sunset*, March 1911.

considerably to form an extensive area of sand dunes straddling the eastern boundary of the reservation. This area was known by locals as Strawberry Island or Sand Point, "names evocative of the original nature of the area."[23] Native Americans undoubtedly reaped the bountiful natural harvest of the area for food and shelter. On the top of the once sandy promontory to the east [today's Fort Mason], extensive middens of clam and mussel shells have been uncovered, while near the one-time northwestern shore of the marsh, another midden with a native American burial site has been documented.

The Spanish colonists made negligible impact on the physical landscape in the Presidio shoreline area. The supply vessels that were so eagerly awaited by the isolated garrison anchored in the shallow waters to the north of the Presidio quadrangle and wrestled their goods to the beach and across the intervening marsh. One of these vessels, the second *San Carlos* was caught by a northerly gale, washed ashore and wrecked. Her well-scavenged remains may presumably still lie along the Presidio shore at the site of the "old Spanish Anchorage." Other accounts refer to the occasional use of the shoreline in the area for rodeos and bull and bear fights. [24] The path between the Presidio proper and the Castillo de San Joaquin guarding the harbor entrance is believed to have led along the high ground overlooking the marshland and beach.[25] In all, the Spanish, and later Mexican impact on the landscape was negligible.

In April 1861, "The Bay Shore and Fort Point Road Company obtained a franchise from the California legislature to construct a macadamized road from Francisco and Mason Streets in San Francisco to Fort Point."[26] Sometime between 1863 and 1865 the road was completed along the shoreline, entering the Presidio near the present-day intersection of Lyon and Jefferson streets.[27] By 1870 the U.S. Army had built the first of a series of quartermaster wharves in the area of the old Spanish anchorage in order to bring supplies to the post by sea, and the first evidence of

The sand dunes of Strawberry Island, the salt marsh behind them, and the open uplands surrounding the early American Presidio are clearly visible in this 1857 map.



This 1870 map delineates the full extent of the marsh along the Presidio shoreline, as well as the early road network in the area. (National Archives)

23 Olmsted, Roger R., Olmsted, Nancy L., and Pastron, Allen, *San Francisco Waterfront: Report on Historical Cultural Resources for the North Shore and Channel Outfalls Consolidation Projects*, San Francisco: San Francisco Wastewater Management Program, 1977. p.584.

24 Langellier and Rosen, *El Presidio de San Francisco*, pgs. 58 and 84.

25 Land and Community Associates, *Overview Cultural Landscape Report*, figure 2-2.

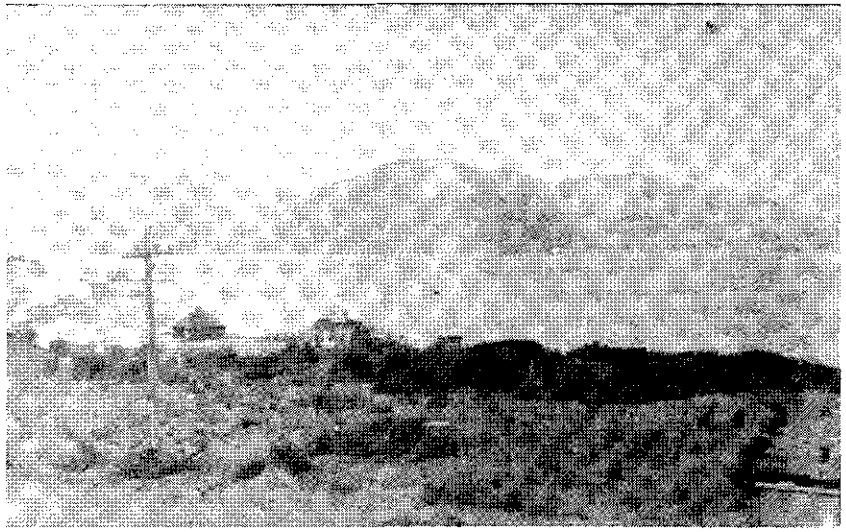
26 Grassick, *Historic Furnishing Report, Fort Point*, p.212.

27 Land and Community Associates, *Presidio of San Francisco—Crissy Field—Cultural Landscape Report*, National Park Service, Denver Service Center, March 1993, figure 1-14 "Plat of the Military Reservations of the Presidio and Point San Jose," 1866.

roadways crossing the area on a north-south axis (to connect from the wharf to the main post) appears on maps and photographs. In subsequent years, the Quartermaster Corps built a number of warehouses in the area, corrals appeared for the horses and mules that abounded on any military post, and small dikes were used as the butts of a target range.

The sand dunes behind the beach widened towards the eastern boundary of the post, and the area was occasionally used for field artillery and cavalry drills, prompting a letter from Congressman Julius Kahn complaining of "pulverized yellow dust covering the horses from head to toe, etc., and the suggestion that a great deal of sickness and malaria are consequence upon the lack of drainage." The Army responded that this was "not borne out by the facts," although it admitted that, "For the further raising of the flats and properly draining g them, money should be secured. California is an exceedingly dusty place in the dry season, and kicking up dust cannot be avoided, even though it may annoy and inconvenience one's neighbors."[28]

In 1891, the post quartermaster was asked to justify the practice of selling quantities of sand taken from the Presidio. He replied that "A quantity of sand has been taken from the beach and money has been paid for it. This money has been used for the general benefit of the post and is properly accounted for. The custom of permitting sand to be taken has been around for a long time, at least ten years. Each high tide replaces the sand. The barrier of sand is constantly increasing in height and width and the water along the beach and at the wharf is growing shoaler each year."[29] The post quartermaster allowed the California Petroleum and Asphalt Company to remove more sand from the beach that year, stating that, "It will not injure the property of the United States. It will tend to prevent the drifting of loose sand against the rear of the target butts and will diminish shoaling under the wharf."[30] Nine years later,



Looking down upon the lifesaving station in its original location, from the bluffs upon which Batteries Baldwin, Blaney, Sherwood and Slaughter were built. Ca. 1890-1900. (U.S. Army, Presidio of San Francisco)

the commanding officer of the post reported that permission to remove sand had to be obtained from the department commander.

For years the post's trash and garbage was dumped in the marsh, as was rubble from the earthquake and fire of 1906, and some drainage and fill from road construction would have been necessary in the area, but the exact extent of topographic change is not known.[31] Any changes to the landscape occurring prior to 1912 have, in any case, been obliterated by later, more sweeping impacts.

Except for the continual use of the roadway of the Fort Point Toll Road, the only nineteenth-century construction in the area which remains

28 NA RG 393 Colonel Rawles, Commanding Officer, Presidio of San Francisco, March 25, 1902 to the Adjutant General, Department of California. Also Colonel Morris, Commanding Officer, Presidio of San Francisco, June 3, 1905 to Military Secretary, Department of California.

29 NA RG 393 Post Quartermaster to Commanding Officer, Presidio of San Francisco. Register of Letters Received. July 22, 1891.

30 NA RG393 Post Quartermaster, Presidio of San Francisco, September 1891. Register of Letters Received.

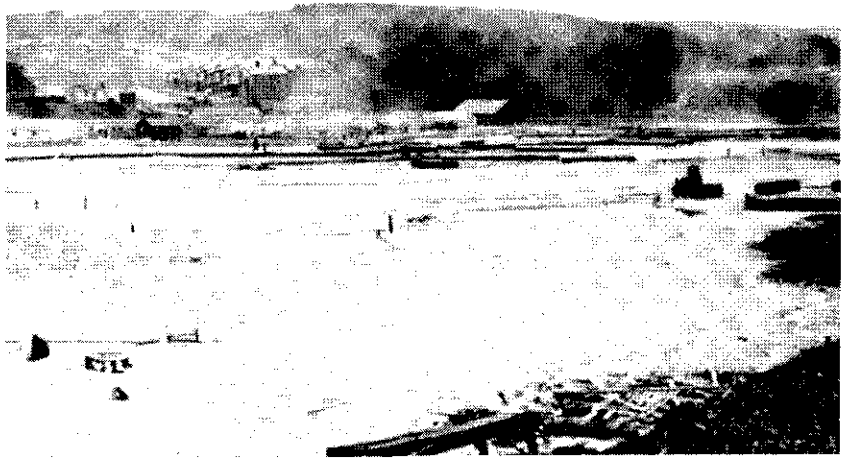
31 Land and Community Associates, *Cultural Landscape Report.*, p.1-1.

extant (although not in its original location) is that of the U.S. Lifesaving Station.

In January 1888, the Secretary of the Treasury, Charles S. Fairchild, received permission from Secretary of War William C. Endicott to erect a life saving station on the northern Presidio shore, to assist vessels in distress at the Golden Gate. Ten months later, plans and specifications were received on the Pacific Coast. The buildings were essentially completed by October of 1889, but work had not yet started on the launchway. Finally, on February 14, 1890, the superintendent of construction announced completion of the station. It was surrounded by a fence on three sides—915 feet of pickets and 140 feet of barbed wire.[32]

In 1907, Maj. William W. Harts, an engineering officer on the staff of the Department of California, presented what "may be regarded as the reservation's first comprehensive master plan." "Describing the Presidio as a site of great beauty,"[33] he went to considerable length in describing the northern shoreline area, although in the less-than-glowing terms that were typical of mankind's appreciation of the value of wetlands:

> A large area of the Presidio lying along the bay front, amounting to about 110 acres, is so low that it permits the ingress and egress of the tides which flood the greater portions at certain stages. This forms a swamp of considerable area. It is so badly drained in many places due to its low level making good drainage impossible, that during the rainy season, the drainage water from the higher country to the south collects in large, shallow lakes, much of it remaining until evaporated. This swamp not only renders the largest portion of the level area of the Presidio absolutely useless but is an obstruction to the use of the bay front and is probably a source of ill health. It is in any case a waste of valuable land besides being a disagreeable and unsanitary feature in the post. It lies between the high lands on the south and a sand ridge about 12 feet high above low water located along the bay shore, which has been thrown up by the waves. A breach through this ridge permits the salt water to enter into the channels of the swamp. All efforts to effectively drain this swamp are unavailing on account of its low level. This land will imperatively be needed for drill grounds, ceremonies and the location of stables and other buildings as soon as the Presidio is expanded to meet future requirements. This entire area probably was formerly mud flats covered completely at high tide but through the wash from the high ground and the accretion of sand brought in from the ocean, it has been converted into its present condition. It is proposed to reclaim all this area by filling it, thus producing an artificial plain of ample size.[34]



The original sand dunes and main estuarine channel through the lower Presidio wetlands just prior to their being filled. Note the Montgomery Street barracks in the background and the sections of pipe laid out prior to their being connected to the dredge. Ca. 1912.
(San Francisco Public Library)

32 Thompson, Erwin N. and Woodbridge, Sally B., *Special History Study: Presidio of San Francisco—An Outline of Its Evolution as a U.S. Army Post, 1847-1990*, National Park Service, Denver Service Center, 1992, p. 149.

33 ibid., p.60.

34 NA RG 92 , Office of the Quartermaster General. General Correspondence, 1890-1914. Item No. 237467.

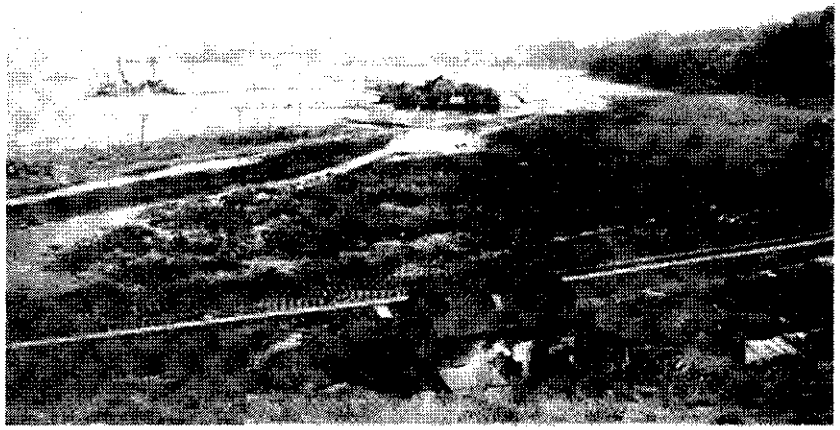
Major Hart's plans would have to wait five years for implementation. It turned out to be a great world's fair, and not the Army, that was responsible for the "watershed" change to the landscape that transformed the still-largely natural tidal marshlands at the lower Presidio into a flat dry open field suitable for development into an aviation ground.

The Panama-Pacific International Exposition was conceived to celebrate the opening of the Panama Canal, and to demonstrate to the world that San Francisco had "risen from the ashes" of the great earthquake and fire of 1906.

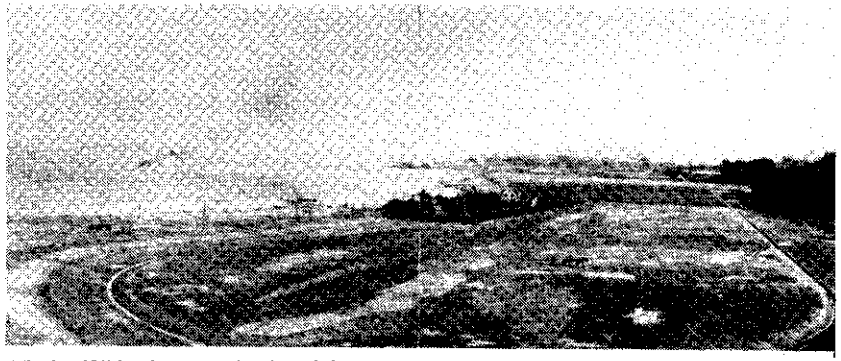
> The locating of the Exposition partly within the country's largest military reservation inside city limits, combined with the unwavering interest of Maj. Gen. Arthur Murray commanding the Western Department of the Army, made the United States forces almost an organic part of the undertaking from its earliest stages of development, and lent to the celebrations all the impressiveness it is possible for a ceremony in a democracy to have. Army men felt that the Canal was one of the achievements of their Service, and so there was something peculiarly appropriate in the keen interest they took in the celebration of it.[35]

Landfill on a massive scale was required to complete the exposition grounds as planned and turn the two-mile strip of marshland on the northern waterfront of San Francisco between the Transport Docks at Fort Mason on the east and the bluffs near Fort Point on the west into dry land. The first contract

> ...was let on March 25, 1912, to the San Francisco Bridge Company....The huge suction dredge *John McMullin* the largest on the Bay, was stationed 300 feet off shore and a safe distance from the Transport Docks working generally parallel with the waterfront; and a line of 22-inch pipe that afterward varied with the work from 600 to 2,200 feet in length, was carried inland



An ocean-going dredge pumps a light-colored mixture of sand and mud from the bottom of San Francisco Bay into the salt marsh on the northern Presidio shoreline as the first step in the construction of the Panama-Pacific International Exposition. c. 1912. (San Francisco Public Library)



The landfill has been completed, and the Exposition racetrack is taking form. Note that the U.S. Life Saving Station has not yet been moved from its original location. (San Francisco Public Library)

35 Todd, Frank Morton, *The Story of the Exposition: Being the Official History...*, G.P. Putnam's Sons, New York and London, 1921, Vol. I, p.384.

The Grand Prix of 1915 at the Exposition racetrack. (U.S. Army, Presidio of San Francisco)

on pontoons....The engineers were quite finicky about the sort of mud they got, and when inspection showed too high a percentage of soft material and not enough sand that would stay put, they directed change of ground for the dredge, as provided in the contract, until the output suited them....The resulting fill was about 70 per cent sand and 30 per cent mud....For filling the lowlands of the Presidio west of Baker Street the Standard American Dredging Company had the contract, at a higher price than the other, because the quantity of fill required was much smaller, and the rougher water at this point necessitated a sea-going dredge. There were 360,525 yards of this fill.[36]

When the exposition was completed in 1915, the portion of the Presidio waterfront east of Halleck Street was the site of the state and international pavilions, and the ornate Palace of Fine Arts had taken form on the reser-

Map of that portion of the Panama Pacific International Exposition lying within the boundaries of the Presidio of San Francisco. Note that the interior of the racetrack is identified as an "aviation field." (adapted by Gordon Chappell, National Park Service)

36 ibid., p.299.

vation's eastern edge. The western portion of the leased (and filled) area became the site of a race track one mile in circumference, with three grandstands large enough to accommodate 25,900 people at a cost of 95 cents each, and separate areas for athletics, polo, aviation events and a drill ground for military demonstrations. Automobile races, notably the International Grand Prix of 1915, zoomed around the track at the dizzying speed of 56 miles per hour. One of the daredevils in the race cars was young Eddie Rickenbacker, who in three years was to become America's leading air ace in World War I. In order to make room for the race track, the exposition company assumed the cost of moving the Life Saving Station 700 feet west to its present location and installing a new steel boat launchway at the new site.

Promoting the new art of aviation was a significant activity at the fair, "and the Exposition was able to employ such men as Lincoln Beachey, Art Smith, Charles Niles, and Silvio Pettirossi to furnish its visitors demonstrations of flying as a sport and amusement—trick flying, 'stunts' in the air, exhibitions of control that had serious value: loops, and nose-dives and tail-slides, and side-rolls and long falls like the stoop of a hawk, caught on the elastic cushion of the air within a few hundred feet of the ground. And as an Exposition concession, Loughhead [founder of Lockheed Aerospace] was carrying passengers in a hydro-aeroplane from the Yacht Harbor."[37] Aviation events took place at an open area known as the North Gardens, on the shoreline between Fillmore and Scott streets. This area was later used by the city as an aviation field and air-mail terminal, and was sometimes called Marina Field. Presently known as the Marina Green, a monument commemorates aviation activities at the site.

Certainly the most famous aviator at the exposition was Lincoln Beachey, who more than any other American exemplified the daredevil flyers of aviation's pioneer days. Orville Wright called him "the greatest aviator of all." He was a native San Franciscan, and the first American to perform a loop-the-loop. He showed his incredible aerobatic skill at the exposition in the most dramatic fashion by flying <u>inside</u> the not yet completed Palace of Industry, the world's largest wood-frame building. His high-powered little biplane crashed into the far end of the building, with only nominal damage to machine, leaving the intrepid aviator unscathed "except for the terrific force of the collision."[38]

Beachey continued to thrill fairgoers with more and more daring flights, but pushed himself and his machine beyond limits when doing a "vertical-S" maneuver and crashed to his death into the Bay off the North Gardens.

> Though most people didn't realize it yet, an era was ended. ...The great pioneers—the Wrights, Curtiss, Bleriot, Santos-Dumont, the Voisins—had moved off the center of the stage...the public's gaze turning, after Beachey's death, to a new generation of aviators. ...They performed for a far different audience and the stakes were a lot higher, for now there were two kinds of enemies—the natural ones which had been there all along and the man-made terrors of war. ...Yet there were always people who would accept the risks. Unknowingly, the torch was passed on the day that Lincoln Beachey died. For among the crowd that helplessly watched his awful, fatal plunge was a young man named Eddie Rickenbacker who would soon come to symbolize, more than anyone else, the spirit of the next crowd of pilots to occupy the stage.[39]

The stage was now set, both physically on the landscape, technically in the machines and emotionally among the pilots, for military aviation to take center stage on the Presidio's northern shoreline.

* * *

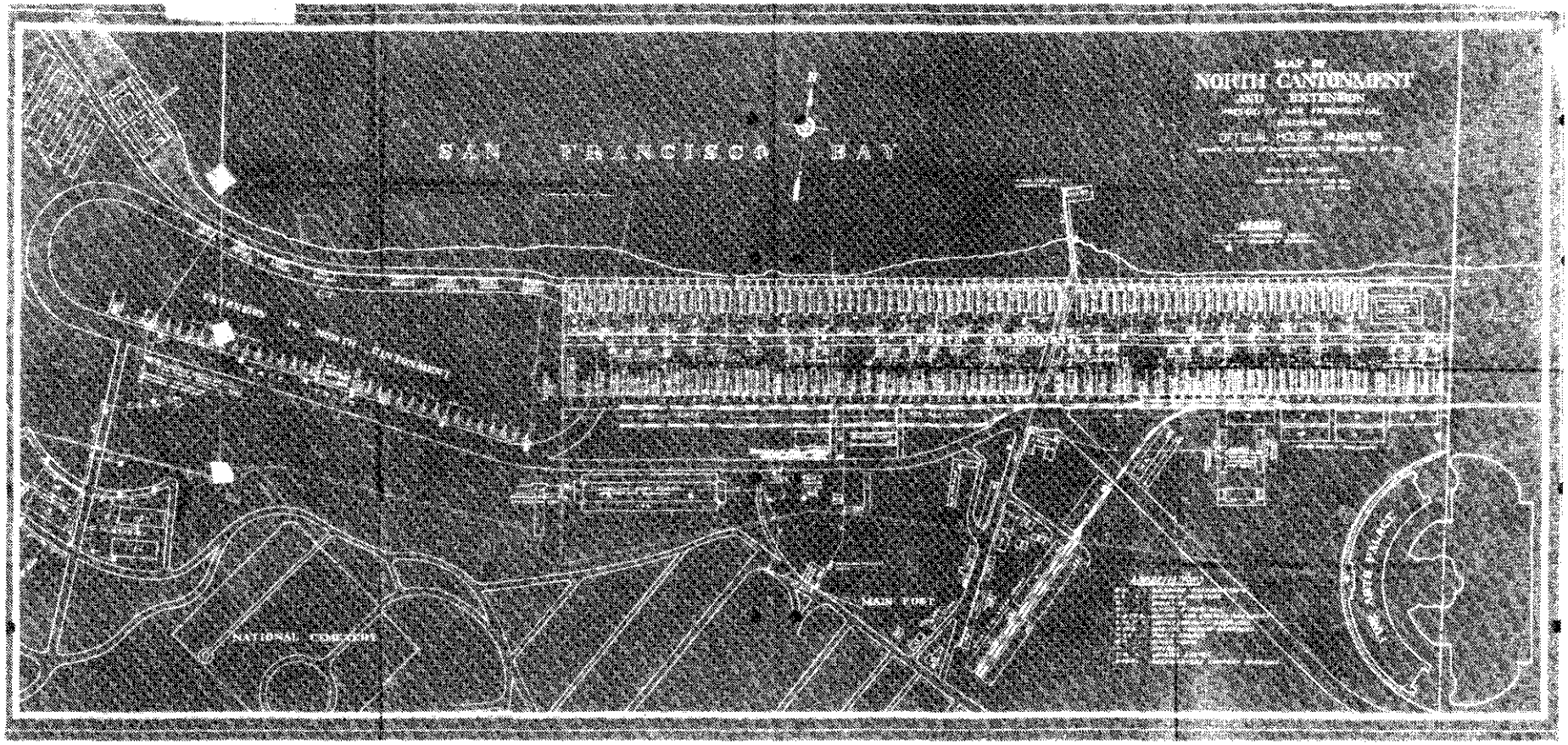
37 ibid., p.84.

38 Harris, *First to Fly*, p.214.

39 ibid., p.218-9.

Site History–Chapter 2

An Airfield is Established



This map was an attachment to the 1919 Board of Officers report which recommended the establishment of an air coast defense station at the Presidio. In the report, the area referred to as "A" is the site of the original airfield on the old racetrack, "B" refers to the North Cantonment area identified for airfield expansion, and "H" is the Coast Artillery switchboard. (National Archives)

An Airfield is Established, 1919-1922.

During World War I, the Army built dozens of temporary buildings on the former exposition grounds within the Presidio, and a military spur connecting to the State Belt Line Railroad of California was extended into the post to connect these quartermaster storehouses with the Transport Docks at Fort Mason. Other buildings in this "North Cantonment" were used to house troops. In May 1917, for instance, the regular 12th U.S. Infantry Regiment returned to the Presidio from "the adobe buildings of Nogales," where they had served in the Mexican border expedition, and moved into the wooden cantonment built on the site of the Panama-Pacific exposition.[40]

In the meantime, combat on the front in France and Belgium abundantly confirmed the practical role of aircraft in military operations. One of the most successful application of aircraft on the battlefield was reporting on troop movements and observing the effects of artillery fire. The newly-formed Air Service was eager to expand this application to coastal patrol, the defense of harbors against enemy attack, and cooperation with coast defense artillery by locating targets, determining range, and observing the effects of fire. "By the end of April 1919, they had received Coast Artillery approval for a station on Staten Island, and the Air Service was preparing for coastal defense operations at Langley Field. In June 1919, Maj. Gen. Frank W. Coe, Chief of Coast Artillery, agreed to eight more stations, the precise locations to be determined later"[41] In July of 1918, Congress passed Public Law 189, "An Act Making Appropriations for Fortifications and Other Works of Defense..." which authorized $8,000,000 for the construction of eight "air coast defense stations." Only one of these was constructed in the east—Miller Field on Staten Island, New York.[42] In the west, to cooperate in the defense of the most heavily-fortified harbor on the Pacific Coast, a site was chosen in San Francisco and Congress authorized $1,500,000 for construction.[43]

At the time, the only other Army airfields on the West Coast were Mather Field, near Sacramento, March Field, near Riverside, and Rockwell Field in San Diego. The Air Service intended Mather to be "the main supply and repair station for the Air Service on the Pacific Coast;"[44] March Field "was established during World War I as an Air Service pilot training school;"[45] and Rockwell Field was used as an Army and Navy aviation school from 1918 to 1935 "when the school was discontinued and the base dismantled."[46] The only dedicated Air Service Coast Defense Station in the western United States was the one at the Presidio, soon to be known as Crissy Field.

In June 1919, having completed the process of post-war demobilization at Rockwell Field, Col. Henry H. "Hap" Arnold was transferred to San Francisco to be the air officer on the staff of the commanding general of the Western Department (soon to become the Ninth Corps Area). His duties were to take charge of the small Air Service contingent in the department, and to give advice on aviation to the commanding general, Lt. Gen. Hunter Liggett. At first, Arnold's office was in the Santa Fe Building, in downtown San Francisco. Quarters being scarce on the Presidio, he commuted to work from a home he found for his family in Berkeley.[47]

Arnold was quickly assigned to convene a Board of Officers "for the purpose of selecting site for combined Land and Water Coast Defense Air Station in vicinity San Francisco." The four officers met on June 12 and mulled over sites that would meet the following requirements:

40 "The Army at the Golden Gate," Works Progress Administration, 1934, p.54.

41 Maurer, *Aviation in the U.S. Army*, p.108.

42 Unrah, _____, *Unrah of Airfields*, p.61.

43 *Chronicle*, ?/?/1920 (full date is illegible).

44 NA RG18, Records of the Army Air Forces, Series 168 Correspondence Relating to Airfields, Central Decimal File 322,172, Office of the Chief of Air Service to Adjutant General, Jan. 4, 1921.)

45 NA RG18, [notes to] Early Construction Photographs of March Field, California, 1928-1934.

46 NA RG18, [notes to the] Erikson Collection, Rockwell Field, San Diego.

47 Coffey, Thomas H., *Hap: the Story of the U.S. Air Force and the Man Who Built It, Henry H. "Hap" Arnold*, The Viking Press, New York, 1982, p.101)

> (1) Suitable for both land and water airplanes. (2) Landing fields for airplanes must be large enough for observation, bombing and pursuit types of planes, and have areas sufficient to care for and maintain at least two squadrons and be capable of expansion. (3) Must be close enough to the Coast Artillery Fire Control Stations, so as to insure proper coordination and have no delay due to unnecessary distance which must be covered before airplanes could go into action or messages be transmitted. (4) Proximity from site to water, sewer, power and lighting lines and railroad sidings was an important consideration. (5) The board deemed it desirable, if possible, to secure land on a military reservation so that additional land need not be purchased.[48]

The board considered various sites across the Bay near Oakland or south towards Palo Alto, but quickly settled on the Presidio shoreline.

> The site within the Presidio Reservation is well known to all the members of the board and has been *and is being used* [emphasis added] as an aviation field. It has about 2400 feet of sandy base, with a natural slope which is well adapted to seaplane operations. Reference to the maps... will show that it is well protected [by] the bluffs of Ft. Winfield Scott from the winds and waves coming in from the west. This beach, being protected as it is, will permit of seaplanes being operated except in the severest storms and there is little danger of the tracks for launching the seaplanes being washed away by heavy seas. The entire site selected is within the limits of the Presidio Reservation and the beach has been used successfully in the past by many civilian aviators for seaplane flying.... There is adjacent to this beach, marked "A" on the accompanying maps, a flat, kidney shaped stretch of land about 2400 feet long and varying in width from 800 feet at the ends to 600 feet at the middle. At the present time there is a race track within this area and along the sides of the race track, as shown on the map, are various temporary buildings, erected during the War, which were used as latrines and kitchens for troops being mobilized. These buildings are now used for storage purposes by the Brigade of Heavy Artillery, which is stationed at the Presidio. It is believed that this stretch of land is large enough for the operation of two squadrons of land planes. It is used for the operation of three airplanes at this time, which are attached to Department Headquarters....To the

Col. Henry H. "Hap" Arnold (right) with Capt. Lowell H. Smith signing the flight log upon Smith's return from the First Transcontinental Reliability and Endurance Test. Although Smith is referred to in documents as a lieutenant, he is clearly wearing captain's bars. Smith went on to circle the globe in the 1924 Round-the-World Flight; Arnold led the Army Air Force in World War II. (Library of Congress)

48 NA RG18, Series 168, Central Decimal File 600.1-600.12

> east of the area already described is a rectangular area, approximately 3300 feet long by 500 feet wide. This area is covered by cantonment buildings....By utilizing section "A" as a peace time Aviation Field and figure on expanding over area "B" in war time, when the necessity for an increased number of ships arises, the requirements relative to landing fields for water and land airplanes is met.... Within 200 yards of the center of the location, at a point marked "H" on the map, there is located a Coast Artillery Switchboard, which is connected with all Coast Artillery Fire Control Stations on the San Francisco side of the Golden Gate. ... The board was unanimous in the selection of the above site.[49]

This report by the Board of Officers was the formal beginning of the airfield that was to become Crissy Field.

In the fall of 1919, Colonel Arnold requested the removal of Building Nos. 202 and 205 through 213, "because they form a distinct menace to ships coming in for landing, as it is necessary to come in very low over these buildings in order to not overshoot the field in landing with De Haviland planes. On 2 or 3 occasions pilots coming into this field for the first time in De Haviland planes have dragged their tail skids on one of these buildings." In spite of the optimism of the Board of Officers, the chronic problem of the cramped nature of the airfield was already exerting itself.[50]

* * *

Demonstrating the need for Army aviation in an era of demobilization and fiscal restraint was a constant concern, and a cause that was promoted by the outspoken assistant to the Chief of the Air Service, Brig. Gen. William "Billy" Mitchell. "To demonstrate the versatility of the airplane and keep their service in the public eye, Mitchell encouraged army pilots to fly their old crates into the limelight. The early 1920s became the stunt era of military aviation. Aerobatic displays, races, endurance flights, parachute drops, altitude records, forest-fire fighting, border patrols, all manner of news-making flights were conducted to promote the airplane and the service. Of greatest significance were a series of long-distance flights."[51]

The most ambitious and important of these flights was the Army's First Transcontinental Reliability and Endurance Test, intended to test the limits of the down-sized Air Service's capability in personnel, organization, equipment, supply and communication, and to "make available to the business interests of the United States and to commercial aviation, the knowledge and experience in Aeronautics which has been centered in the Air Service as a result of the war."[52] Forty-six planes led by Lt. Belvin W. Maynard started from Roosevelt Field, Long Island, and headed west to San Francisco, and fifteen took off through heavy fog and headed to the east coast from the still-unnamed aviation field at the Presidio at 6:00 in the morning of October 8, 1919, with Lt. Lowell H. Smith in the lead.[53] (However, the *Air Service News Letter* refers to taking to the air at Hazelhurst Field and "the Marina.")

"Sadly, it all backfired." Only nine men actually finished the flight, while nine men died trying. Great distance, bad weather, and old aircraft all contributed to the ghastly toll.[54] Lt. Maynard set down at the Presidio on Saturday, October 11. "Of the fifteen planes starting from the West, seven were still in the race four being east of Chicago at the moment Lt. Maynard landed at San Francisco."[55] He was greeted by a large crowd that included Col. Arnold, Director of Air Service, Maj. Gen. Charles T. Menoher, and Lt. Gen. Hunter Liggett, Commanding General of the Western Department.[56]

> Lt. Maynard's great achievement in crossing the continent in a little over 24 hours [flying time] is practically invaluable to the Air Service inasmuch as by his ability as a cross country flyer he

49 ibid.

50 NA RG18, Series 168, Central Decimal File 634, Miscellaneous Buildings.

51 Gwynn-Jones, *Farther and Faster*, p.188.

52 *Air Service News Letter*, Oct. 18, 1919. **(Hereinafter cited as ASNL.)**

53 Maurer, *Aviation in the U.S. Army*, p.30-1. Also *ASNL*, Oct. 18, 1919.

54 Gwynn-Jones, *Farther and Faster*, p.189.

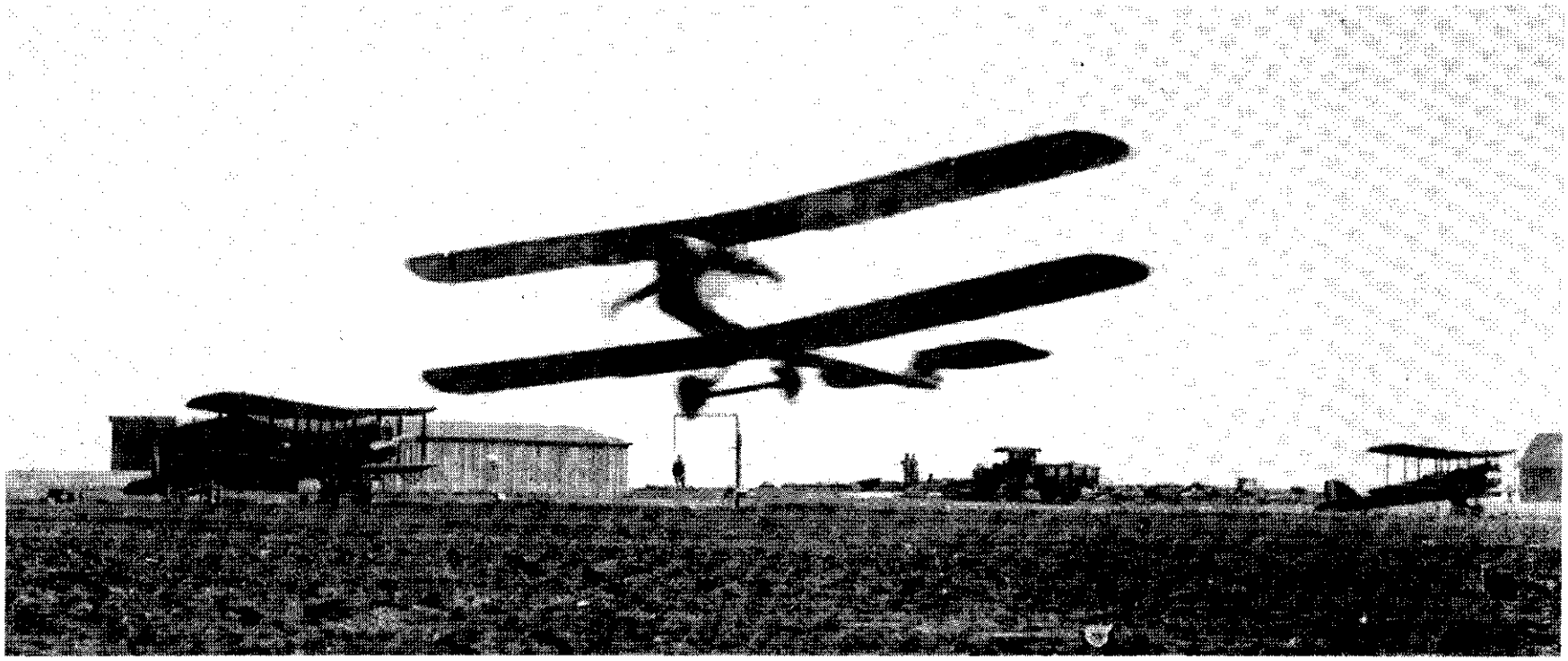
55 *ASNL*, Oct. 18, 1919

56 Maurer, *Aviation in the U.S. Army*, p.32.

collected data which will prove very valuable to airmen who will attempt the flight in the future....It is worth while mentioning the fact that planes flew over parts of the United States, the inhabitants of which in some places, have been unaccustomed to seeing the different types of airplanes in use at the present time. This would be both instructive and interesting to people unfamiliar with the sight of airplanes. That airplanes could be used for commercial purposes was more or less looked down upon as a dream by people in the far west, but this accomplishment proves beyond a doubt that in the near future there will be extensive aerial routes for both passenger and commercial purposes.[57]

Two of the aviators who paid with their lives for such proof were Maj. Dana H. Crissy, commander of Mather Field and brother to the Myron Crissy who dropped the first aerial bomb eight years ago, and his observer, Sgt. 1st Class V. Thomas, who were killed the first day out of San Francisco while approaching Salt Lake City when their De Havilland DH-4 "stalled when gliding into the field; he slipped off on a wing from an altitude of about 150 feet, the airplane striking the ground engine first.

This is the earliest known photograph of Army flight operations at the Presidio. On October 19, 1919, Capt. Lowell H. Smith brings his De Havilland in for a landing upon his return from the Transcontinental Reliability and Endurance Test in which Dana Crissy died. (Library of Congress)

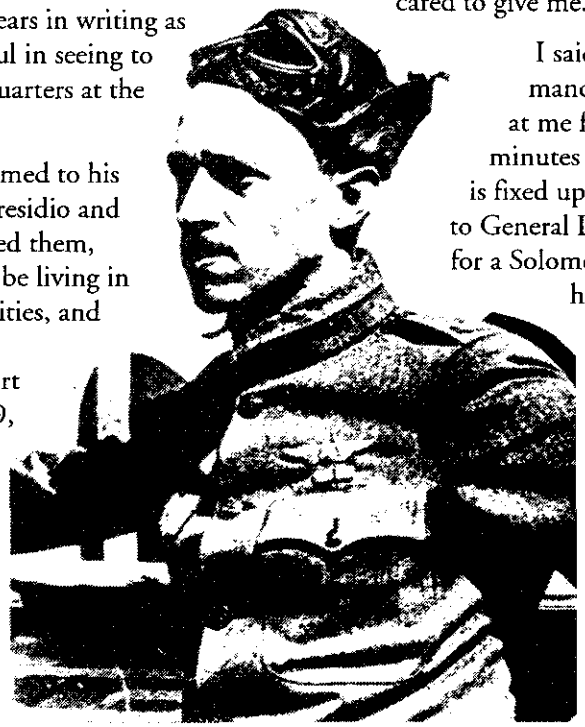


57 *ASNL*, Oct. 25, 1919.

Major Crissey [sic] was crushed between the engine and the gas tank, and his passenger was killed by the shock."[58] The U.S. Air Force official history was less charitable, "A pilot was more than just an 'aerial chauffeur'—knowledge and experience were a must (Major Crissy's inexperience had been the principal cause of the crash in which he and Sergeant Thomas died)."[59] Back in San Francisco, Hap Arnold determined that the new flying field should be named after his friend. In this he was successful—the name Crissy Field appears in writing as early as March 1920.[60] He was less than successful in seeing to it that Major Crissy's young widow could live in quarters at the field when they were built.[61]

By beginning of 1920 Arnold had become accustomed to his new duty station. He moved his office onto the Presidio and secured quarters there for his family. His wife called them, "small quarters but very nice." She was pleased to be living in the city, "on one of the Army's most beautiful facilities, and the social life was pleasantly active....Arnold, as a colonel, was even making enough money to support them without scrimping. His income during 1919, including flight pay, had come to $8,980, a handsome sum in those days."[62]

Two incidents during the year illustrate the kind of man Arnold was, on duty and off. Due to post-war reorganization, he suddenly found that he had reverted to his permanent grade of captain and was outranked by his friend and assistant air service officer, Maj. Carl A. "Tooey" Spaatz. Years later, Arnold recalled:



Major Dana H. Crissy

On the morning the orders came through, I arrived at the office first and moved all of Tooey's stuff into my desk in my office, and vice versa.

When he arrived, he was aghast, "What the hell is this all about?" he exclaimed. I explained that he was in command now and I was his assistant and ready to carry out any orders he cared to give me.

I said, "Look, Tooey. Law is law. You are in command now and you can't change it." Tooey looked at me for a moment and then left the office. A few minutes later he returned and said, "Well, everything is fixed up." It soon developed that he had gone straight to General Liggett himself, had submitted the case to him for a Solomon's judgement, and had gotten orders out having himself transferred to Mather Field rather than take my job away from me....I was left in charge as West Coast Air Officer, as a Captain. A few months later I was made a Major.[63]

The friendship between the two officers, so instrumental during the Second World War, was further cemented on social occasions at the Presidio. Arnold was a heavy drinker until ulcers caused him to drastically cut his alcohol intake. His biographer recounts how:

One night when Spaatz was in town, Arnold threw a party for him, arranging

58 *ASNL*, Oct. 25, 1919.

59 Maurer, *Aviation in the U.S. Army*, p.35.

60 *ASNL*, Mar. 30, 1920.

61 From December 8 to 11, 1919, a U.S. Army Transcontinental Group Flight made a less-publicized long-distance flight from New York to Crissy Field and back. Ten out of forty-four planes completed the round trip. The best time was turned in by Maj. Carl A. "Tooey" Spaatz in a DH-4B. Information supplied by Ronald T. Reuther in his unpublished ms. "Wings Over the Golden Gate."

62 Coffey, *Hap*, p.104.

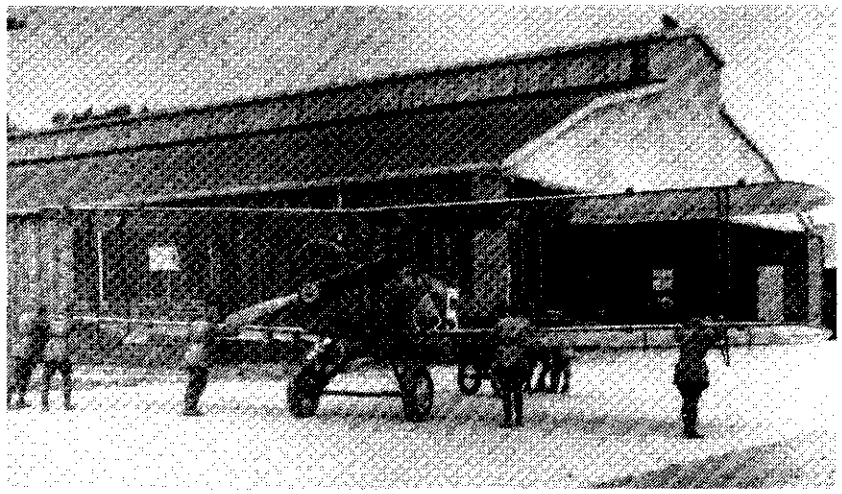
63 Arnold, H.H.; *Global Mission*, Tab Books, Inc., Blue Ridge Summit, PA, 1921. p.99.

> in advance to have it end with a surprise. Though Prohibition was now two years old, there was no shortage of liquor in San Francisco, or in Arnold's quarters. He was an enthusiastic host and despite his own abstinence enjoyed mixing drinks for friends. The night of the Spaatz party he mixed a lot of drinks for a lot of friends, and as the early morning hours approached, almost everyone was feeling mellow. It was then that he pulled a surprise on Tooey. A man pounded on the front door, announced himself as a Prohibition agent, and demanded entrance. Spaatz leaped to his feet and, while everyone in on the joke was laughing, ran for the kitchen. But as soon as the joke was over, Arnold found out that it had been on himself rather than on Spaatz. Tooey had destroyed the evidence of drinking by pouring the liquor down the sink. And it was Arnold's liquor.[64]

The location of Arnold's family quarters while he was stationed at Crissy Field was not identified.

Throughout 1920, Arnold kept an eye on the progress of construction as the new air base took shape. His immediate superior, the commander of the Ninth Corps Area, called attention "to the fact that the building program at Crissy Field calls for an expenditure of $1,130.000 and will no doubt be completed within the next year."[65] Airplanes and units began to appear on the scene. In May a Spad-VII and a Fokker D.VII, quintessential fighters of the First World War, were sent to Crissy Field, and Flight A of the 91st Observation Squadron arrived on temporary duty in September. In November the *Air Service News Letter* reported that:

> Monday, Tuesday, and Wednesday of this week were given to the assembling of a new DH-4B (De Havilland observation plane) and to the equipping of four others with double radio transmitting sets. This will raise the radio communication percentage to a very high average. Thursday, five ships arrived at Crissy Field, San Francisco. They will co-operate with the Coast Artillery in directing the artillery fire of the coast defense guns. Flights have been made over the targets while the practice is going on, to get an idea of the correctness of the shots, also to acquaint the pilots and observers with what is expected of them, and to impress upon them the necessity of accurate spotting of shots. Lewis machine guns are mounted on each ship and at the completion of each observation flight some time is given to machine gun practice. Two ships at a time have been making such flights and each ship using the shadow of the other on the water for targets.[66]



A De Havilland DH-4B of the 91st Observation Squadron being pushed into its hangar at Crissy Field. 1923. (National Archives)

64 ibid., p.106.

65 NA RG 407, Records of the Adjutant General's Office Central Decimal Files. Project Files. 1917-1925. Aviation Fields. Box 1141. Commanding Officer Ninth Corps Area to Adjutant General. Sept. 17, 1920.

66 *ASNL*, Nov. 19, 1920.

Late in the year, a local newspaper reported that:

> Seventeen buildings at Crissy Field, where 200 men and a score of officers of the San Francisco coast air defense station will be on duty, have been finished within the past few days. They include quarters for the families of the air service officers and non-commissioned officers and bachelors' quarters for commissioned officers.
>
> The work of enlarging Crissy field by the addition of a tract 1200x500 feet is progressing rapidly. The field will be 3000 feet long and will extend eastward along the bay, where the temporary cantonments used for troops during the war were located.
>
> The docks where the seaplanes will be moored and hoisted for repairs are now three-quarters finished, and the steel frames of the seaplane and landplane hangars are now well under way.

Regular and Reserve officers of Crissy Field assemble in front of the administration building. 1923. (National Archives)

> Work on the roads, sewers and water supply system is progressing rapidly....
>
> The present air forces at Crissy field consist of fifty-four officers and men of the air service casual detachment under Lieutenant H.A. Halverson, and the 15th Photographic Section, under Lieutenant Robert S. Seilf.[67] Flight A of the 91st Air Squadron, consisting of three planes under the command of Lieutenant E.C. Kiel, which have been engaged in observation work in connection with the target practice at Fort Barry and in flare dropping over the ocean at night, returned last night to Mather Field in Sacramento.
>
> Until the opening of the new air coast defense station within the next three months, the three planes now at Crissy field will be operated by cadets in charge of Lieutenant Halverson.
>
> The only other air coast defense station on the Pacific Coast, besides the one here, will be two balloon stations at Fort Casey and Fort Worden, Washington, and North island at San Diego, where the sum of $2,000,000 has been spent for a combined Army and Navy air base.[68]

Several of the new buildings continued the tradition of Mission Revival style architecture that had begun at Fort Mason and Fort Winfield Scott a decade earlier. Along the edge of the landing field, the two-story enlisted barracks took shape. It was a reinforced concrete, H-plan building, with a raised basement story. The gable-ends of its roof were faced with curved or scrolled moldings and had a circular opening in the middle.

The administrative building stood just to the west. On its main floor were the offices of the commanding officer of the field, while the department's Air Service officer, commencing with Major Arnold, had his office on the second floor. This building was designed in a

67 The 15th Photographic Section, along with the 91st Observation Squadron, were the two operational units stationed at Crissy Field for most of its career as a first-line air base, 1921-1936. The 15th Photo Section had a distinguished combat career in France during First World War under the command of the famous photographer Edward Steichen. The National Archives has a remarkable series of photographs of World War I scenes taken by the 15th under the direction of Maj. Steichen.

68 *Chronicle*, ?/?/1920. (The complete date is illegible on microfilm, but is clearly October to December 1920, when taken in context.)

Craftsman/Mediterranean Revival style, combining the light-colored stucco and tile roof with Classical and Craftsman details.

A small guardhouse stood at the entrance to the field on the south side of Crissy Field Avenue. Eclectic in style, it combined the light-colored walls and tile roof of Mediterranean Revival with Classical elements such as the entrance portico and door with round arch and fan-shaped transom window. The flagstaff for Crissy Field stood in the middle of the intersection in front of this building.

Crissy Field Avenue, a new paved roadway, cut into the bluff leading from the administration area west and uphill to the officers' houses on the plateau above the hangars. These consisted of twelve officers' quarters in a simplified Colonial/Mediterranean Revival Style and a two-and-one-half story Bachelor Officers' Quarters in Southern Colonial Revival with a two story portico, triangular pediment and Tuscan columns. At the west end of the airfield stood a garage, two hangars, shops and maintenance facilities and maintenance facilities constructed in straightforward utilitarian style on mostly-rectangular floorplans.[69]

The landing field proper, consisted of simply the open clay and sand field left over after the demolition of the exposition's racetrack, extending somewhat further to the east. It was levelled, graded, and constant attempts were made to keep the surface covered with grass in spite of poor drainage, winter storms, the wear of trucks and of airplanes crossing it to taxi, take-off and land.

On June 24, 1921, the Quartermaster at Fort Mason in charge of construction accepted the completed Air Coast Defense Station at Crissy Field, and turned it over to Major Arnold, who assumed temporary command. Shortly thereafter, the major and his superior, the commanding general of the Ninth Corps Area (as the Western Department had been renamed) were the guests of honor at the flare-lit night time ceremony inaugurating the post. Crissy Field was to be administered as a sub-post of the Presidio.[70]

Upon completion in 1921, the Officers' Quarters at Crissy Field were considered to be "so small and so inadequate for the needs of officers that they should never be duplicated under and circumstances." They were enlarged in 1928. (National Air and Space Museum)

In reporting upon the newly-constructed airfield, Arnold noted that it was necessary for him:

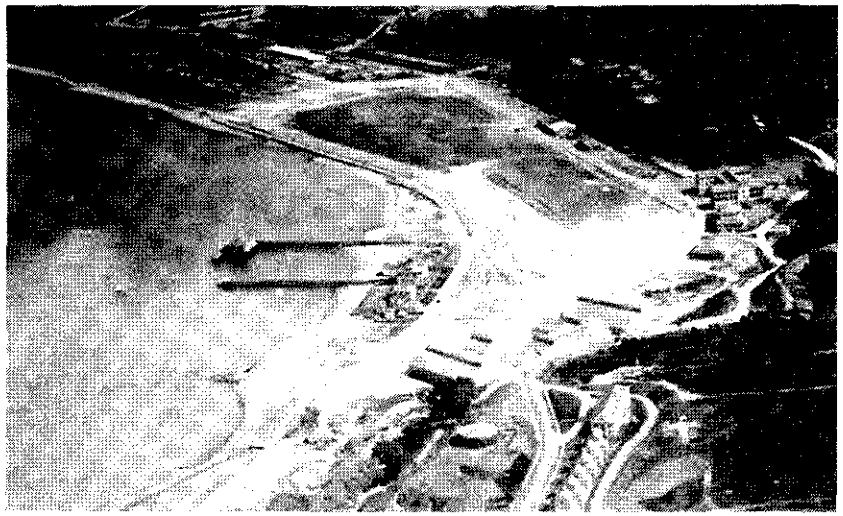
> to take over space in the Administration Building due to there not being sufficient space in the concrete barracks in the Presidio [i.e., Building 35] into which the other officers of Corps Area Headquarters moved....The design of all the buildings, with the exception of the officers' quarters is excellent. The Post, as it stands, with the exception of the officers' quarters, is one that is a credit to the Air Service at large, and has been commented upon as such by all officers from other branches of the service who have seen it. The Officers' Quarters, on the contrary, are so small and so inadequate for the needs of officers that they should never be duplicated under any circumstances.[71]

69 The descriptions of Crissy Field buildings and architectural styles are from Thompson and Woodbridge, *Presidio of San Francisco*, pgs. 146-7.

70 NA RG407 Records of the Adjutant General's Office. Central Decimal Files. Project Files. 1917-1925. Aviation Fields. Box 1141. Adjutant General's Office to Commanding General Ninth corps Area. Aug. 8, 1921.

On July 11, Arnold, now a major, is reported to have moved into the second floor of the headquarters building, while the business of the field was conducted from the first floor. With a force of sixty officers and men on hand, eight of whom had applied for discharge, Arnold believed himself unable to maintain the field in the excellent condition in which it had been received. He immediately beseeched the Chief of the Air Service for a squadron to be stationed at the field, and soon was authorized one observation squadron and one photographic section. Shortages of transportation funds delayed the assignment.

The *Examiner*, however, rhapsodized, "Crissy Field will be the most strongly fortified airplane station in the U.S. Scores of De Havilland army planes will be concentrated at Crissy. Army officials have conferred with U.S. Postal Air Service to arrange for evacuation of army aerodrome recently assigned to the mail ships following the loss of the use of the Marina as a landing and a housing field."[72]



Crissy Field looking east. This photograph, from a 1923 Reserve Camp Report, is believed to have been taken in the second half of 1921, since additional hangars at the eastern end of the airfield were completed by the summer of 1923. (National Archives)

With somewhat more authority, the Office of the Chief of the Air Service assured Arnold that:

> The importance of Crissy Field is not underestimated in this office. It has an excellent position in relation to San Francisco—proximity to the city in case any units of the National Guard or Reserve are organized. It is well located to take care of the coast defenses of San Francisco Bay. It is at the Headquarters of the Ninth Corps Area. And it can well be the big western terminal of the transcontinental airway. In the 16,000 enlisted man distribution, there is assigned to each Corps area a divisional observation squadron and a photo section. But if the Air Service is reduced to 10,000, some Corps Areas will have to go without Air Service units. But the Ninth Corps will be represented in any case."[73]

Insight into the place of Crissy Field in the overall defensive scheme of the western United States appeared in a memorandum from the Office of the Chief of the Air Service, which said:

> The present distribution of the Air Service troops in the 9th Corps Area appears to be somewhat scattered...There will remain for heavier-than-air units the following stations: Crissy Field, Mather Field, Rockwell Field. The first is intended primarily for a coast defense station and is suitable for a garrison of one Observation Squadron and one Photo Section. Estimates have never been based upon more than this garrison. Rockwell Field, in addition to being a terminus point of both the coast and border air patrols, is also a coast defense station primarily. Mather Field, due to its location, will ultimately become the main supply and repair station for the Air Service on the Pacific

71 NA RG18 Project Files—Crissy Field. Air Officer Ninth Corps Area to Chief of Air Service. July 1, 1921.

72 *S.F. Examiner*, Sept. 28, 1921.

73 NA RG18, Central Decimal File 686. Mar. 7, 1921.

> Coast, and the repair depot at Rockwell Field will be moved to this point.[74]

In August, the 24th Balloon Company completed its work at a Citizens Military Training Camp held at Crissy Field, and moved to Fort Miley. In October, the transportation fund problem having been solved, and the fire season over, the 91st Observation Squadron wrapped up its forest fire patrol duties, turned in its surplus property, and left Mather Field for San Francisco. The airplanes, of course, flew to their new home, but the large ground element moved overland.

> The motor convoy consisted of approximately forty-five vehicles and made the trip without serious incident or damage to Government vehicles. The train camped the first night at the foot of the mountains near Livermore, California, and pulled into the Presidio of San Francisco about noon of the following day. All the departments in the Squadron are extremely busy taking over various duties in the Post, and in a short time, things should be running up to their usual standard. The personnel of the 91st Squadron, both commissioned and enlisted, seem to be highly pleased with their new home, on account of the natural beauty of the location, the permanency of the buildings and the place in general, and its convenience to San Francisco and other cities around the Bay.[75]

Crissy Field had become a busy place. Soon the men from the balloon companies were back. "With the arrival this week of the 91st Squadron (Obs.) and about 150 men attached from the 24th and 14th Balloon Companies, Crissy Field is taking on a new appearance. A great deal of work is being done on the post, levelling off the lawn-sites, fixing up the flying field, and putting on general finishing touches....the 91st Squadron is rapidly becoming acclimated to its new location. Most of the Squadron Departments are being incorporated with those of the Post, and the usual routine is keeping everyone busy."[76] A month later, there were still one hundred men "busy daily in beautifying the post. Lawns are being made between the buildings, new sidewalks are being put in, roads and sidewalks are being ornamented with rock-work, and the flying field is being levelled and smoothed."[77]

Around this time the "Branch Intelligence Office No.3...was organized at this station....this office during the past week has been getting a line on landing fields in the 9th Corps Area, especially between San Francisco and Salt Lake City. This work is an innovation in the Air Service and should prove of great value." Soon the Intelligence Office moved into the administration building.[78]

Naturally, much effort also went into aerial operations. After arriving from Mather Field, "The transportation of the 91st Squadron, after a long forest patrol season, is being painted and put into serviceable condition for storage until further needed. In the same way, the airplane equipment of the 91st Squadron is being repaired and repainted after the past summer's use.

The aerial mission of Crissy Field as of April, 1921 was:

(a) To furnish observation, both day and night, for the artillery practice carried on monthly in the Coast Defenses of San Francisco;

(b) To furnish photographic ships for the 15th Aerial Photographic Section;

(c) To furnish airplanes for the flying officers, Headquarters Ninth Corps Area;

(d) To furnish ships for special missions authorized by Chief of Air Service, such as photographic cross country trips to obtain educational films for various news weeklies; [and]

74 NA RG18 Series 168. Correspondence Relating to Airfields. File 322.172. Office of the Chief of Air Service to Adjutant General,. Jan. 4, 1921.

75 *ASNL*, Nov. 19, 1921.

76 *ASNL*, Oct. 23, 1921.

77 *ASNL*, Nov. 19, 1921.

78 *ASNL*, Oct. 23 and Dec. 12, 1921.

(e) To participate in various Air Service exhibits in connection with educational campaign carried on by Air Officer, 9th Corps Area.[79]

In fulfillment of the first part of their mission, Crissy Field airplanes observed the fall of shot from Battery Spencer's guns, manned by the 10th Company, C.A.C, on November 15. S. Sgt. Cecil B. Guile was pilot and S. Sgt. Martin L. Helpman was the observer as the 12-inch barbette carriage guns fired ten shots at distances greater than 10,000 yards. The observation mission was considered a success, checking with the terrestrial observers in every case to within a few yards, and the radio being rated 75% efficient.[80]

Arnold himself described the process of aerial spotting of artillery fire in a series of adventure stories he wrote for boys twelve to sixteen years old. Although works of fiction, intended to stimulate popular interest in military aviation, the stories are authentic in detail, and populated with characters who, in fact, were stationed at Crissy Field with Arnold. Arnold named the hero of the series, the intrepid young aviator "Bill Bruce," after his own son, Billy Bruce Arnold.

> In a few minutes they were flying around over the [Presidio] reservation while they checked their radio with the ground station at the airdrome. The antenna wire hung two hundred feet below the plane and formed an arc with the lead "fish" at the end of the wire. The fish was a weight shaped in a stream line form so that the wire would ride steadily through the air and hang well down below the plane.
>
> Breene sent out the call letters and then Bill and his observer watched for the O.K. panels. As soon as they appeared, Bill headed his plane out over the Coast Artillery radio station. This was acknowledged by the panel signal, "understood." Then the airplane sent down a message giving the number of the plane, the pilot's and observer's names and the information that they were ready to observe the fire of the guns. Each item was repeated so that the ground station would be sure to get it. Finally the ground crew placed the panels in the position which indicated "battery ready to fire." Then Bill headed his plane out over the ocean....
>
> Bill climbed until he reached five thousand feet. The tug and target were about twelve thousand yards from shore, and they looked absurdly small. He wondered how the twelve-inch guns could ever make a hit on the small pyramidal target built up on the float. The entire area over which the target would be moved had been cleared of ships. Off to the north were two steamers running into the Golden Gate, and a third leaving by way of the ship channel. As far as Bill could see, there was no other sign of life between the shore and the Farallone Islands, some fifteen miles out.
>
> Bill had barely reached his position abreast of the target when he saw the splash of a shell as it hit the water. The shell struck just short of the target and then ricocheted and made another splash beyond the target. It then bounded along the water's surface with ever diminishing leaps until it finally sank beneath the water's surface....
>
> "Two hundred right, eight hundred short," Bill wrote on a slip and handed it to Breene. After a couple of circles around the tug and target, another shot splashed, but this time much closer. "One hundred left, two hundred over," wrote Bill on the slip that he handed back. Thus it went for some time with the shots making a group around the target, which was moving along at a rate of about ten knots an hour....

79 NA RG18 Central Decimal Files. Commanding Officer, Crissy Field to Chief of Air Service. Apr. 8, 1921.

80 *ASNL*, Nov. 19, 1921.

> He was doing his best to send down corrections which would make it possible for the gunners to make a hit on the target, but either its motion through the water or the normal dispersion of the shots due to the ammunition would not permit of a direct hit being made. The tug cruised back and forth in the cleared area. The wind and tide evidently made it move faster in one direction than in the other, for the shots did not fall the same distance away during the two runs....
>
> Occasionally Bill would fly the plane back over the shore to see if any additional instructions were being sent up to him by the panels. Each time the same panels were displayed, "Battery ready to fire." That being the case he must place his plane so that he could see the shots when they fell. Once he was sure that the guns had been fired but he had not seen the first impact with the water. The only location of the shell that he secured was after its first bounce from the water. He then sent down "lost." This indicated to the firing battery that the observer had not seen the last shot.[81]

Around the same time as the artillery spotting, two missions of a different nature serve to demonstrate the range of the Air Service's commitment to civilian cooperation. Professor Bailey Wilis, President of the Seismological Society of America, was a passenger in a Crissy Field airplane which flew the length of the San Andreas fault "to observe the earthquake rift, as a feature of topography. . . and to photograph the strip of country traversed by the rift in order to determine to what extent it might be distinguished in such photographs." He left us a vivid description of flying in an open-cockpit airplane:

> On the morning of June 9th [1921] there was no sea fog. A brisk breeze blew the smoke of San Francisco inland, partially obscuring the Bay and the hills beyond, but the western and northern skies were clear to the horizon. From an altitude of 5,000 feet over the Presidio I noted that the visibility down on the Golden Gate and its shores was excellent. Small rocks and ripples in a sheltered cove were sharply distinct. At 5,500 feet a man and his shadow on the sidewalk were recognizable, but the man could not be distinguished from his shadow. The shadows of lampposts lay like fine black threads across the sidewalk. The temperature of the air from San Francisco to Bakersfield I estimated at about 50 degrees Fahrenheit at altitudes of from 8,000 to 10,000 feet. Descending into Bakersfield was like dropping into a furnace. The temperature of the field in the sunlight was in the neighborhood of 110 degrees.[82]

A few months later, at the turn of the new year Crissy Field hosted a "Flying Circus" to promote the Air Service and its arrival in San Francisco:

> Nose dives vied with 3,000 ft. parachute jumps in a series of spectacular airplane stunts at Crissy Field on Sunday afternoon, January 8th [1922], when fifteen Army aviators thrilled more than 20,000 persons. Staged under the supervision of Major H.H. Arnold, Air Officer of the 9th Corps Area, and Major George H. Brett, Commanding Officer of Crissy Field, the exhibition was one of the most complete aviation performances since the termination of the war. Crissy Field proper and the hills of the Presidio, as well as other points of vantage, presented a colorful mosaic as the thousands of spectators viewed the circus.
>
> "Jinks" Jenkins, an aerial acrobat of moving-picture fame, jumped from one plane to another at a height of 1,500 feet, while the crowd below stood spellbound in amazement. Captain Lowell Yerex piloted the stunt plane. Then came a tug

81 Arnold, Henry H., *Bill Bruce on Forest Patrol*, A.L. Burt Company, New York, 1928, p.71-4. The author is grateful to Edward W. "Wy" Spalding, former Lt. Col., USAR, for the loan of this difficult-to-obtain book.

82 *ASNL*, Aug. 19, 1921.

of war between an Army plane and an Army motor truck, with the air machine victor.

The feature of the program was the parachute jump of "Jinx" Jenkins from a plane soaring at 3,000 feet. The parachute, known as the Hardwick "Safety Pack," was designed for Army aviators by Charles Hardwick of San Francisco, a member of the local Air Service Reserve Squadron. Circling high above the field Jenkins was piloted to the 3,000 foot level by Captain Yerex. When over the waters of the bay, off the Marina, the daredevil aviator leaped from the plane, shooting fully 50 feet through the air before the white parachute opened. Then the umbrella-shaped parachute gracefully descended while Jenkins did acrobatic stunts on the bar of the chute. A southern wind first took him further out over the waters of the straits, and a lifesaver's motor boat started in pursuit; then, caught in a northerly current of air, the descending parachute came gliding in towards the Presidio and he landed in the waters of the surf.[83]

Considerably less spectacular than the "Flying Circus," but doubtless more poignant was the participation of five DH-4Bs from Crissy Field in San Francisco's seventh annual Aerial Day on March 12, 1922, "inaugurated...as a tribute to the mothers of those aviators who have made the supreme sacrifice in order to advance the science of aviation. That San Francisco appreciates at how dear a price aeronautical progress has been purchased was eloquently attested by the attendance of over 10,000 persons at the exercises...."[84]

A year later, Crissy Field pilots were called upon to drop flowers in memory of a recently deceased war veteran. "On a perfect day, which came in the midst of a storm, the fliers arrived, flew over Carmel, then back, swooped to the tree tops with a shower of yellow daffodils....this tribute from the air struck deep. In small bunches the flowers fell overside in a splash of paper which had been around them and trailed to the ground, some then spattering a big oak tree with bright color."[85]

As was usual in most military posts, a healthy interest in athletics was promoted to build morale, and the men of the 91st were no slouches. "The Famous 91st Baseball team, which won 11 out of 15 games against the best local teams in Western Oregon last summer, is working out again and expects to clash with the Presidio team in the near future." Not to be outdone, "The Ninth Corps Area Football Team arrived at Crissy Field on the 25th, and is quartered at the Bachelors' Club, Crissy Field. It has a galaxy of stars, and among is members are 'Machine Gun' Smith, Captain of the 1919 West Point team, [and] 'Doctor' Andy Smith, former assistant coach at California and now Flight Surgeon at Crissy Field when he is not playing football....The line is one of the heaviest in the country, only the ends weighing under 200 pounds....the team will work out all this week at the Presidio in preparation for a game with the Olympic club of San Francisco. A dance was given at the Officers' Club in honor of the team on their first night at the Presidio of San Francisco."[86]

More significantly, in October the field's new commanding officer, Maj. George H. Brett, formerly in the Office of the Chief of the Air Service, reported for duty and relieved Major Arnold of temporary command. Brett and Arnold were to have a long association together—by 1939, Brett was a brigadier general and Assistant Chief of the Air Corps under Major General Arnold, who was then Chief of the Air Corps. Brett went on to lead Army Air Forces in combat in the Pacific during the early stages of World War II.

That same month, the strain of Arnold's work and the carelessness of his diet sent him to Letterman Hospital for treatment for ulcers, whence he wrote:

83 *ASNL*, January 1922.

84 *ASNL*, Mar. 23, 1922.

85 *ASNL*, March, 1923. The deceased was Capt. Thorne C. Taylor, formerly of the 94th Squadron, American Expeditionary Force.

86 *ASNL*, Oct. 29, 1921.

> These Medicos are such close mouthed creatures that one can not get anything out of them. They infer a lot and tell you nothing... .In the mean time I am getting along finely...my old stomach now seems to be working all right. For instance here is a sample of the meals that I am now eating without any after effects: Soup, large pieces of beef steak, mashed potatoes, spinach, toast and butter, pot of tea and desert That was what I had yesterday for lunch and I had practically the same thing the day before. In between meals I have an egg nog. It is really the first time since my attack two years ago that I have been able to forget that I had a stomach. Heretofore I could always tell when the food left my stomach, now I do not know when it leaves.[87]

Arnold made sure he was out of the hospital in time to prepare for a particularly distinguished visitor, Marshal Ferdinand Foch, the victorious leader of the allied armies on the Western Front in 1918. A formation from Crissy Field greeted him as he entered the city of San Francisco, and he "manifested much interest in the field, as did a number of his party. After the Marshall completed his inspection he pronounced Crissy Field 'Le dernier mot en champs d'aviation,' [The last word in airfields] and continued his tour of the Presidio."[88]

Around the same time, December, 1921, Arnold and Lieutenant Smith (who had led the Transcontinental Reliability Race in which Dana Crissy died), led two formations of nine airplanes on "a mock bombing raid on Benicia, Calif., where the government arsenal is located. One can imagine the havoc wrought had this bombing flight used actual bombs." The mission was pronounced "a complete success and all ships returned unscathed from the battle."[89]

Testing the potential of airplanes in another arena, were flights sent across the water to intercept ships as they approached San Francisco. Although the stated purpose was to "welcome a number of Air Service Officers on board," the use of aircraft for this purpose was a clear demonstration of the ability of air power to locate and attack a hostile fleet as they approached our shores long before they came within range, or indeed within sight, of coast artillery. In this regard, Crissy Field had begun to play a role in the competition of air power to take the strategic lead in continental defense, not only in relation to the Coast Artillery Corps of the Army, but in relation to the offshore mission of the U.S. Navy as well.

Due to the field's location adjacent to the waters of the Bay, as soon as air operations swung into gear, the recommendation was made that a fast speedboat, "a sub-chaser of the 'V' type be assigned to Crissy Field in case of emergency landings or crashes at sea." By May 1921, records indicate that one plane had already crashed fifteen miles out in the ocean. Details of this incident are not further illuminated in official documents, but the Army Transport Service at Fort Mason was soon directed to assign the launch *Pep* as a crash boat. In November, the craft was described as "a 25-foot gasoline launch...to be kept in readiness to take off at any time to rescue aviators who are unfortunate enough to fall into Frisco Bay as they start to leave the field." But *Pep* did not live up to her name in rough water, and was not the solution to the problem. Complaints arose when a DH-4B ditched in the Bay and the Fort Point Coast Guard Station was slow in going to its aid. "Since Master Sgt. Thomas J. Fowler, 91st Obs. Sqdn. gave his DH4B a bath some ten miles at sea...and was picked up by a life-saving tug, all Coast Guard lookouts have been instructed to observe all airplanes flying over water. This keeps the personnel from getting nervous while awaiting a tug to pick them up...."[90]

Whatever hard feelings there may have been between the "Coasties" and the "Flyboys" seemed to finally get ironed out, "Crissy Field has a speed boat. According to reports from the custodians of our boat, our friends from the North Point Station of the Coast Guard," crowed the *Air Service News Letter*.

87 Library of Congress, Henry H. Arnold Papers, Box 2. Letter of Nov. 7, 1921.

88 *ASNL*, Dec. 3 and 12, 1921.

89 *ASNL*, Dec. 3, 1921.

90 NA RG18 Project Files—Crissy Field, File 560. May 27, 1921. Also see *ASNL*, Jan. 22, 1925.

> ...it is not just another speed boat but the fastest boat on San Francisco's most beautiful bay. With the efficiency of our Coast Guard friends and such a boat, visiting firemen will encounter strenuous competition in trying to accomplish a successful "drowning act." Lieut. Hurst, of Mather Field, tried his best to mar our reputation by setting a DH down in our sun-kist bay at five o'clock in the afternoon without success. Before he had a chance to take on any water he was hauled into Crissy Field's speed boat by a very efficient Coast Guard crew and then taken to the hospital. There was no injury to personnel; in fact it is rumored that Lieut. Hurst's clothes were barely wet. We term that Efficiency Personified.[91]

In February 1922 "a very severe rain storm...resulted in considerable flood damage to Crissy Field." Fifty feet of concrete gutters along both concrete roads to the field, lawns and shrubbery were washed out, and water flooded the basements of the Armory Building, Barracks, Bachelor Officers' Quarters and eight married Officers' Quarters. Repairs were needed to gutters and storm drains near the intersection of McDowell and Crissy Field avenues, to the spill-way in the rear of the administration building, to gutters in front and rear of the officers' quarters, and an extension recommended to the four-foot retaining wall in the rear of the seaplane hangar. The flood was attributed to the fact that "This field is located on flat land only a few feet above high tide water and immediately under the bluff upon which is located the Fort Winfield Scott Reservation. All flood water for a very large area must pass to the sea over or under this field."[92]

As mentioned earlier, Army aviation between the wars assumed a variety of non-military missions. "It patrolled national forests to spot and report fires, took aerial photographs for the U. S. Geological Survey and various other government agencies, assisted in several scientific experiments and, among other things, went to the aid of persons in distress."[93]

In the aftermath of a disastrous fire that burned over ten thousand acres in northern Minnesota during October 1918, Chief Forester Henry S. Graves of the U.S. Forest Service, requested the help of the Air Service. By mutual agreement, California was selected as the place to begin.[94] Shortly after his arrival in San Francisco, Colonel Arnold began "to organize an aerial forest fire patrol. Painfully conscious of how puny the Air Service had become, he believed the best was to build its stature was to make the public aware of it by beginning what he called 'a new pattern of national usefulness in peace time.'"[95]

The *Air Service News Letter* reported that:

> On June 1, 1919 the first organized and sustained airplane forest fire patrol was inaugurated. The Army Air Service with Air Service personnel and equipment and at Air Service expense inaugurated the aerial forest fire patrol in California. The general aim in addition to giving the aviators training, practice and experience, was discerning with what success forest fires might be (1) discovered, (2) located and (3) reported. Six patrol routes covering National Forest areas of high value in California were mapped out....The experiment and service proved to be of such value that the Director of Air Service authorized the Department Air Service Officer, Western Department at San Francisco, on July 13, 1919, to use as many planes from Mather Field as he deemed necessary...the states of Oregon and California and the National Forests within their boundaries were well covered and great protection afforded....In the state of California, the southern forests were patrolled from Rockwell Field at San Diego....The Central and Northern California patrols consisted of patrols operating from Mather Field at Sacramento..."[96]

91 *ASNL*, n.d.

92 NA RG18. Central Decimal File 600.972. Corps Area Commander to Adjutant General. Feb. 20, 1922.

93 Maurer, *Aviation in the U.S. Army*, p.131.

94 ibid., p.131.

95 Coffey, *Hap*, p.101

96 *ASNL*, Oct. 25, 1919.

The first permanent unit at Crissy Field, arrived at the conclusion of the 1921 forest fire season. Over the next few years, detachments of the 91st Observation Squadron regularly staged out of Crissy Field at the beginning of fire season and set up temporary shop at airfields closer to the National Forests. In addition to the actual fire-fighting work, the patrol planes photographed points of particular interest to the Forest Service, mapped bug-infested areas of forest lands and made aerial surveys of road construction through National Forests. In one instance, 91st Squadron airplanes cooperated with civil authorities in an unsuccessful attempt to locate the body of a young man who drowned in Donner Lake (Northern California) after having rescued seven persons from drowning.[97]

The results of the patrols "far exceeded expectations." The Angeles National Forest supervisor reported that "it is the most efficient system of fire detection that they have yet found at their disposal," and the San Francisco forester stated "most emphatically that he considers aerial forest fire patrols both as a detection agency, as a positive preventative measure, and as an educational feature to be invaluable in California during the fire season."[98]

As may well be imagined, such work did not go without its hazards. When "the work of photographing the seaports of the west coast was resumed the first week in April by the 15th Photo Section, Crissy Field..." it was "terminated the day after the flight was started when Lieut. [Russell L.] Maughan had a forced landing in the river near Eugene, Oregon, losing maps, camera, ship, and Private Carlow's new civilian coat."[99]

* * *

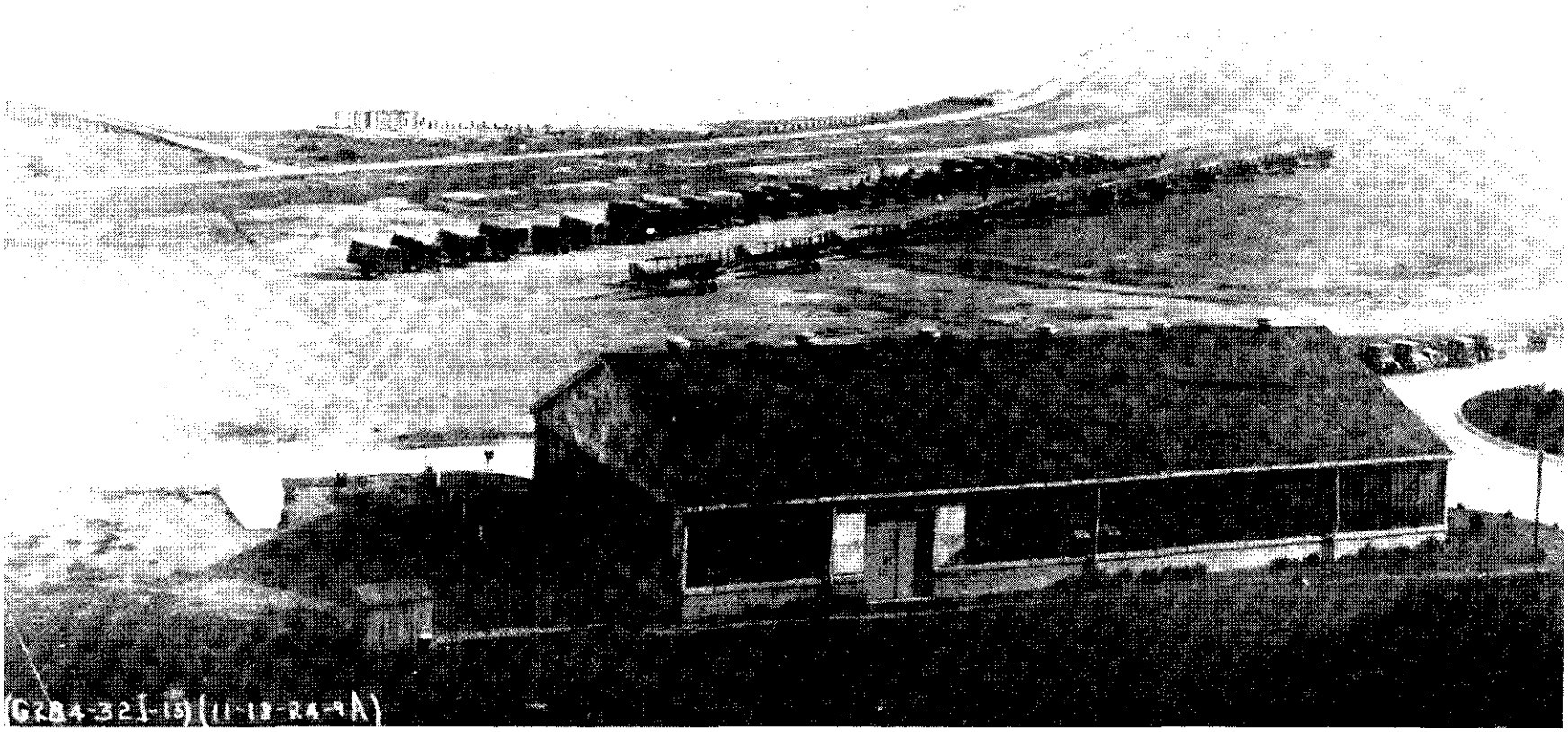
97 *ASNL*, n.d.

98 *ASNL*, n.d.

99 *ASNL*, n.d.

Site History–Chapter 3

Early Operations, 1922-1924.



Crissy Field and the 91st Observation Squadron in 1924, with Building 920 (originally a garage) in the foreground. Note the cannonballs used for ornamentation. (National Air and Space Museum)

Early Operations, 1922-1924.

Lt. Russell L. Maughan, stationed at Crissy Field, was one of aviation's brightest stars in the 1920s. A product of the officer's training camp at the Presidio, he was dispatched to France, where he won the Distinguished Service Cross for engaging seven German Fokker biplanes and shooting down two over the trench lines in France.[100] Selected as one of the pilots for the 1919 Transcontinental Race, he flew a single-seater Spad eastbound out of the yet-unnamed Presidio airfield. In 1922, detached from the 91st Squadron, he earned yet more fame as the winner of the most important and famous air race of the era, the Pulitzer.

According to aviation historian Terry Gwynn-Jones, in the 1920s and 1930s, the:

> United States became the focal point of the quest for speed, it was aviation's overnight heroes, men and women desperate to earn a dollar and prepared to gamble their lives for a thousand, who would attract spectators by the millions to the National Air Races....the Nationals brought about unprecedented public interest in American aviation, In addition to attracting massive crowds they generated the same sort of media coverage as today's sporting events. The races had all the glitter and glamour of a Hollywood production, though some likened them more to a Roman forum with the frenzied crowd screaming at the spectacle as aerial gladiators duelled head-high around the pylons....The National Air Races were an offshoot of the Pulitzer races established in 1920 by Ralph Pulitzer and his two brothers [whose]...interest in aviation had been stimulated by their renowned journalist father, Joseph Pulitzer, best remembered for his Pulitzer literary prizes.[101]

The 1922 Pulitzer race, won by Lieutenant Maughan, "was the high point of the five-year series." "Billy" Mitchell had persuaded a parsimonious Congress and his own superiors that the practical experience gained in air racing was an ideal way to develop high-performance fighter planes. Both the army and navy were granted funds for the purpose. The traditional rivalry between the two services reached new heights during the contest at Selfridge Field near Detroit, the scene of the 1922 Pulitzer race.[102]

Four Curtiss biplanes recorded the fastest time of the race.

> It was a great triumph for the army when it was announced that Lt. Russell Maughan had won at a speed of 205.8 mph. The army flyer was exhausted after the race. "I was stunned more or less at each of the fifteen turns. On the straightaways I came to," Maughan said. Maughan's reference to "being stunned" was the phenomenon known today as blackout, induced by high gravity (g) turns. It was subsequently estimated that he had pulled close to 7 gs during his near vertically-banked pylon turns. Maughan's teammate, Lt. Lester Maitland, took second place.[103]

The very next year "Lieut. Maughan of Crissy Field...burned the air" to set a new world speed record...." "Records may come and records may go," crowed the *Air Service News Letter*, "but there is at least one aviation record that will remain forever in possession of the United States, and that is the speed record over one kilometer which Lieut. Russell L. Maughan, flying at an average speed of 236.587 miles an hour, established on March 29th at Wilbur Wright Field, Dayton, Ohio."[104]

In September 1922, Crissy Field received considerable publicity as the terminus of two important cross-country flights. On September 1, a new type Fokker CO-4 two-seater corps observation plane landed

[100] *ASNL*, Oct, 21, 1922.

[101] Gwynn-Jones, *Farther and Faster*, p.140.

[102] ibid., p.144.

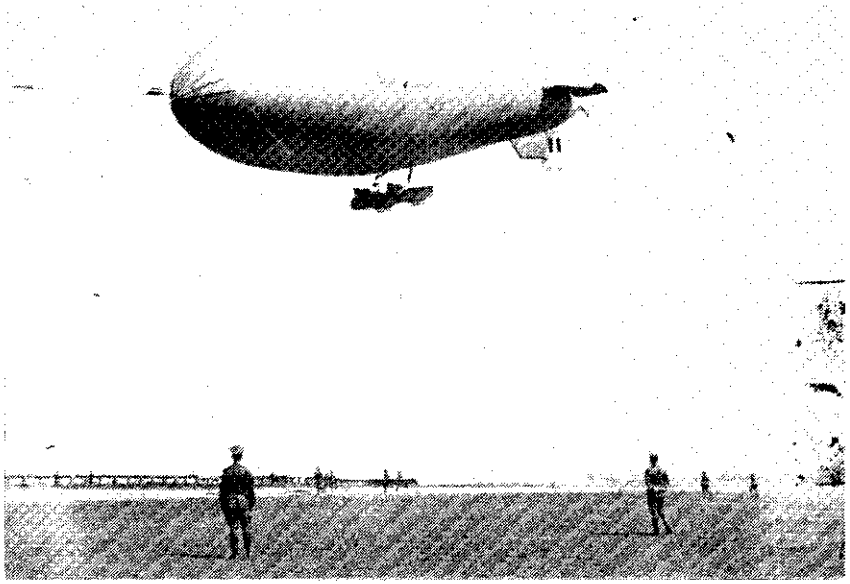
[103] ibid., p.149.

[104] *ASNL*, May 2, 1923.

> After a remarkable test flight, covering the distance of 2350 miles from McCook Field, Dayton, O., to Crissy Field, here, in 26 hours and 15 minutes actual flying time, with Lt. C.C. Moseley, pilot, with Major F.H. Coleman, his passenger.... "On my return," Lt. Moseley said last night after supper in the Officers' Club at Crissy Field, "I found Major Coleman comfortably ensconced in the heavy, metal fuselage of the ship wrapped in the blankets, with 'Flapper,' our little German police dog. Major Coleman laughingly admitted that this was so and highly praised the fuselage as a sleeping compartment."[105]

On September 27, Crissy Field was the site of the last stop of the giant dirigible "C-2" on her transcontinental flight. The great blimp

> sailed majestically over San Francisco at noon yesterday en route from Ross Field, Arcadia...came to a graceful landing at Crissy Field at the Presidio to the music of a military band and the cheering of thousands of soldiers and civilians who had gathered to watch the "ship" come to rest....The "blimp" remained here until 9 o'clock last night. Then it took to the air for the return trip, flying high over the city so that only faintly to those on the streets came the whir of its propeller. It was bitterly cold flying Tuesday night, the crew of the dirigible said upon their arrival here. But aside from this fact the trip was without incident and enjoyable....At 3 o'clock yesterday afternoon the headquarters of the Ninth Corps Area were taken on a flight over the city and bay in the "blimp," thus giving San Francisco a second chance to see at comparatively short range the long, silver-gray ship, more graceful as to lines, probably, than any other aircraft that has ever flown over the city by the Golden Gate. Incidently soldiers at the Presidio were given a chance to get practical training in tug-of-war work, because all the boys that could be mustered



Army blimp C-2 finishing its transcontinental flight on September 27, 1922. Note the soldiers running to grab the dangling mooring line. The San Francisco Chronicle *described how, "The giant aircraft, dignified and impressive, came to a graceful landing at Crissy Field...." (San Francisco Public Library)*

> were utilized to help the "blimp" effect a landing and to keep it down to earth once it had landed.[106]

Some sort of a temporary loft had been installed at Crissy Field for holding messenger birds. In April 1922, Arnold recalled that:

> A newspaper in San Francisco started an argument by speculating which could fly faster—pigeons or airplanes. I accepted the challenge for the airplane and the Signal Corps accepted the challenge for the pigeon, and soon I was carrying a coop of pigeons—famous pigeons— with me to Portland, Oregon, from whence the race was to start to San Francisco. These pigeons

[105] *ASNL*, September, 1922.

[106] *Chronicle*, Sept. 28, 1922.

were all known by name, rank, and serial number, and some of them had distinguished combat records.

The Governor of Oregon, Ben Olcott, was an aviation enthusiast and always wanted to accompany me on my trips. I picked him up at Salem and took him on to Portland. Early next morning, with much publicity, the birds were released. They took it in a routine manner, making a broad turn over the field, then taking off for their coops in San Francisco.

Unfortunately, airplanes did not have self-starters then, as the pigeons had. The weather was cold, and the Liberty engine was hard to start....To make a long story short, even using the Governor to pull—and everybody else on the airport—it required forty-five minutes to start the engine. This gave the pigeons a good forty-five minutes' lead, so when we finally took off, they were out of sight.

There were few radio broadcasts in those days, but the newspapers sponsoring the flight pasted bulletins on their windows, and crowds on San Francisco's Market Street blocked all traffic for hours, awaiting the outcome of the race. The excitement was terrific. Betting was taking place just as at a race track. There were even "bookies" there offering odds on which would win—the pigeons or the airplane.

Certainly somebody with remarkable eyesight, who apparently could identify a pigeon by name at a couple of thousand feet, must have kept a newspaper abreast of the race, for the reports kept coming in: "Miss America is flying over Albany"; "War Bird is flying over Salem"; "Columbia is now over Roseburg"; "Diamond Head is over Eugene."...

As pigeon after pigeon neared its home coop, Governor Olcott and I munched sandwiches and refueled at Medford, practically ready to concede the race. But apparently pigeons, as well as pilots, make private plans in flying their cross-country missions, for none of the feathered war heroes reached their home base until forty-eight hours later. The Governor and I had completed our flight in about seven and a half hours.[107]

In July, Arnold nearly crashed while flying an old Le Pere aircraft from Crissy to March Field, and was again hospitalized at Letterman in the incident's aftermath. He didn't appreciate the doctors this time either, "I still have another week in bed from next Saturday. Then I have an X-ray taken, and based on the X-ray pictures, the medicos make up their minds as to whether *they* think I should be operated on."[108]

That fall, Arnold was relieved as Air Service Officer for the Ninth Corps area and sent to San Diego to assume command of Rockwell Field, which now functioned mostly as an air depot. His place was taken by Lt. Col. W.E. Gilmore. The *Air Service News Letter* stated that "The Air Service on the Pacific Coast owes much to Major Arnold. Under his jurisdiction the Air Service in the Ninth Corps Area has been organized into an efficiently functioning unit, the accomplishments of which challenge the achievements of the Air Service in any other part of the country."[109] During his tour of duty, Arnold had been instrumental both in bringing Crissy Field into existence, and in establishing the pattern of its operations, which remained essentially intact until 1936.

This, however, was not the ebullient Arnold's last association with Crissy Field. Soon after arriving at Rockwell, "one of the largest manhunts conducted by the Air Service in the 1920s was organized by Major Henry H. Arnold...when one of his planes disappeared on a flight....Crissy Field, California contributed thirty two men and sixteen planes....after ten days the men from Fort Bliss and from Brooks, Kelly and Crissy Fields gave up and went home."[110]

[107] Arnold, *Global Mission*, p. 100.

[108] ibid., p.108.

[109] *ASNL*, Aug. 15, 1922.

[110] Maurer, *Aviation in the U.S. Army*, p.106.

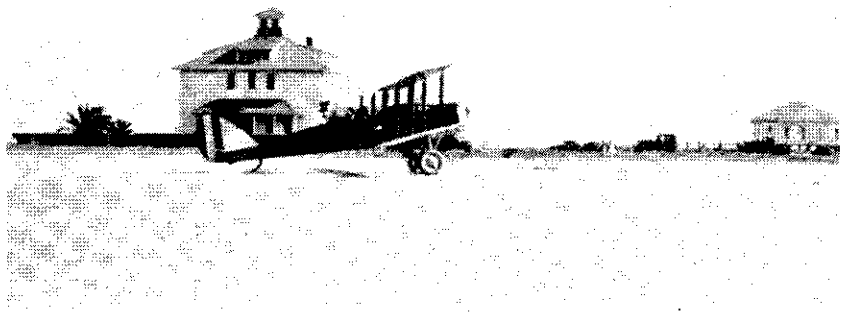
Eleven years later, Malin Craig, commanding general of the Ninth Corps Area summoned Arnold from March Field to explain Arnold's apparent reluctance to cooperate in the establishment of a Civilian Conservation Corps work camp there:

> Arnold took off for San Francisco in a P-12 fighter plane, that he had had assigned to him, with Lt. Eugene H. Beebe on his wing....Though Arnold scarcely knew Craig, Beebe got the impression that they must be old friends, especially when Arnold, with Beebe still on his wing, buzzed the tower at Crissy Field. As Beebe knew, Craig had strict rules against buzzing. When they landed, two military policemen were waiting to put them under arrest and, in accordance with the commanding general's standing order, take them directly to his office. As Arnold and Beebe settled into the back seat of the MP's car, Beebe stared at Arnold in wonder. If he was already in trouble, why had he compounded it by buzzing the tower? Arnold anticipated the lieutenant's question. "I wanted to give you a lesson," he said, "in how to get quick transportation." When they were ushered into Craig's office, the general said, "Goddammit, Arnold! I might have known that it would be you buzzing the tower."[111]

* * *

Armistice Day 1922 celebrations were enhanced by the participation of two flights from the 91st Squadron, Crissy Field, and a flight of Reserves from the 316th and 477th Squadrons over Golden Gate Park. A flight of five planes was planned, "but at the last moment one of our old reliable Hiso's[112] refused to 'perk.' A very good diamond was flown by the remaining four and, judging from the publicity given in the daily papers, a very good impression was made."[113]

At Christmastide, the *San Francisco Chronicle* described a more joyful kind of celebration:



A 15th Photo Section DH-4 taxiing past the Coast Guard station. The airplane has a motion picture camera mounted behind the observer's seat, which is being used to film the arrival of the Round-the-World Flight. September 25, 1924. (California Historical Society, San Francisco)

> A sled and reindeer being an uncertain mode of transportation in San Francisco, Santa Claus, rather than disappoint the children of the officers and enlisted men of Crissy field, allowed himself to be picked up by airplane and arrived at their Christmas celebration yesterday afternoon in the cockpit of a "DH" piloted by Sergeant Fred Kelly. A group of children, air service officers and their families and friends were out on the field when Santa arrived and watched him jump skillfully out of the plane to meet Major George H. Brett, commandant of the field. After the formal greeting Santa sprang from child to child with a peculiar hop, and ended by hoisting as many of the little ones as he could get a hold of and carrying them into the mess hall, specially decorated with greens and a big Christmas tree for the occasion.[114]

* * *

[111] Coffey, *Hap*, p.153.

[112] "Hiso" was slang for the Hispano-Suiza model engine.

[113] *ASNL*, Nov. 14, 1922.

[114] *Chronicle*, Dec. 24, 1922.

As early as August 1920, Air Service agitation for the removal of the U. S. Coast Guard Station as an obstruction to the flight path appears for the first time in the official record. A 1923 memorandum on the subject from the Ninth Corps Area provides a good deal of information about the challenges of taking off and landing at the field:

> At present Coast Guard Station No. 323 lies directly in the path of airplanes as they take off from Crissy Field. For about nine months of each year the prevailing wind in San Francisco is from the west, and airplanes taking off from Crissy Field are compelled to ascend into the wind and pass directly over the Coast Guard Station located at the northwestern end of the flying field. It is impossible for a pilot to go straight ahead toward the west as a cliff backed by a hill some two hundred feet high forms the western end of the field, and, as the pilot approaches the cliff he makes a sharp turn toward the right or north and flies over the Coast Guard Station. It is impossible for the pilot to turn before he is parallel with the Coast Guard Station as he has not had sufficient time to gain that much altitude. It is but a matter of time when a motor will fail at the wrong moment and a disastrous accident will be the result.

The memorandum goes on to mention the inconvenience the Coast Guard endures in bringing its supplies in by tug to the Torpedo Wharf at Fort Point and transferring them to trucks or carts for a 400-yard trip, and proposes relocating the station along the shoreline to the east, just inside the Marina Gate. Doing so, "would permit planes to take off from Crissy Field safely, and in the three winter months of the year, give the pilots a 'three-way' field, and would eliminate the dangerous approach over the hill and cliff on the west as the airplanes could land immediately over and near the present site of the lifesaving station."[115]

The U.S. Coast Guard never did move the station eastward.

A considerably more tongue-in-cheek description of the hazards unique to Crissy Field appeared about the same time in the *Air Service News Letter*:

> Thats the Precidio flying field Gus and was selected by Houdini they tell me but as major Arnold said at the time what and the h—l has the field got to do with flying anyway pilots does their flying in the air and not on the ground & thats why Crissy field is layed out like a golph course with a sporty approach 1 might say water on 1 side bluffs around 2 sides & minor hazzards like for inst barracks life saving stations & the etc all around the fareway & to make it interesting theres usually a lair of fogg layed good and thick over the whole wks & major Brett says the pilots that can get in & out of this field without rapping a hangar or a telegraph pole or something around their neck dont need no six oh nine to determine whether they can fly or vice versa.

Nevertheless the correspondent considered Crissy, "a great place though Gus to see friends & the etc on acct all the air service personal stops at Crissy field on the way to & from the pacific poseshions & vice versa & also Letterman hospittle is a popular resort with such pilots as needs to have a tackometer or something removed from their face or other blemishes."[116]

The Air Service, of course, had somewhat more official regulations for flying from Crissy Field, and although these General Orders were published four years later than the above descriptions, it seems appropriate to quote them here:

[115] NA RG18. Central Decimal File 686. Headquarters Ninth Corps Area to Adjutant General. Jan. 3, 1923.

[116] *ASNL*, Feb. 16 and Mar. 3, 1923. The witty semi-literate correspondent is later identified as Lt. Carl F. Greene.

(a) Take-offs and landings will be made into the wind except in case of emergency. In case of north or south wind, take-offs and landings will be made in a westerly direction, towards the Bluff.

(b) Pilots will make sure that another plane is not coming in to land before taxiing out for a take-off.

(c) When taking off in Easterly direction, Pilots will taxi their planes as slowly as possible to a point opposite the Barracks before starting to take-off. This is to avoid dust in Headquarters and other buildings.

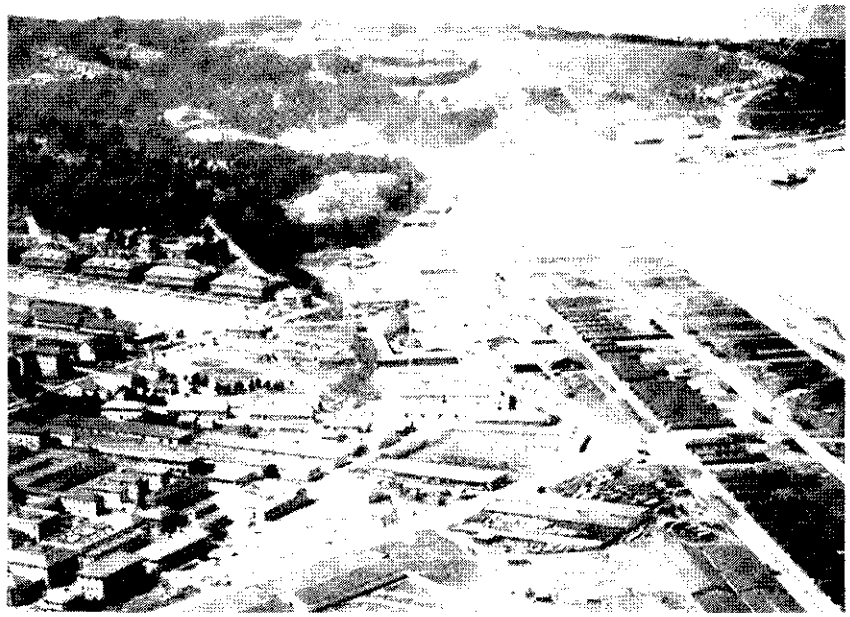
(d) All turns after take-off will be made towards S.F. Bay.

(e) Pilots will not chaundel[117] or make a stall take-off from this field.

(f) Only one plane at a time will take-off or land at Crissy Field.[118]

* * *

After the first year or so of active airfield operations, the need for certain improvements in the physical plant became apparent, and a burst of activity began in this regard. Major Brett, the commander of Crissy Field, proudly stated to the Chief of the Air Service that, "There is no question that Crissy Field is the most up-to-date flying field in the United States, with the exception, possibly, of Miller Field at New Dorp, Staten Island, N.Y." However "the experience of the undersigned during the past eight months has shown that there are many things which indicate, if it is desired to make the Field a credit to the Air Service and give the officers and enlisted men advantages which they should have due to their location, that certain additions and improvements should necessarily be made."[119]



Crissy Field looking west. This photograph shows the ruts by the airmail and reserve hangars and the damage to the western portion of the field caused by taxiing aircraft. April 20, 1923. Compare this photograph to the one on page 21. (National Archives)

The inadequate officers' quarters were ruefully condemned as "the laughing stock of the entire Presidio, and, apparently, no one can understand why they were ever built in the manner in which they have been. Due to the location of this field and the fact that it is a show place for San Francisco and vicinity, and the fact that officers are frequently called upon to entertain transients, it is felt that it is placing them in a very unfortunate position by requiring them to attempt to carry on their official and social duties in the houses furnished."[120]

In June 1922 it was reported that the buildings had received some attention.

[117] A *chaundel* or *chandelle* is an abrupt climbing turn, utilizing momentum to gain altitude, while the direction of flight is reversed or changed.

[118] NA RG18 Project Files—Crissy Field. File 300.4 Headquarters, Crissy Field, Office of the Commanding Officer. General Order No.5, May 1, 1927.

[119] NA RG18 Central Decimal File 686. Commanding Officer Crissy Field to Chief of the Air Service. n.d.

[120] ibid.

> The front porches are being made over and are to be glass inclosed—a feature which will give much comfort and satisfaction to all. An addition in the way of a sleeping and sun porch is also being made in the rear of the quarters. This additional room will eliminate to a great extent present crowded conditions. Further improvements are the installation of a drainage system in the basement of the quarters. This is certainly a step in the right direction as heretofore it has been the custom for the God of Rain to periodically flood our homes and float some of the family keepsakes usually relegated to the cellar. Surface drainage is being installed, and all hope for a dry season as it affects our little homes on the hill.[121]

In September 1922, the headquarters of the 91st Squadron moved from the administration building to more spacious offices in the barracks.[122] The next month a reading room was established in the 91st portion of the enlisted barracks:

> The daily papers from all large cities, in addition to current magazines, will be found therein. The latest music on the victrola as well as other diversified amusements, are to be found in the reading room....The steel work for an AEF hangar has arrived on the field and as soon as plans are completed, same will be erected and used for storage purposes. Construction work along officers' row is fast nearing completion and the results from this work are many fold, in that it gives additional room in the quarters and a large sunny porch.[123]

The extra hangar space was needed for the storage of material that was piling up at Crissy Field due to the closure of other Air Service fields in the Ninth Corps Area. "Due to the policy established in connection with the abandonment of Mather Field, and there being many supplies at that field which would be advantageously used at Crissy Field, it was decided to ship approximately six [rail] car loads of such supplies, and also other supplies in connection with the operation of the Organized Reserve, it was found necessary to set aside a certain space in the seaplane hangar for storage purposes. This was done by means of building a chicken wire partition across the rear end of the hangar...." It was additionally noted that "There are three flying boats of the largest type in open storage and [they] are rapidly deteriorating."[124] Now Crissy Field was the only active field in the Ninth Corps Area—consisting of eight western states.[125]

The additional hangar was also justified to give a recreation hall and gymnasium for Reserve Officer Training Corps (ROTC) and Organized Reserve students, and by "the fact that there is no recreation hall for enlisted men" who "were in the habit of spending much of their time in the City, which, with the erection of this hangar, would be spent in indoor athletics and the reading room."[126] Crissy Field Headquarters got a lot of support in this regard from the Corps Area commander who expressed his delight at the boxing exhibitions held before 1,000 spectators at a ring specially constructed to be easily set up in the landplane hangar (and incidentally, provided an insight into the role athletics was perceived to play in military life), "I wish to express my appreciation of the effort you and your command put forth in completing the arrangements for the boxing exhibition on April tenth. It is energetic action and cooperation such as yours which makes for accomplishment and esprit in a command."[127]

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121 *ASNL*, Aug. 15, 1922.

122 ibid., Sept. 11, 1922.

123 *ASNL*, Oct. 30, 1922.

124 NA RG18 Project File 634. Chief, Training and War Plans Division, Office of the Chief of the Air Service to Chief, Supply Division. Sept. 30, 1922.

125 NA RG18 Central Decimal Files. Annual Report of Crissy Field for Fiscal Year 1923.

126 NA RG18 Central Decimal File 600.12 Headquarters Crissy Field to Chief of Air Service. Mar. 7, 1923.

127 ibid.

The last hangar was erected between the "Reserve Hangar" and the barracks, at the east end of the airfield, between April 16 and June 30, 1923.[128] Upon its completion, the set of major buildings at Crissy Field during its period of greatest historic significance was finished.

By the spring of 1923 a clay pigeon trap was nearing completion and a pistol range had been laid out for target practice.[129] Additional landscaping was proposed to "place the natural advantages of Crissy Field in proper condition....On the opening of Crissy Field the greater part of it was bare sand, and it has been only with the greatest amount of work that the lawns and shrubbery which has [sic] been planted has been taken care of. The Officers' Line, Crissy Field, is on the main road to Lands' End and, on Sundays, there is a constant stream of automobiles passing by. In order that this flying field might compare favorably with the balance of the Presidio immediate work should be started in planting trees, placing lawns in A-1 condition and planting other shrubbery."[130]

Additional projects contemplated included a retaining wall to protect Crissy Field Road from landslides, construction of a dining room in the basement of the Bachelor Officers' Quarters, and replacing the broken-up wooden floor of the Reserve Hangar with a concrete one. Although these additional projects were not immediately approved due to lack of funds, they all were eventually completed.

The dining facilities were soon described as "...one of the best squadron kitchens in the Army. It is modern and up-to-date, being equipped with a large steam table, a dishwashing machine, sterilizer, potato peeler, etc. The mess hall itself has been made very attractive. It has curtains for the windows, the tables have been made spick and span with suitable coverings, pictures of California scenery hang on the walls and a radio loud speaker furnishes music at meal time."[131]

The problem on Crissy Field Avenue was described thus, "The bluff overhanging this road apparently consists of a soluble shale, which, during the winter months becomes a jelly-like mass and slips down onto the road, and in certain cases during the past winter, half covering the present concrete pavement."

But of paramount importance was improving the eastern portion of the flying field which "is in such poor condition that it is a menace to airships landing on the field" and paving a road "leading East from the Barrack Building to the East end of the Reserve Squadron Hangar...."[132]

The area of the flying field nearest the landplane and seaplane hangars, due to heavy traffic "is sand and can barely be used for taxi-ing purposes," the center-west portion "marked B is the old race track of the Fair Ground days is in reasonably good shape," the center-east portion "marked C is covered with grass but is rough and should be levelled," while the easternmost portion still contained concrete foundations of temporary buildings "making it impossible for landing purposes." Flying conditions at Crissy Field were described as difficult at best, "...it is considered an extremely hard field to land in due to the frequent eddy currents and the prevailing winds from the west. Therefore it is felt that every opportunity should be afforded to give the pilot a maximum amount of space and a good level field to land on."[133] In this regard, $5,000 was also requested to "remove a macadam road" which stretched across the east end of the flying field.[134]

Crissy Field was also considered too small for the larger types of airplanes in service. These proposals contemplated extending the finished portion of the landing field from 2,000 feet to 4,000 by the removal of foundations and buildings in poor condition under control of the

[128] NA RG18 Series 168. Annual Report of Crissy Field for Fiscal Year 1923.

[129] *ASNL*, Mar. 29, 1923.

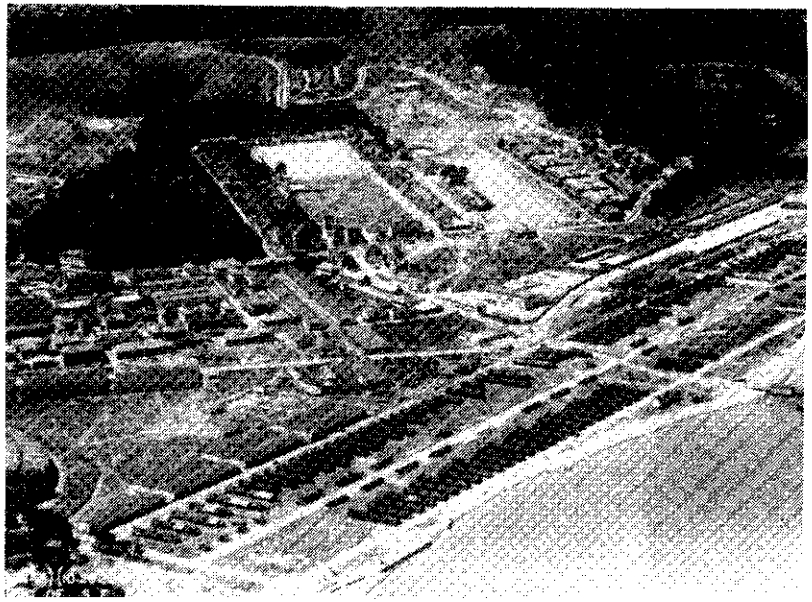
[130] NA RG18 Central Decimal File 611. Commanding Officer, Crissy Field to Maj. H.A. Dargue, Air Service. Apr. 21. 1923.

[131] *ASNL*, Dec. 13, 1922.

[132] NA RG18 Central Decimal File 600.4 Headquarters Crissy Field to Commanding Officer, Presidio of San Francisco. Mar. 10, 1923.

[133] NA RG18 Central Decimal File 686. Commanding Officer Crissy Field to Chief of the Air Service. n.d.

[134] NA RG18 Central Decimal File 600.12 Headquarters Crissy Field to Chief of Air Service. Mar 7, 1923.



Most of North Cantonment was extant in October 1925, when this picture was taken, although the foundations visible at the right indicate building removal to lengthen the landing field is underway. (U.S. Army, Presidio of San Francisco)

General Intermediate Depot (at Fort Mason).[135] A few months later buildings "north of Tonquin Street and west of Presidio Wharf Road" were vacated and turned over to the Presidio quartermaster for demolition. The use of military prisoners from Alcatraz was considered to grade the landing field extension, but they were all occupied in other labor.[136]

Paving the existing dirt road to the eastern hangars was desperately needed because of heavy winter rains, during which time, "there is approximately three months of the year when this road is in such a condition that a heavy truck in travelling over it will become bogged. Recently money has been received for the erection of a hangar due west of the present reserve hangar which will be used either for the housing of airplanes or for storage facilities....during the rainy season work carried on at this hangar would be seriously impaired by lack of proper road."[137]

By the end of 1923 it is apparent that at least the rehabilitation of the existing landing field had been accomplished. When the rainy season began again, "in spite of the downpour of rain to a depth of six inches during the week the flying field is in good condition. The water runs off almost immediately and the field can be used at all times."[138] Although further eastern extensions of the field may have been graded when the "macadam road" was removed, photographic evidence shows that the buildings of North Cantonment were demolished during the period between October 1925 and February 1926. Evidence of the construction of the concrete road to the reserve and air mail hangars also appears first on photographs dated February 1926.

* * *

At this point, it seems appropriate to digress slightly in order to tell the story of the Air Mail Service at Crissy Field.

In 1920 the city of San Francisco leased land on the eastern portion of the former exposition grounds for use as an airfield for the Post Office Department's new Air Mail Service.[139] The first transcontinental air mail flight arrived from New York on July 29; by September the air mail was regularly delivered twenty-two hours ahead of the mail by train.[140]

Simultaneously, the Army made arrangements with the Post Office Department for the temporary use of Crissy Field and the erection and use of temporary buildings there. Upon assurance that another landing field would soon become available, permission was granted on July 31,

135 NA RG18 Project File 686. G.C. Morton to Adjutant General. June 5, 1923.

136 NA RG18 Project File 686. Adjutant General to Chief of Air Service, Dec. 23, 1923 and Adjutant General, Ninth Corps Area to Commanding Officer, Presidio of San Francisco, Apr. 12, 1924.

137 NA RG18 Central Decimal File 600.12 Headquarters Crissy Field to Chief of Air Service. Mar. 7, 1923.

138 *ASNL*, Dec. 13, 1923

139 Toogood, Anna Coxe; *A Civil History of the Golden Gate National Recreation Area, vol. II*; National Park Service, Denver Service Center, 1979, p.165.

140 Reuther, Ronald T., "Crissy Field From the Beginning," unpublished ms., Mar. 9, 1992.

1920 for the "location and erection of one temporary hangar and one temporary administration building."[141]

One year later, the city had made no progress in improving Marina Field, and the Post Office Department appealed for an extension of their permit. Upon the urging of local Congressman Julius Kahn, the Army granted the extension.[142] The temporary hangar was to be replaced with another one because the army had no facilities to spare. Soon it was reported that, "Col. Thomas A. Pearce, post commander has approved the request of the U.S. Air Mail Service to build a wooden aerodrome at Crissy Field in lieu of going to Redwood City or Oakland for a western terminus aerodrome. The Air Mail people had used one of the large steel and concrete Army aerodromes for some weeks following their loss of the use of Marina field. Because of the concentration of army planes at Crissy, Maj. H.H. Arnold...found it necessary to ask the Air Mail Service to vacate the aerodrome they were using. But because the Presidio fire fighters are so good, Pearce is going to let the wooden aerodrome be built."[143]

In December 1921 it was reported that, "The construction of the new Air Mail hangar has begun, and it is expected that the hangar will be completed by the first of the year. The hangar now used by the Air Mail will be vacated and turned over to the Reserve Squadron of San Francisco, and possibly San Jose."[144] In 1922 the Army "granted a revocable license to the Air Mail Service for the use of the ground on which the Air Mail has constructed the hangar and office building, together with authority to use such water and electric lights, and for telephone service, which they may require...the said hangar and office building above referred to having been erected on this land in January, 1922." By this time, Superintendent Caldwell of the Air Mail Service had his headquarters at Crissy Field.[145]

Ten months later, Second Assistant Postmaster General Paul Henderson, superintendent of the Air Mail, Mr. Riddell, General Superintendent of the Railway Mail Service, and Judge Anderson of the Federal Court, visited Crissy Field "for the purpose of inspecting the Air Mail Station here. Assistant Superintendent of the Western Division W.E. LaFollette is ever ready for visitors, and we know that the gentlemen from the east will be well impressed. During their stay here it is expected that they will be taken for a few local flights to gain a better idea of the difficulties to be encountered in this section of the country. It is expected that their flights will be made in a reconstructed DeHaviland plane of the cabin type which carries two passengers and a pilot."[146]

Reminiscing years later about their days at Crissy Field, former Air Mail Service Pilots remembered, "It's the same hangar—and that damn fog is still here." Although more fondly recalled were the crab lunches they used to cook there, "We'd slip across the field to the beach, catch the crabs and bring them back for lunch—but the hangar finally got to smelling so bad we had to stop. And then we started getting poison oak trying to pick blackberries out back. ...We used to fly from ferry boat to ferry boat to get in here through the fog."[147]

Pilot Burr Winslow told about one day the mail did not get through:

> It was so hot up there [Sacramento] that I got tired of having to make a landing there and I talked them into letting me carry the Sacramento air mail in the cockpit. I'd come in low over the field and just toss it out. The no landing system worked beautifully...until the day he taxied up to the mail service hangar at the Presidio and they came running out and asked me what happened to the Sacramento mail. I told them I didn't know. I dropped it. Then a mechanic walked up and told Winslow he thought he'd noticed something fall off his De Havilland when

[141] NA RG18 Project File 634. Adjutant General to Commanding General Western Department. Jul. 31, 1920.

[142] NA RG18 Project File 680. Secretary of War to Postmaster general. July 29, 1921.

[143] *Examiner*, Oct. 2, 1921.

[144] *ASNL, Dec. 3. 1921.*

[145] ibid. Dec. 12, 1921.

[146] ibid. Oct. 30, 1922.

[147] *Chronicle*, Oct. 5, 1970.

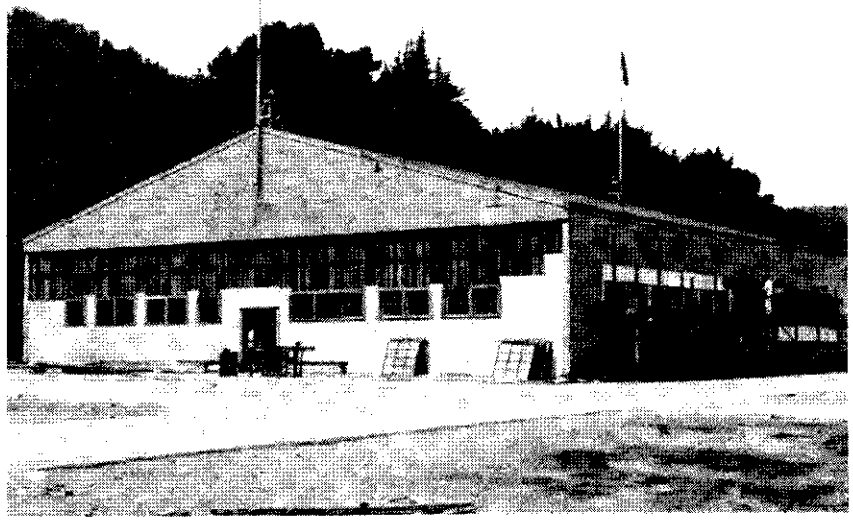
A Ryan M-1 mail plane in front of the airmail hangar at Crissy Field, today's Building 640. May 21, 1927. (Courtesy of William T. Larkins)

> he was landing. We went out on the field and there was the Sacramento mail....The sack had caught on my tail skid and stayed there."[148]

Air Mail Service operations at Crissy Field lasted until May 26, 1926, when service was transferred to Concord.[149]

The use of the Army field by the Air Mail Service was considered temporary and was never particularly convenient for either party. "The Air Mail Service operated by the Post Office Department between New York and San Francisco has a terminal at Crissy Field, with hangar, radio station and a small office building. Due to fog conditions, usually in the morning, the Air Mail Service found it difficult to dispatch planes from Crissy, so they now have a field at Concord, about 25 miles east of San Francisco.[150] East bound mail is dispatched by truck from San Francisco Post Office to the Concord Field in about 1-1/2 hours and loaded at that point."[151]

Carrying mail by contract continued for a number of years, however. In 1929 the War Department approved "the extension of a license authorizing the Pacific Air Transport, Inc., to continue use of Crissy Field as a mail landing spot until January 1, 1930," but applied "only to air mail from Seattle and other northern points and does not authorize landing passengers....The permit is renewed semi-annually...."[152] A month later in response to "a new order from the postal department for increased airmail service from San Francisco to the East," an "airport advisory committee," with Lt. Col. Gerald C. Brandt as one of its members, supported Crissy Field as the airmail's western terminus because its



The former air mail hangar in the process of conversion to a barracks for ROTC students. From the 1928 Annual Report for Crissy Field. This building was used during World War II by the Nisei soldiers of the Fourth Army Intelligence School. (National Archives)

148 ibid.

149 Reuther, "Crissy Field"

150 This airmail field was known as Diablo Field, and is different from the later, and extant, Buchanan Field.

151 NA RG18 Project File 680. Commanding General Ninth Corps Area to Adjutant General. Apr. 2, 1926.

152 *Chronicle*, Mar. 9, 1929.

developed facilities promised an immediate boost in service, while the committee's project to develop Mills Field, Burlingame, into the new San Francisco airport only promised results in the long-term. Licenses for Pacific Air Transport to use Crissy Field were extended through January 1, 1934.[153]

In 1928 the former air mail hangar was remodeled into a barracks for the use of ROTC students.

* * *

During 1923, Crissy Field became the only active airfield in the Ninth Corps Area. In consequence, operational use of the airfield, even as busy construction activity was going on, became of particular importance. A meteorological station had recently been set up to the west of officers' row on the high plateau overlooking the field, because there was only one other one in California, and "The 91st Squadron (Observation) and Aerial Photo Section No.15 are the only active Air Force [sic] organizations in the Ninth Corps Area. Both are stationed at Crissy Field and are responsible for the conduct of aerial forest fire patrol, observation missions, photographic missions and all other Air Service activities of a military nature." [154]

The Annual Report for Fiscal Year 1923 provided a number of operational highlights.

Troop G, 11th U.S. Cavalry Regiment, was stationed briefly at the post in connection with a horse show. Aerial photography was performed at Seattle, Tacoma, Everett, Bellingham, Grays Harbor and Vancouver in Washington and at Portland and Astoria in Oregon upon request of the Corps of Engineers.

Thirteen flights were made in connection with various celebrations and dedications. Search and rescue flights were made to help in a mining disaster at Jackson, California, in the foothills of the Sierra, and to look for lost civilians in the Russian River country and lost yachts in the Bay,

U.S. ARMY AIR SERVICE ACTIVITIES IN THE UNITED STATES, 1919

By 1923, post-war demobilization resulted in Crissy Field becoming the only active Air Service flying field in the western United States. (Office of Air Force History, U.S. Air Force)

153 NA RG18 Project File 680. Assistant Secretary of War to Pacific Air Transport. Feb. 15, 1929, passim.

154 NA RG18 Project File 300. Crissy Field Miscellany. Air Officer, Headquarters Ninth Corps Area to Chief of Air Service. Sep. 12, 1922. The other meteorological station was at Rockwell Field, San Diego, now downgraded to the status of an air depot.

as well as the major effort to locate lost flyers from Rockwell Field previously referred to.

Twenty-five flights were made to practice with anti-aircraft batteries, and three night flights were made to test searchlights.

Officers and men of the machine gun companies of the 30th Infantry Regiment were taken aloft for practice in firing the observation plane's Lewis guns at targets in the air and on the water. Major Brett stated that:

> Since infantry machine gunners may have to oppose aircraft in actual combat, it is necessary for them to learn under just what conditions flying is done. By taking actual flights and operating machine guns from the air they will soon know just how elusive the airman is and just what may be expected of his fire....The Lewis guns are provided with photographic attachments....when one of these guns is properly aimed and the trigger pulled a picture of the opposing airplane is taken. When the practice is concluded and the picture is developed and analyzed the location of the simulated hits and effect of fire of the hostile plane are determined.[155]

The aviators took their mothers and wives aloft too. "Air Service officers explained the purpose of Major-General [Mason M.] Patrick's recent order authorizing flights for wives and mothers of aviators by saying that Coue's idea of eliminating worry had been no secret from the flight surgeons for several years and that under authority from General Patrick these trained medical specialists have been long studying the effect upon a flyer's mental and nervous condition of the thought that his loved ones are worrying about him at home."[156] The newspaper account did not go on to say whether the flights lessened or added to the loved one's anxiety.

Five Curtiss JNS-1 "Jennies" of the 316th Reserve Squadron were flown from Crissy Field to Varney Field in San Mateo for the 1923 reserve camp. (National Archives)

Fourteen DH-4Bs were reported wrecked due to crashes in the twelve-month period, but only one crash resulted in injury to passenger or pilot. These crashes occurred as a result of widespread operations of airplanes based at Crissy Field, and did not necessarily occur at Crissy Field itself.

On April 23, 1923, the base was inspected by General Patrick, the Chief of the Air Service, and on May 26 by Secretary of War John W. Weeks.[157]

Due to the economy program in force at the time, and the closure of other Corps Area airfields, forest fire patrol "would necessarily have to be operated on a much smaller scale than had been the case during the past three years. Accordingly, cooperation with the Forest Service in fighting fires was confined almost entirely to Western Oregon." Although "Local

155 *Chronicle*, Nov. 16, 1923.

156 ibid. May 22, 1923.

157 NA RG18 Central Decimal Files. Annual Report of Crissy Field for Fiscal Year 1923.

forest officers of the California National Forest believe that the Grindstone Fire, which...started in a blind area, not visible to regular lookouts on the forest, would have been discovered in its incipiency if the air patrol had been in effect. This fire, the largest in California for ten years, covered approximately 40,000 acres and cost $23,000 to suppress."[158]

On one cross country flight returning from Vancouver, Washington,

> pictures were taken of Mt. Adams, Mt.Hood, Mt. Jefferson, Mt. Washington, The Three Sisters, Crater Lake and many other natural scenic beauties. The landing was made in a strange field at Red Bluff, California, as it was found that the regular forest patrol landing field had been plowed up and abandoned. Leaving Red Bluff the next morning we flew to Mt. Lassen and took a number of pictures of the only active volcano in the United States. Although the volcano was not active at this time, we flew directly over its top, extremely close above the crater and obtained pictures from down in the crater itself.[159]

A 1923 transcontinental flight of a Martin bomber, which stopped over at Crissy Field on its route from Langley Field, Virginia to Rockwell Field, San Diego, provides an excellent description of the difficulty in using the small airfield for large aircraft:

> After spending the night in Sacramento we arrived back at Mather Field the following morning to service ship and leave for Crissy Field. Uncertainty about the size of the field had been cleared up by talking to several people after arrival at Mather and it was believed not too large but large enough. The high bluff at the west end of the field made it bad. We would be able to take off in the other direction but only when the wind was from the east or not blowing very strongly. The prevailing wind is from the west....In an hour and a half we had covered the ninety mile trip and had arrived at San Francisco. We flew over the city for a few minutes, then made a landing at the field to be greeted by an enthusiastic crowd of friends, reporters, and spectators....We set about to celebrate....We then began to consider our departure. It was decided to wait for a change of wind before attempting to leave. While it may have been possible to take off toward the bluff at the west end of Crissy Field and make a sharp turn to the right, passing between the edge of the hill facing the water and a life-saving station, as the DH's are flown, there was not enough margin of safety in doing so. We did not leave Crissy Field until October 29th, therefore, after having been there a week. At that time, although we had a favorable wind for getting out of the field, a characteristic San Francisco fog had settled over the Bay and the immediately surrounding country to within a hundred feet of the surface. We took off, without any difficulty, in this fog and flying out over the Bay made our way through Carquinez Strait, where it was necessary to fly under two high tension lines about 150 feet overhead to the outlet of the Sacramento River to Suisuin Bay where the fog lifted.[160]

* * *

In the days when radio was not a reliable means of communication, homing pigeons were a standard feature of the Signal Corps' communications repertoire.

There was a pigeon loft at Crissy Field, located immediately to the east of the enlisted barracks, which had been in operation since 1922, shortly after Major Arnold had raced the birds from Oregon to San Francisco.

The *San Francisco Chronicle* described how:

> All active flying stations of the army will soon have pigeon lofts housing detachments of costly homing pigeons, many of them progeny of feathered war heroes, to accompany aviators on all

[158] *ASNL*, Jan. 31, 1923.

[159] ibid. Nov. 22, 1923.

[160] ibid. November 1922.

distant flights, it became known yesterday at the signal office of the 9th Corps Area, Presidio. One hundred of the birds yesterday entered into occupation of the loft erected at Rockwell Field. There are now 286 birds at the permanent breeding loft at Ross Field awaiting distribution among the various stations, including Crissy Field.

At every station where a permanent loft for homing pigeons is situated there will be accommodations for the "hero birds" of the pigeon family. These birds are now disabled for flying, but their deeds at the front during the war have won for them a permanent home as the feathered wards of the army.

Crissy Field here is now a "pigeon post," where quarters and mess are available for detachments of the homing birds passing through San Francisco en route to other stations. Arrangements are now being made for the establishment of a permanent loft at that station to house 100 birds. Some of these birds are worth in excess of $1500 a pair, although the aviators and signal officers place a much higher value on them.

Military authorities here believe that in securing and training the pigeons the signal corps has made a valuable contribution to safety in military aviation. When a flyer is lost in a desert or otherwise in distress he can send back his message to the home station on the wings of the homing pigeon who accompanies him on the flight.[161]

In November of that year, it was recommended that pigeons which were bred at Ross Field [Arcadia, California] be transferred to Crissy Field.[162]

In spite of the reassurance that the birds assumedly provided the aviators, they were rarely used. In 1926, due in part to a shortage of Signal Corps enlisted personnel in the Corps Area, the two men assigned to Crissy Field's pigeon loft were released to other duties. "The pigeons at Crissy Field are used only by the Air Service and are used very little by that service. These pigeons have been used only twice in the past two years in tactical problems." It was recommended that the pigeon loft be discontinued.[163]

* * *

The National Defense Act of 1920 had provided for the formation of units from the Organized Reserve Corps, to parallel those of the Regular Army. Air Service units were thus formed to support the reserve ground units of the various corps areas. The next year, reserve units had begun to form in locations across the country, including San Francisco.

In many cases formal organization stemmed from informal meetings of interested Reservists....The 316th Reserve Squadron (Observation), for example, had its beginning when reservists from around San Francisco met at nearby Crissy Field in the fall of 1921. The Commander of Crissy Field, Major George H. Brett, and his staff developed training schedules for four squadrons. First Lieutenant Robert E. Selff became Officer in Charge, Instruction of Reserve Squadrons. A new hangar having been built at Crissy for the airmail service, the old one was turned over to the 316th Reserve Squadron in January 1922. The squadron then took enlistments. As soon as it accepted its first planes (five Jennies), the pilots (the squadron now had twenty-three officers) showed up for flying. By February 1922 the 316th was a going organization.

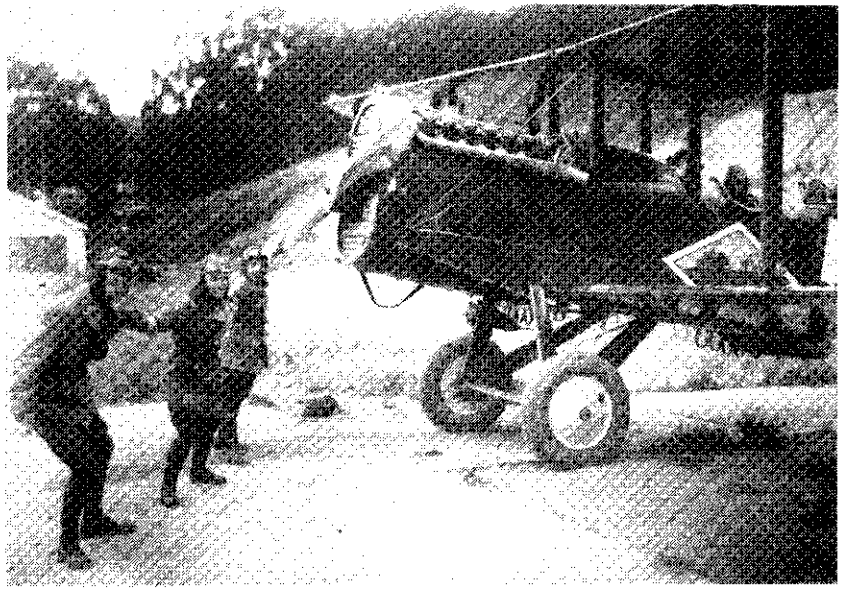
During the next few weeks, the Ninth Corps Area detailed a staff sergeant and four enlisted specialists of the Regular Air Service to temporary duty with the 316th Squadron. Reservists met Monday nights for instruction and on alternate weekends for classes and flying. By May 1922 the unit had thirty-three of the thirty-five officers authorized, and some pilots had already

161 *Chronicle* Jun. 14, 1923.

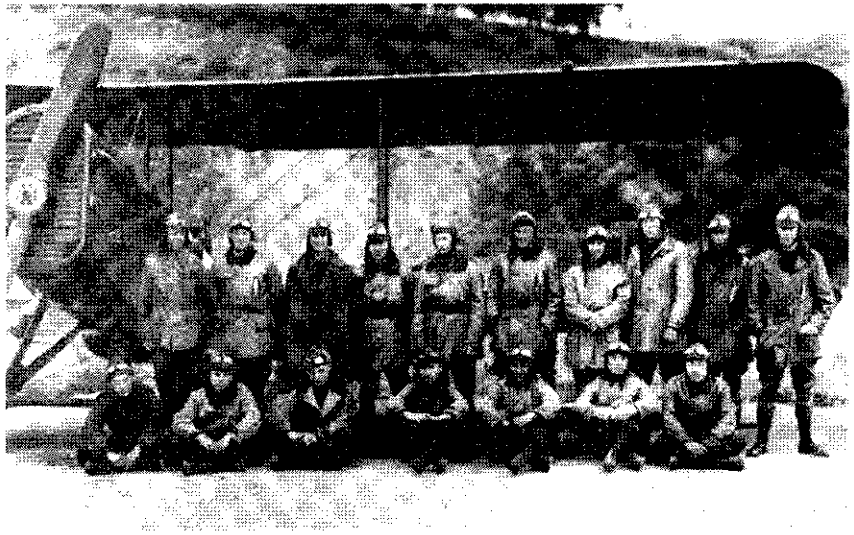
162 NA RG18 Project File 400.22 W.A. Frank Office of Chief of Air Service to Chief Signal Officer. Nov. 28, 1922.

163 NA RG18 Project File 400. Assistant Adjutant General, Ninth Corps Area to Adjutant General. Apr. 2, 1926.

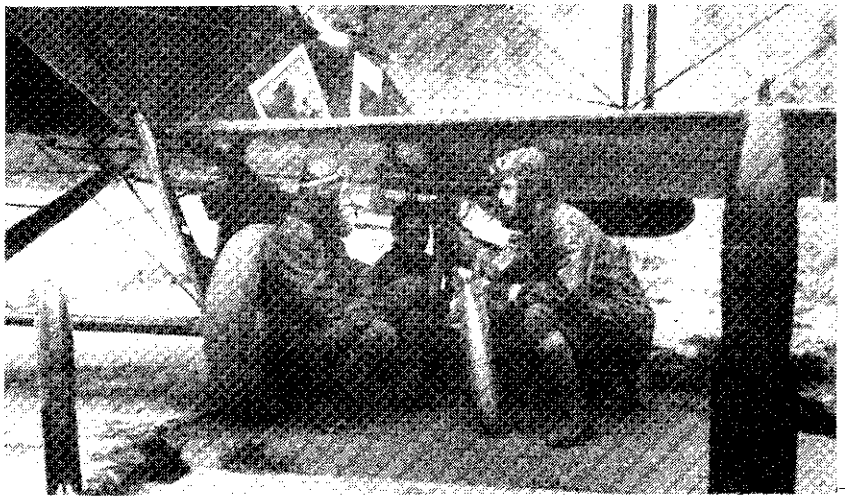
Photographs From the 1923 Reserve Camp at Crissy Field



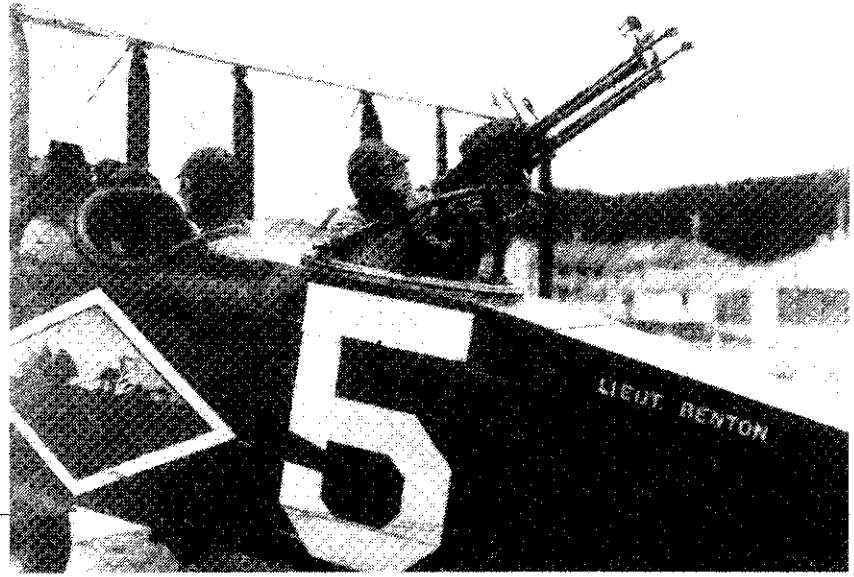
Spinning the prop to start a DH-4. 1923. (National Archives)



Reservists pose in front of a Crissy Field DH-4. 1923. (National Archives)



"Bombing up" a DH-4. 1923 (National Archives)



A close-up of the insignia of the 91st Observation Squadron, which represents St. George and the dragon. The armament consists of a pair of Lewis machine guns. 1923. (National Archives)

> soloed. Twenty-four enlisted men were in training, and other enlistments were being sought.
>
> The 316th Photo Section, also at Crissy Field, had its officers and was about ready to begin enlisting. Both the 316th Squadron and the photo section were attached to the 91st Division, Organized Reserve....Meantime, Lieutenant Selff had been organizing a pursuit unit, the 440th Reserve Squadron, at San Jose, California. In 1923 another pursuit squadron, the 447th, was formed at Crissy Field....
>
> Neither officers nor enlisted men were paid for inactive duty training at night or on weekends. Nor were they entitled to retirement pay and many other benefits enjoyed by Regular Army members. Almost the only incentive for a Reserve officer to join a Reserve unit was the flying, and that was not enough to keep all units filled with eager flyers. Even the 316th Squadron, with its auspicious start at Crissy Field in late 1921, reported a few months later that just 19 of its 33 officers were actively flying.[164]

The Air Service expected the Reserve Officer Training Corps to help keep the Reserve up to strength, and colleges were willing to cooperate. The Air Service wanted them to cover the ground phase of flying training, while the service itself would furnish military and flying training in summer camps. In the 1920-21 school year the program began, with five schools participating, including the University of California. "First Lieutenant Harry A. Halverson, on duty at Berkeley, California, gave his students 'hops' at Crissy Field. He found it a great way to make indifferent students interested, and interested students enthusiastic."[165]

In the summer of 1923, eleven officers at Crissy Field were assigned to duty as instructors for a six-week ROTC camp followed by a two-week camp for the Organized Reserve Corps. The ROTC students were quartered at the "Crissy Field Officers' Club," received their ground training at the former air mail hangar at Crissy Field, and went about 20 miles south to Varney Field in Beresford, California for their flying instruction. Varney Field was also the site of the summer tent encampment of the Organized Reserve.[166]

* * *

In mid-1924, the *San Francisco Chronicle* reported upon an ambitious plan for the enlargement and widening of Crissy Field which had been sent to the War Department by the field's acting commander (Major Brett having been reassigned) with the endorsement of Lt. Col. Frank P. Lahm, the new Air Service Officer of the Ninth Corps Area. Motivated in part by the abandonment of any plans for the further development of Marina Field as a municipal aerodrome, the plan included, "(1) extension of the field on the water side by filling in (2) erection of three new hangars (3) Construction of four additional officers' quarters and an equal number of new non-commissioned officers' quarters."[167]

A few weeks later, the newspaper reported upon the arrival of Crissy Field's new commander, Maj. Delos P. Emmons, [168] and elaborated upon:

> three concrete recommendations which may go far toward assuring San Francisco's future as the aviation center of the Pacific Coast....First, a fill-in along the present field from the life saving station approximately to the Pillar of Progress, pushing the bay back and widening Crissy Field to twice its present dimensions. Second, to restrict the height of buildings to be

[164] Maurer, *Aviation in the U.S. Army*, p.88-9.

[165] ibid. p.92-3

[166] Varney Field, Beresford California is located within the present boundaries of the city of San Mateo at the site of Bay Meadows Race Track. NA RG18 Series 168. Central Decimal Files. Report on Ground and Theoretical Instruction, Air Service Reserve Camp and Organized Reserve Camp, Varney Field, Beresford, California. August 12, 1923.

[167] *Chronicle*, Jul. 27, 1924.

[168] Emmons, a former infantry officer who had twice before been stationed at the Presidio, went on to a distinguished career with the Air Service, Air Corps and Air Force. From March 1939 to June 1941 he was the Commanding General of the General Headquarters, Air Force. In mid-December 1941, in the wake of the Pearl Harbor disaster, he was dispatched from San Francisco to assume command of the Hawaiian Department from Brig. Gen. Walter Short, because Chief of Staff George C. Marshall wanted an airman for the job.

> erected on the Marina, which would otherwise interfere with landing on the enlarged field. Third, to effect the removal from Crissy Field of the buildings of the United States Coast Guard, which at present endanger all but veteran flyers when they take off.[169]

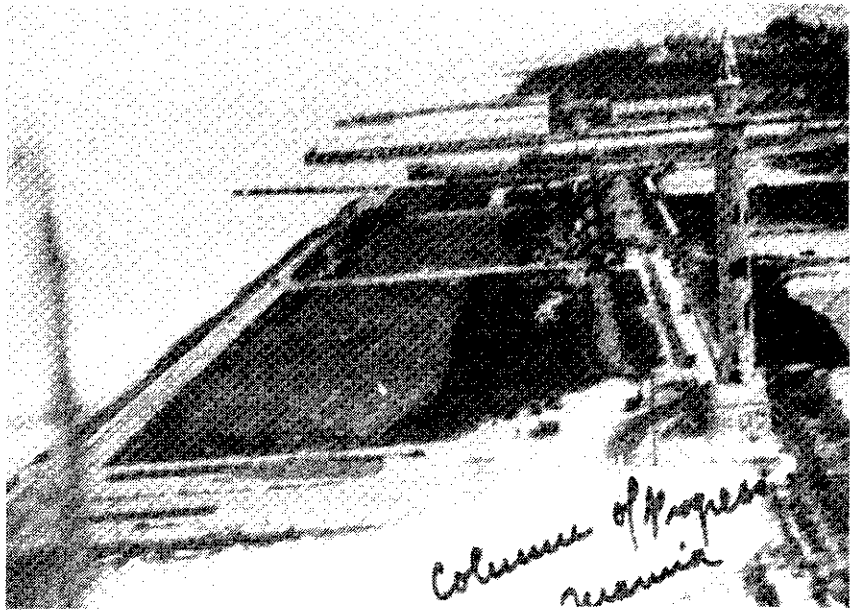
In September 1924, the Quartermaster General, the Army's senior officer in charge of construction, made an inspection of Crissy Field, which set the direction for limited future construction and effectively quashed grandiose plans for expansion. As a result of the inspection, construction work was prioritized. The most urgent priorities were enlarging the officers' quarters, replacing the dilapidated seawall along the north edge of the field with a timber bulkhead to keep northerly winds from blowing water over the field, and regrading and resurfacing the eastern end of the flying field with clay.

The field's clay surface was not considered thick enough. "If the field is to be used for any length of time, it should be regraded, a thick layer of clay and loam rolled on top of the sand, and Bermuda grass planted."

Considered only a little less urgent were the conversion of the bachelor officers' quarters into married officers' apartments, improving drainage on the flying field, and constructing a new radio building because the one at the end of officers' row was located so far from the field.

The major widening of the field to twice its width got the lowest priority because it could not be accomplished until the Treasury Department agreed to move the life saving station, and Congress had not approved any funding for the project. The life saving station would stay and the huge proposed landfill would not occur at Crissy Field.[170]

The City of San Francisco, in lieu of expanding Marina Field, went on to formulate plans for the Marina's beautification and use as a municipal park. Strong sentiment existed for the permanent restoration of the 185-foot tall "Column of Progress," but because it was located danger-



Taking off from the Marina in 1919. A photograph from "Hap" Arnold's personal scrapbook. The 185-foot tall Column of Progress, a relic of the Panama-Pacific International Exposition, was not preserved because it posed a hazard to airplanes landing at Crissy Field. (Library of Congress)

ously close to the landing approaches to Crissy Field, the Army "courteously expressed the emphatic opinion that this shaft would prove a serious hazard to the Government's aviators when landing at the Army's flying field, Presidio."[171] The Column of Progress was not destined to enjoy the same fate as the Palace of Fine Arts.

The grandiose plans for a larger, wider airfield were eventually carried out on the other side of San Francisco Bay. In December 1924 Secretary of War Weeks announced plans to use 110 acres of filled land in San Leandro Bay, between Oakland and Alameda for "a great flying field for aircraft of all descriptions. Although under the War Department's plan, Government island would become the major air base of the Pacific

169 *Chronicle*, Aug. 6, 1924.

170 NA RG18 Project File 600.1-600.12 Commanding Officer Crissy Field to Quartermaster General. Sep. 2, 1924.

171 NA RG18 Project Files 680. Frank I. Turner, President, Exposition Preservation League, San Francisco to Secretary of War John Weeks. Jan. 29, 1925.

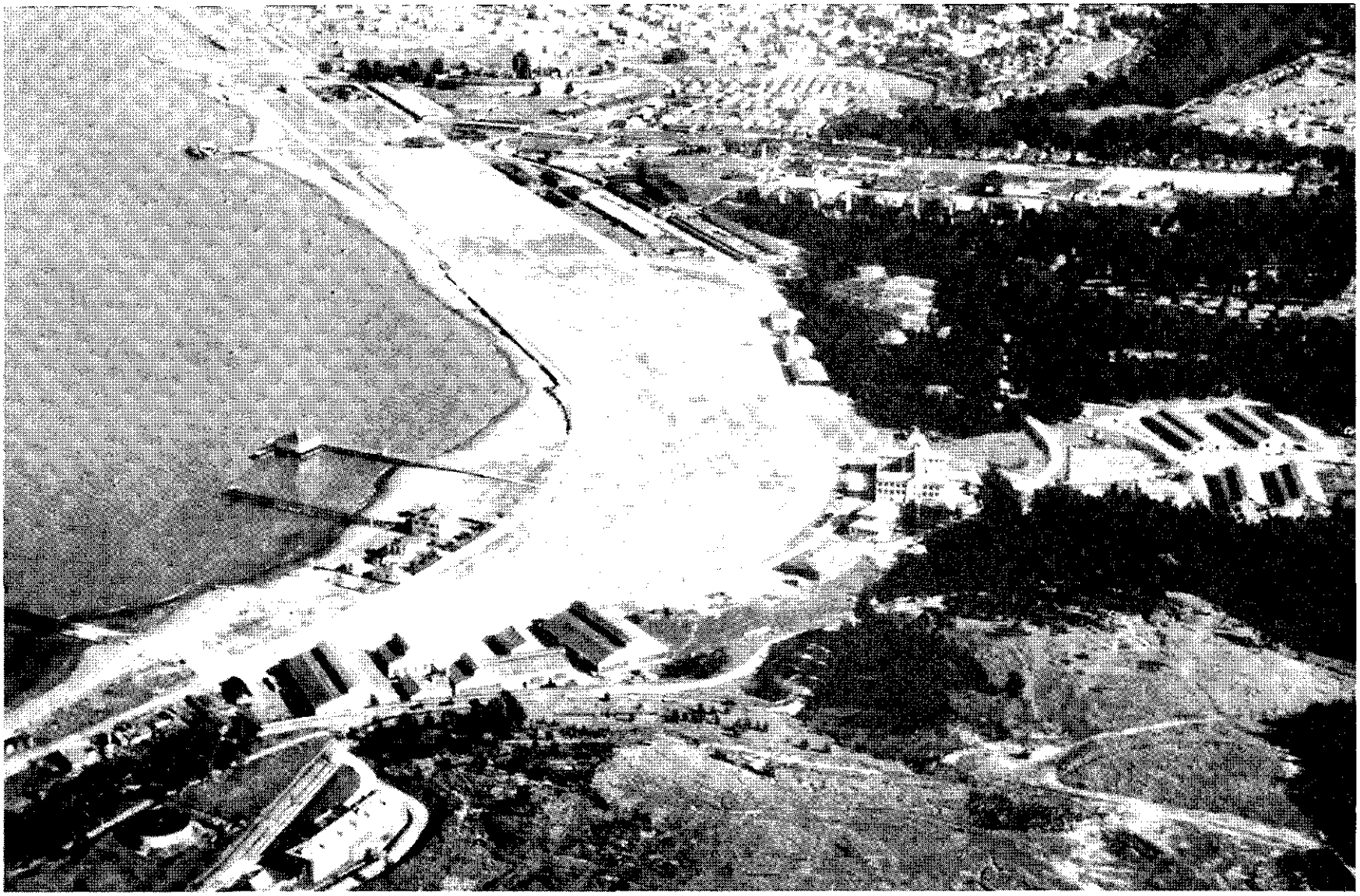
Coast, it does not contemplate the complete abandonment of Crissy Field." In fact, Crissy Field was in no way abandoned until 1936. The acreage in San Leandro Bay eventually became Oakland's Municipal Airport.[172]

* * *

[172] *Chronicle*, Dec. 18, 1924.

Site History–Chapter 4

Of Races and Runways, 1924-1934.



Crissy Field in 1926. The North Cantonment is almost entirely cleared of buildings, a concrete road now runs out to the air mail hangar, and the words "CRISSY FIELD" have been painted on the reserve hangars. Note the shadow cast by the wooden seawall, and how the area around the mine depot fuel tank is devoid of trees or brush. (National Archives)

Of Races and Runways, 1924-1934.

In a period of a little over a year from the summer of 1924 to the summer of 1925, three of the most important events in the history of Crissy Field took place.

Air Service speed demon Lt. Russell L. Maughan, who had won the Pulitzer Air Race in 1922, was chosen to attempt to race a Curtiss PW-8 pursuit plane across the country in the span of one long summer day — "From Dawn to Dusk."[173]

The point of this race was to demonstrate:

> first, that a standard pursuit airplane properly equipped was capable of withstanding such a severe grilling as would be received on a flight of this nature; second, that a pilot was able to withstand the strain involved—some eighteen hours flying in one day; third, to show commercial interests the possibilities of the pursuit type of airplane and its possibilities...; and fourth, that it is possible to have an air force located somewhere in the middle west and to have it transferred to any border of the United States within a span of a single day.[174]

It is instructive to contemplate just how far military aviation had come for this feat to have been contemplated only five years after the widespread losses and mechanical failures of the Transcontinental Reliability and Endurance test.

The *Air Service News Letter* devoted a good deal of space to the description of this flight:

> With the sun set to pace him, Lieut. Russell L. Maughan, the well-known Air Service pilot, set out from Mitchel Field, Long Island, N.Y., just before dawn on Monday, June 23rd, to fly across the continent to San Francisco, Calif., with the expectation of arriving there just before the evening shadows cast their pall of darkness over the Golden Gate city.
>
> With clear sailing ahead he would have easily realized his ambition to see the sun on the California coast before it sank below the horizon over the broad expanse of the calm Pacific, but his progress was retarded by strong head winds during two-thirds of his trip and by cross winds during the remainder. A mechanical breakage while at Dayton consumed valuable time to the extent of one hour and 11 minutes while the necessary repair work was being made, also an extra stop at North Platte, Neb. ... consumed valuable time....
>
> Faced with all these handicaps, Lieut. Maughan truly made a most remarkable flight. ... As the New York *Tribune-Herald* [sic] put it, "The sun still travels a little faster than this, but humanity seems to be pushing him rather hard...."
>
> It is not likely that Lieut. Maughan will again attempt this flight for the mere satisfaction of actually accomplishing a dawn to dusk transcontinental flight. He has demonstrated beyond a shadow of a doubt that the thing can be done, and nothing would be gained in taxing his physical endurance in another grueling test of that sort....
>
> He arrived at 9:47 p.m., Pacific Time, thus completing the entire transcontinental journey from the Atlantic to the Pacific coast in 21 hours and 48 minutes elapsed time, or at an average speed, counting all the stops made, of approximately 118 miles an hour....
>
> A battery of arc lights illuminated Crissy Field some time before Lieut. Maughan's arrival. When he arrived over the field the mist blotted his plane from sight, and a great din burst forth from the assembled throng when he unexpectedly soared down to the field at the south end of the big quadrangle. Newspapermen broke through the police lines holding back the huge crowd and greeted the flyer. A few seconds later the spec-

[173] Maughan had tried twice before in 1923. He had left New York and had gotten to Missouri on his first attempt and to Wyoming on his second.

[174] *ASNL*, Sep. 30, 1924.

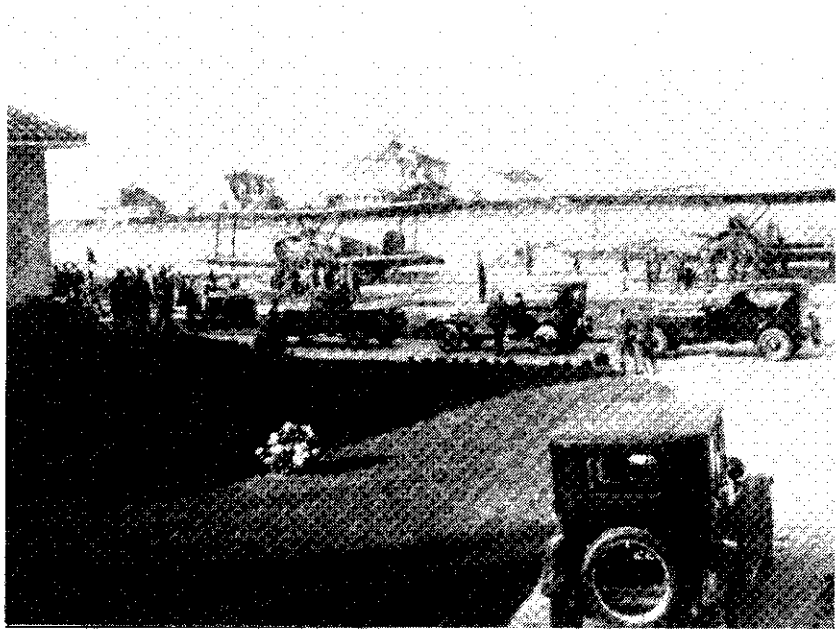
> tators, cheering and shouting while automobile sirens shrieked in a bedlam of noise, surged over the landing field and surrounded the plane.
>
> Lieut. Maughan's face bore a serious and drawn expression. He appeared to be almost overcome with emotion at the victory which he had achieved. His comrades from the Air Service lifted him bodily from the cockpit of the plane and carried him on their shoulders through the cheering crowd to the Army Headquarters. A San Francisco newspaper picks up the story here thus: " They took him in Colonel W.E. Gilmore's office and he sank into a chair. Every muscle in his face was twitching and he had the appearance of a terribly tired man. The women had put wreaths of California wild flowers around his shoulders and he still held his battered helmet, smiled and answered questions that were flung at him by members of the press with that proverbial good nature, willingness and modesty of his that fatigue could not lessen."
>
> The demonstration accorded Lieut. Maughan was without parallel in the history of aviation in San Francisco.

The strategic significance of the feat was not lost on the *St. Louis Globe-Democrat*, which noted that, "Lieut. Russell L. Maughan has shown how armed men of the Republic may be awakened with the reveille in circling camps on the Atlantic seaboard and arrive the same day in ample time to hear the soft, restful notes of 'Lights out' float over the reinforced strength of camps on the Pacific seaboard."[175]

Maughan himself described the difficult last hours of his flight to San Francisco in highly personal terms:

> It was known before I left Salduro [Utah] that I would be hard pressed to reach San Francisco before dusk, but I was hardly expecting a heavy overhanging bank of clouds to shut off all light from above and at the same time have a ground fog shut off all light from below. It was indeed fortunate that I had flown forest patrol for several years over the country from Reno to Sacramento and that I had flown many times between Sacramento and San Francisco. Even under these conditions the flight grew more and more difficult. Sacramento was finally recognized in the dusk by the Travellers Hotel and the little church around the corner, and Mare Island was recognized by the ships in the bay. Guessing was exceedingly well done, as dim shapes from above could not shine through and the fog underneath was steadily growing heavier, making it impossible to tell if it was ground or water underneath. It was impossible to come down low and ascertain this fact, as there are several mountain peaks or ranges in the Bay region.
>
> A course was chosen to the right of all the lights seen so as to insure not missing San Francisco in the fog. The lights mentioned consisted, not of individual lights, but simply of a dull glow which could be seen through the fog. Even from directly above no light could be seen—just the dull glow mentioned. Under these conditions, with only twenty minutes of gasoline left, is it any wonder that I was delighted to see the beam of the revolving flash light on the prison at Alcatraz? (I hope never again to be so glad to see prison lights.) Only then was I sure that the flight was a success.
>
> The wind coming in through the Golden Gate ahead formed a full eddy and split up the fog allowing the light to come through in spots so that it was possible to get below the fog without difficulty and make a landing in safety. The first flight over the field was made at 9:40, but one minute before the arrival of dusk. The landing, however, was not made until eight minutes later, as it was necessary to circle the field several times

[175] This, and the long block quote immediately above are from the *ASNL*, July 15, 1924.



Two Douglas World Cruisers from the Round-the-World Flight in front of the administration building. Note the landscaping details. September 25, 1924. (California Historical Society, San Francisco)

to be sure that the crowds had not encroached upon the airdrome.

The popular interest in the flight along the entire way had been tremendous. At New York there were approximately 100 people present for take-off. At McCook Field, even though the public had not been notified, there were approximately 200 people present. At St. Joseph, Mo., the crowd had increased to approximately 3,500; at Cheyenne, a town of some 15,000, there were approximately 2,500 present. This interest, however, had not prepared me for the 50,000 enthusiasts who were still waiting for me at 9:40 p.m. in San Francisco. The crowd at San Francisco was very well handled and very peaceable; but as soon as the landing was made they became unmanageable and rushed headlong on to the field. This latter point is mentioned inasmuch as the plane, of course, received severe handling.[176]

One of the "great goals of the Air Service," to "reduce the time for deploying Army aircraft from one part of the country to another," had taken a giant practical step forward with the successful conclusion of Lieutenant Maughan's flight.[177]

* * *

The next important aviation event of 1924 at Crissy Field has been referred to as "the most important pioneering flight of the time in terms of difficulty and international prestige." This was the circumnavigation of the globe by air.[178] The Americans were in competition with the British, the Portuguese, and the French who simultaneously attempted to fly around the world. In addition to competitive considerations, "the flight would demonstrate the feasibility of international flight and would be valuable in testing the effects of varying climactic conditions on aircraft operations."

The American team effort was a "masterpiece of planning and organization. A pathfinding team was dispatched overseas, supply dumps were established, and U.S. navy vessels were stationed along a carefully chosen route."[179] Donald Douglas built four Douglas World Cruiser (DWC) aircraft specially for the attempt, fitted with the old but reliable Liberty engine, dual controls, and able to use either wheels or pontoons as landing gear. The air crews all came from the ranks of the Air Service. The pilot of the DWC christened *Chicago* was 1st Lt. Lowell H. Smith, of

176 *ASNL*, Sep. 30, 1924.

177 Maurer, *Aviation in the U.S. Army*, p.176. In January 1921, 1st Lt. William D. Cooney made one of the first official attempts to fly cross-country in twenty-four hours. It is believed that the official start was at San Diego, but a photograph taken "before his flight" shows him leaning against DH-4B No.8 with 91st Observation Squadron markings. The background of the photograph may well be Crissy Field. ibid., p.176.

178 Gwynn-Jones, *Farther and Faster*, p.198.

179 ibid. p.201.

Crissy Field; Tech. Sgt. Arthur H. Turner of the 91st Observation Squadron was chosen as an alternate mechanic.[180]

The flight left Seattle, Washington, on April 6, 1924 four days after the Portuguese team departed Lisbon and a fortnight behind the British. When the flagship, *Seattle*, crashed on an Alaskan mountaintop, Lieutenant Smith assumed command of the expedition. Flying by way of Japan, China, Thailand, India, Turkey, France and England, the intrepid flyers crossed the Atlantic via Iceland and Greenland with the U. S. Navy on patrol below. All competition eventually dropped out, and the country welcomed the fliers home with great enthusiasm after their 175-day epic. "The world flight was a triumph of planning and organization, its success virtually guaranteed by a superb army and navy team effort."[181]

On their final lap across the United States, the triumphant flyers received the accolades of every community in which they stopped:

> ...on September 25th they took off for Crissy Field, Presidio of San Francisco, and landed at 3:20 p.m. The flight was marked by the forced landing of the Boston II, Lt. Wade's ship, due to a burnt out battery. A new battery was rushed to the ship by motorcycle and Lt. Wade arrived at Crissy Field at 4:02 p.m. A great throng was on hand to welcome the famous birdmen, the size of the crowd being impossible to estimate. After circling the field, the planes landed gracefully and taxied up before the reviewing stand, where the flyers were received by Mayor James Rolph, Senator Shortridge, Lt. Col. Frank P. Lahm, Air Officer of the 9th corps Area, and other notables. The airmen were conducted by automobiles from Crissy Field to the St. Francis Hotel, where the huge crowd which lined the curb and overflowed into the lobby of the hotel, greeted them with a multitude of shouts and cheers. So great was the demonstration at the entrance of the hotel that it was necessary to have special police forces to keep the surging crowd back. When the flyers reached their suite of rooms, Miss Lillian Gatlin, the only woman who has flown across the United States, presented each of the aviators with a gold medal.[182]

When they left Crissy Field on the 27th, Mayor James Rolph again stood at the field and waved his hat in farewell.[183]

* * *

figure 36. San Francisco Mayor "Sunny Jim" Rolph waves his hat in farewell to the Round-the-World flyers. Note the shoulder patches of the 3rd Infantry Division on the soldiers, indicating they are members of the 30th Infantry Regiment. September 27, 1924. (California Historical Society, San Francisco)

180 *ASNL*, n.d.

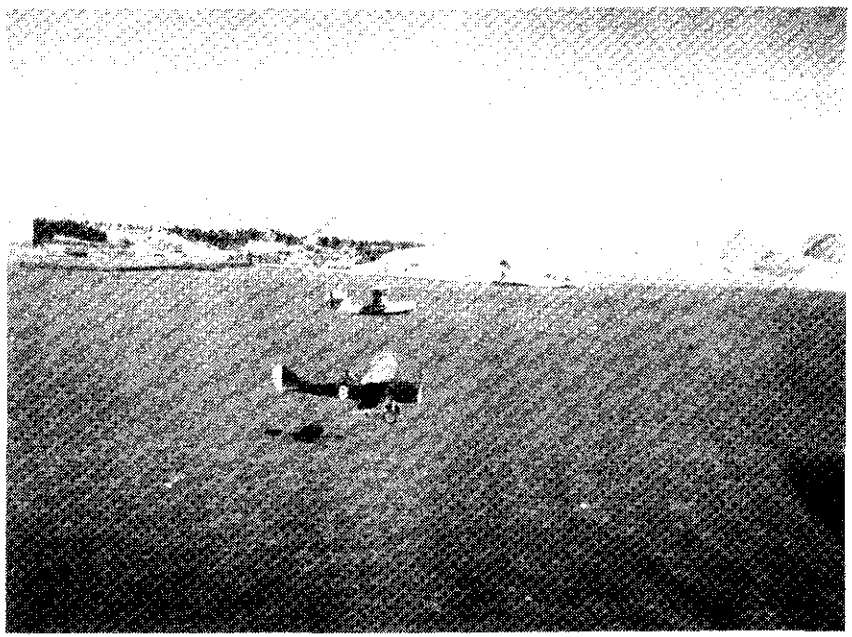
181 Gwynn-Jones, *Farther and Faster*, p.205.

182 *ASNL*, Oct. 20, 1924.

183 In recognition of the epochal nature of the Round-the-World Flight, the DWC *Chicago*, flown by Lt. Lowell H. Smith of Crissy Field was retained in the collection of the Smithsonian Institution. It is now immaculately restored and on display in the second floor lobby of the National Air and Space Museum in Washington, D.C. See photo on p. 104.

The third great aviation feat at Crissy Field in a year was the Navy's attempt to make the first non-stop flight to Hawaii. Although Crissy Field was an Army airfield, the Navy used the field to prepare its seaplanes for the flight.

The significance of such a flight was explained by the *San Francisco Chronicle*:



One of the Naval Aircraft Factory PN9 seaplanes that tried unsuccessfully to reach Hawaii on August 30, 1925. The date on the original photograph, October 1, 1925, indicates that this image is of either PN9-1 after its return to San Francisco (aboard the battleship USS Idaho), or of PN9-3 after its repair at Mare Island. The seaplane was accompanied by De Havillands of the 15th Photo Section from Crissy Field, as it passed the present location of the Richmond-San Rafael Bridge. The buildings of the Point Molate Naval Fuel Depot appear in the background. (National Archives)

> Yet it is here in the Pacific that the future drama of our expanding commerce will be enacted. The scenes of commercial rivalry have shifted ever westward. The play of rival forces now finds the Pacific for its stage. ...
>
> More than any other community, unless Honolulu be joined in interest, the flight is of epochal significance to San Francisco. It was not without good reason that the navy chose this city as the take-off for the flight. Because of its central position on the Pacific Coast and its matchless harbor, San Francisco is but fulfilling its destiny by keeping in the van of all commercial achievement. Looking forward to the day when it will be the airport of a regular transpacific service, San Francisco today doffs its cap to the seaplanes whose take-off opens this new era of its hopes.[184]

In spite of the intent that Crissy Field was to be a combined land and sea plane base, the use of seaplanes there had always been relatively infrequent. The Army reported a pair of Loening COA-1 amphibians at the field in 1925, but when approached by the Navy to cooperate in the Hawaii flight it had to report that "it is not believed that the seaplane ramp can be used without the removal of a certain amount of sand that is washed up by the waves and deposited upon the ramp to a depth of approximately 3 or 4 feet," and went on to say that "the ramp is not and has not been in use by the Air Service since it was constructed."[185] Presumably the Loening seaplanes were launched directly over the beach.

By the end of July 1925, in anticipation of the arrival of the Navy planes, the seaplane ramp had been cleared by a detail of men using a tractor and scraper at low tide.[186]

On August 21, a Navy Boeing PB1 seaplane left Seattle for Crissy Field to stage for the flight. On August 23, two Naval Aircraft Factory PN9 seaplanes took off from San Diego for Crissy Field, and the minesweeper *Gannet* brought personnel and equipment to prepare for the flight.

184 *Chronicle*, Aug. 31, 1925.

185 NA RG18 Project File 451.2 Second Indorsement, Maj. A.S. Kilner, Office of the Chief of Air Service to Adjutant General. Jul. 2, 1925.

186 NA RG18 Project File 451.2 Fifth Indorsement, 1Lt. Wm. R. Sweely, (acting) Commanding Officer, Crissy Field to Commanding General, Ninth Corps Area. Jul. 20, 1925.

Take-off was planned in eight days. All three aircraft, with picked crews, were to be used, but the PB1 had to be scrubbed due to mechanical difficulties.

The heavily-loaded seaplanes taxied to their take-off point "off Midshipman's rock" in San Pablo Bay, struggled into the air at 2 p.m. on Aug. 30, passed over Alcatraz and westward out the Golden Gate. The 2,100 mile flight was the longest continuous flight yet attempted over water by heavier-than-air machines, and was expected to last twenty-six hours.[187]

It took twelve days.

PN9-3 was forced down with oil pressure failure only 300 miles out and was towed back to San Francisco. The second seaplane, PN9-1, nearly reached the islands when it too was forced to land in the water. It was not until September 11 that the flyers were rescued and the aircraft towed into Kauai.[188]

Crissy Field was reported "calming down again after the period of unrest caused by the Navy in its preparation for the subjugation of the Pacific." The Army airmen "sympathize deeply with the Navy over its hard luck with the PN-9, and hope that the PB-1, which is still at Crissy Field waiting hopefully for its chance, will be successful."[189] The hurriedly-designed Boeing plane never got that chance. After a number of problem-filled test flights she was returned to Seattle and was scrapped.[190]

Two years later, James D. Dole of the Hawaiian Pineapple Company put up $35,000 in prize money for the first successful flight between the mainland and the islands. Crissy Field was to have a role in 1927 as well.

The Army's uncompromising advocate of air power, Assistant Chief of Air Service Brig. Gen. "Billy" Mitchell "pressing for a single, unified air service, used the loss of the navy dirigible *Shenandoah* and [the] unsuccessful naval flying boat mission to Hawaii as a platform.[191] While one of the planes that had staged out of Crissy Field was still lost at sea, "he charged that these accidents were 'the direct result of the incompetency, criminal negligence and almost treasonable administration of our national defense by the Navy and War Departments.'"[192]

Mitchell's statement caused a national furor. It led President Calvin Coolidge to establish an independent board to study the country's aviation program, both civil and military.

> It marked a turning point in American aviation history. Not only was legislation effected embracing pilot licensing, aircraft airworthiness certification, and rules of the air, but the development of air routes, ground navigation aids and airports was encouraged by the newly formed Aeronautics Branch of the U.S. Department of Commerce. The infrastructure for the development of America's commercial aviation was finally in place. In May 1926, Western Air Express began the nation's first scheduled and sustained airline service.[193]

But Mitchell had crossed the line of military discipline in pleading his case so single-mindedly. His statements led to his court martial on charges, preferred by the President, that he "had made statements which were insubordinate, contemptuous, disrespectful, and prejudicial to good order and military discipline."[194] Although Mitchell had succeeded in having the nation's program of military aviation effectively placed on trial with him, he was found guilty of all charges, and his career was over.

* * *

While these three history-making flights stand out as among the most significant aviation events in Crissy Field's history, the routine operations

[187] *Chronicle*, Aug. 31, 1925.

[188] Reuther, "Crissy Field"

[189] *ASNL*, Sep. 19, 1925.

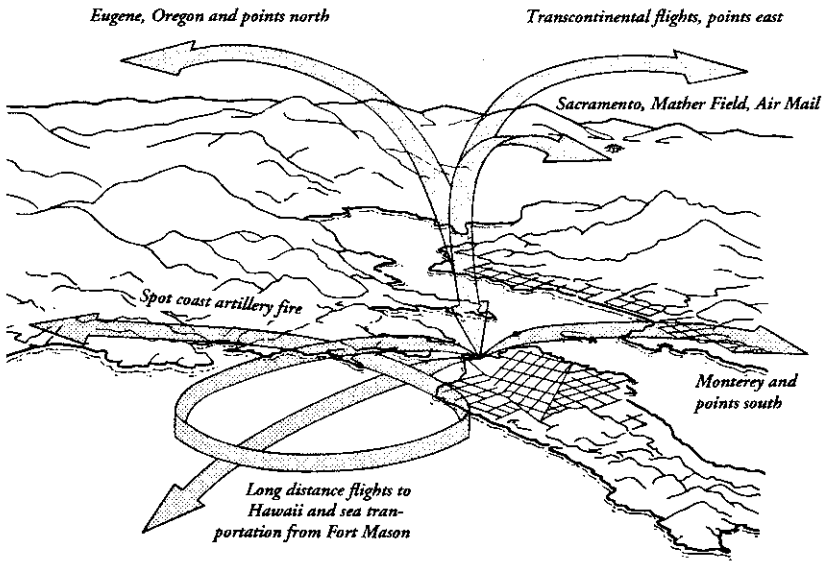
[190] Messimer, Dwight R; *No Margin For Error: the U.S. Navy's Transpacific Flight of 1925*; Naval Institute Press, Annapolis, MD, 1981, p.139.

[191] Gwynn-Jones, *Farther and Faster*, p.210.

[192] Maurer, *Aviation in the U.S. Army*, p.128.

[193] Gwynn-Jones, *Farther and Faster*, p.210.

[194] Maurer, *Farther and Faster*, p.129.



Typical flight operations at Crissy Field, 1921-1936.

of the 91st Squadron and the 15th Photo Section were the day-to-day facts of life at the airfield in 1925 and 1926. The typical duty, of what was after all an Air Service Coast Defense Station, was to assist the Coast Artillery in spotting fire and target practice.

The increasingly obsolescent DH-4Bs were found to be rather underpowered for towing targets of the size the antiaircraft artillery units preferred, and lacked proper towing gear as well.[195] One of the targets broke free and fluttered down over the city, to the chagrin of Crissy Field's commander, "The target, a sleeve-shaped affair 12 feet long and 3 feet in diameter made of wood and covered with canvas was being towed through the air on a practice flight yesterday morning when it broke from its cable and fell to earth in the vicinity of Geary street and Twenty-second avenue. Some motorist retrieved the target and made off with it. Major Emmons wants it back." According to the newspaper account this was "Crissy Field's only airplane target."[196]

In February 1925, Major Emmons and Air Service First Lt. Alfred W. Marriner were appointed to a Board of Officers that included two coast artillerymen and was charged with "working out in detail the means and methods for towing targets for anti-aircraft guns and for other operations contemplated in the 'Manual of Combined Training of Coast Artillery and Air Service in Coast Defense.'"

The board recommended that:

(a) ...a sufficient supply of fuel oil be provided for Coast Artillery harbor boats to carry on the prescribed training.

(b) ...the Coast Artillery Corps provide instruction to Air Service personnel in the identification of warships.

(c) ...the Air Service provide instruction...in the identification of aircraft.

(d) ...the Coast Artillery Corps install dummy emplacements, properly camouflaged, for the instruction of the Air Service on locating and attacking seacoast batteries.

(e) ...all long range batteries of the fixed armament be supplied with radio sets....

(f) ...all batteries of the fixed armament, except long range batteries and batteries below 6 inch in caliber, be provided with suitable radio receiving sets.

(g)...all batteries of primary armament be supplied with Ground identification panels twice the size of standard Field Artillery panels, and adequate sized signal strips....

(h) ...radio goniometric stations be installed at Forts Barry and Funston with direct communication to a central goniometric

[195] NA RG18 Series 168 Project File 333.1 Second Indorsement, Commanding General, Ninth Coast Artillery District to Commanding General Ninth Corps Area. Jam 20, 1925.

[196] *Chronicle*, Mar. 18, 1925.

> plotting room to be located near the Coast Defense Command Post at Fort Miley....
>
> (i) ...a completely equipped balloon company be attached to the Coast Defenses of San Francisco for work with batteries of the secondary armament.
>
> (j) ...two (2) heavy bombardment planes be assigned to Crissy Field for the purpose of towing the standard size sleeve for anti-aircraft artillery practice; the observation planes now on hand lack the necessary power for this purpose.

Because of the difficulty of supplying two planes of a different type at Crissy Field, Major Emmons declined to support the Board's last recommendation. In addition, he noted that "seven (7) of the O-2's (Observation) now being manufactured by the Douglas Company, Santa Monica, California, will be assigned to Crissy Field to replace the same number of DH-4B's. The O-2, in my opinion, has sufficient excess power to tow the 5-ft sleeve target."[197]

Air to ground communications, however, did not appear to be a problem:

> During a recent inspection of Crissy Field...the Corps Area Inspector was very favorably impressed with the field, particularly with the system of picking up messages from the ground by a plane in flight. This system consists of a heavy lead "fish" attached to the end of the wireless antennae on the airplane. Welded to this fish are four hooks. Two men on the ground, fifty feet apart, hold two poles above their heads; suspended between the poles is a string with a message attached thereto. As the plane flies low over the message, the observer lets out his fish with the hooks attached and the string and message are picked up on the hooks and drawn into the plane by the observer. On the morning of January 29th a message was picked up from a tugboat in San Francisco Bay.[198]

In addition to working on field exercises with the Coast Artillery in San Francisco, Crissy Field airplanes cooperated in missions with the 7th Infantry at Camp Lewis, Washington, the 3rd Coast Artillery at Fort MacArthur, California, the 76th Field Artillery and the 11th Cavalry at the Presidio of Monterey, and simulated reacting to another San Francisco earthquake with the Presidio's 30th Infantry.[199]

In Sacramento that May, flyers from Crissy Field won both first and second honors in the army-navy air race sponsored by the local Chamber of Commerce. Flying over a 45-mile course in 22 minutes and 22 seconds, Lieutenant C.V. Haynes placed first and Lieutenant W.R. Taylor placed second in a field consisting of flyers from all army and navy aviation fields on the West Coast. They were awarded a cup worth $1,000.[200]

The civilian cooperation mission of the Air Service with forest management was commended in a letter of appreciation from the Department of Agriculture in Washington:

> On May 8th a flight was made from Crissy Field to the Sierra National Forest and return. The object of this reconnaissance was to determine the extent and distribution of pine beetle infestation....
>
> About one hour was spent over the areas covered by the aerial survey and data secured from approximately thirty-five square miles. To cover the same area with detailed ground work would require the time of a crew of three men about forty-five days.
>
> In viewing forest areas from a height of 6000 to 9000 ft. above the ground, the insect infested trees, because of discolored foliage, stand out in contrast to normal timber so that it is possible not only to form an idea of the extent of infested areas, but also to arrive at an estimate of the number of infested trees..

[197] NA RG18 Series 168 Central Decimal Files. Headquarters Ninth Corps Area. Special Orders No.41. (Exhibit C to Annual Air Service Activity Report, 7/1/24-6/30/25).

[198] *ASNL*, Jan. 29, 1925.

[199] NA RG18 Series 168. Annual Report—Crissy Field, Fiscal Year 1926.

[200] *Chronicle*, May 25, 1925.

> Where large insect control projects are involved, I believe that a preliminary air reconnaissance by this method would be of decided advantage....
>
> The photographs and mosaic maps which were taken in this flight were successful in showing the color contrast of insect killed trees...and are of especial value for areas where intensive studies are being conducted.[201]

That summer it was reported that "there were no airplanes at Crissy Field except those assigned to the Air Officer, Ninth Corps Area. The 91st Observation Squadron and the 15th Photo Section were at Rockwell Field, Coronado, California, for summer training."[202]

"Standard" type aircraft at the field consisted of Douglas O-2 and O-2A observation planes, a photographic model De Havilland DH-4M-2P, and a Loening amphibian COA-1. "Obsolete or obsolescent" types on hand were various other models of the old workhorse DH-4 and five JNS-1 "Jennies," the trainers used by the Reserves.[203]

During this time, Crissy Field remained "the only tactical airfield in the Ninth Corps Area."[204]

* * *

In September 1925, the *San Francisco Chronicle* reported that, "Improvements and repairs costing $15,260 are to be made at the army air station at Crissy Field...The work will start immediately and will entail the grading and improving of the landing field and repairs to the existing hangars. Appropriations of funds to cover this work were received at 9th Corps headquarters yesterday."[205]

Photographic evidence shows that the buildings of North Cantonment were demolished during the period between October 1925 and February 1926. Evidence of the construction of the concrete road to the reserve and air mail hangars also appears first on photographs dated February 1926.

By the end of October, the *Air Service News Letter* stated that, "The flying field is being regraded and the hills and valleys smoothed, a $10,000 appropriation having been received for that purpose. The levelling of the field is going to make it tough on some of the boys who have sworn at this bump and that hollow after landing in a series of graceful leaps and bounds."[206] Subsequently, it reported, "Continuous effort and work for the past two years has improved the landing field at Crissy Field, Presidio of San Francisco, immensely. Although there is a slight bend, the runway is the total length of the field and, thanks to the excellent drainage system, planes can take off and land regardless of the weather. The flying field is now 5,600 feet long by 400 feet wide, and has been re-surfaced, rolled and planted with grass."[207]

On May 11, 1926, part of the resurfaced field was turned over to the commanding Officer of Crissy Field by the Office of the Constructing Quartermaster, Fort Mason, "the cost of the work having been $10,980.06." On December 29, 1926, the resurfacing project, including drainage, was considered complete and was turned over to the Air Service in its entirety.[208] Crissy Field's Annual Report for the fiscal year which covered the period from July 1, 1925, to June 30, 1926, noted, "(1) Field lengthened approximately 1,000 feet, (2) Flying Field completely regraded and resurfaced."

In addition, drainage was improved, a "concrete retaining wall and gutter has been constructed to protect the road running from the Officers' Line to Crissy Field Headquarters," the road between the garage and main hangar was more than doubled in width, two additional 10,000 gallon gasoline tanks were installed, and "the old seawall which has been

201 NA RG18 Series 168 Central Decimal Files. Air Service Annual Activity Report, 7/1/24-6/30/25 (Exhibit D).

202 NA RG18 Project Files 452.1A Commanding Officer Crissy Field to Chief of Air Service. Sep. 28, 1925.

203 NA RG18 Series 168. Annual Report—Crissy Field, Fiscal Year, 1926.

204 ibid.

205 *Chronicle*, Sep. 30, 1925.

206 *ASNL*, Oct. 31, 1925.

207 ibid. Spring, 1926.

208 NA RG18 Central Decimal File 600.1 Office of the Constructing Quartermaster, Fort Mason to Commanding Officer, Presidio of San Francisco, California. Dec. 29, 1926.

partially destroyed in the storm of February, 1926, is now in the process of being rebuilt."[209]

The officers' quarters, in spite of their enlargement a few years earlier, came in for their usual share of abuse. This time it was stated in a fashion most unflattering to the officers who wrote and signed the report, although perhaps typical of the prevailing attitudes of the time, "It is further recommended that a servant's room and bath be added to each set of Crissy Field Officers' Quarters. This addition is needed very badly as the only servants available in this section at a reasonable wage are Filipinos and Orientals, and it is therefore obvious that officers would not care to have these servants using the same toilet facilities."[210]

A June inspection by the Assistant Inspector General of the Ninth Corps Area confirmed all the improvements noted above, and went on to state that the "appearance of the post is excellent."[211]

Although the entire northern shoreline of the Presidio had, by this time, been cleared of buildings to the north of Mason Street (with the exception of newly-built Building 283), only the central and western portions were being used as the landing field.

This is made clear in the 1928 and 1932 Department of Commerce *Airway Bulletin No. 335*, which described Crissy Field as having a length of 3,050 feet.[212] Five years after the airfield extension project had been completed the field was described thus to the Army's Chief of Staff, Gen. Douglas MacArthur:

> The field is a rather long one. Twenty eight acres with a landing field 3,050 feet long and 400 feet wide for about 5/8 of its length, then narrowing gradually to a point at the west end. The edge of the field is approximately 160 feet from the edge of S.F. Bay, with no obstacles except the Life Saving Station at the western edge. The southern side of the field is built up and the buildings are under the lee of the hills of Ft Scott and the Presidio, which are bad obstacles. Landings are practically impossible except [in an] E-W direction."[213]

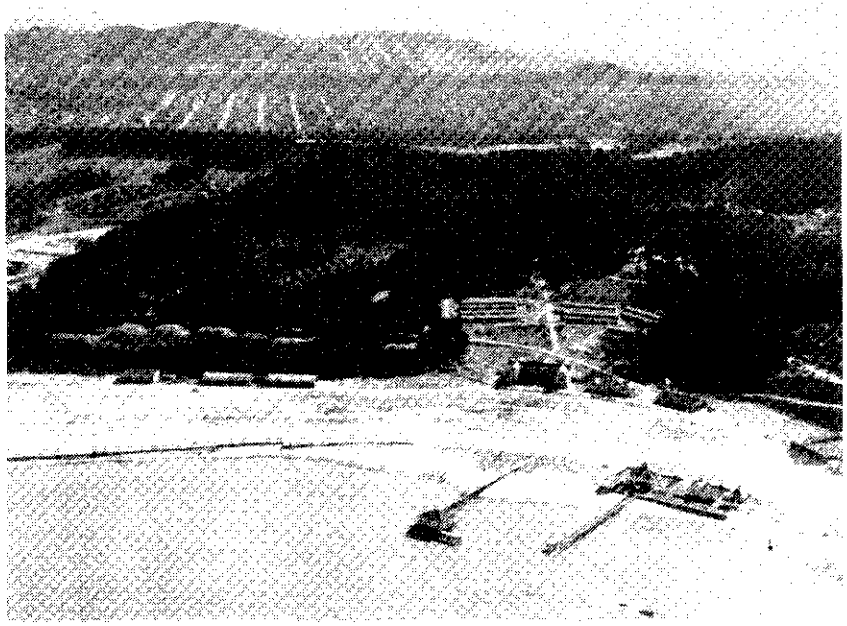


figure 40. This view, taken 1,000 feet over the field, clearly shows the overall layout of the airfield in the mid-1920s: the "airmail" and "reserve" hangars, added to the east (left) portion of the field in 1921-23; the administration and barracks complex at mid-field (right center); and one of the hangars to the west (far right). Crissy Field Road leads uphill and off the right edge to "officers' row" on the bluff above. (National Air and Space Museum)

Perhaps the relationship of the landing field proper to the entire airbase is best clarified by a "Notice to Pilots," issued by the Commander of Crissy Field on July 24, 1931. In it Maj. L.W. McIntosh stated, "The portion of Crissy Field east of the circle is utilized as a Polo Field by direction of the Corps Area Commander. Pilots are cautioned not to land in this area except in emergency." The circle lay slightly to the west of a northerly extension of Halleck Street to the Bay, making the nor-

209 NA RG18 Series 168. Annual Report—Crissy Field, Fiscal Year 1926.

210 ibid.

211 NA RG18 Project File 333.1 Assistant Inspector General, Ninth Corps Area to Commanding General Ninth Corps Area. Sep. 11, 1926.

212 "Airway Bulletin No. 335, April 25, 1925 and No. 2, Sep. 1, 1932.

213 NA RG 18 Project File 602. Assistant Chief of Staff for Operations and Training, War Department to Chief of Staff. Nov. 27, 1931.

mally-used portion of the airfield about 3,500 feet in length at that time. That portion of Crissy Field extending east to the Presidio boundary was cleared only for safety purposes.[214]

* * *

Crissy Field also played a significant role in the development of navigational equipment for the Air Service.

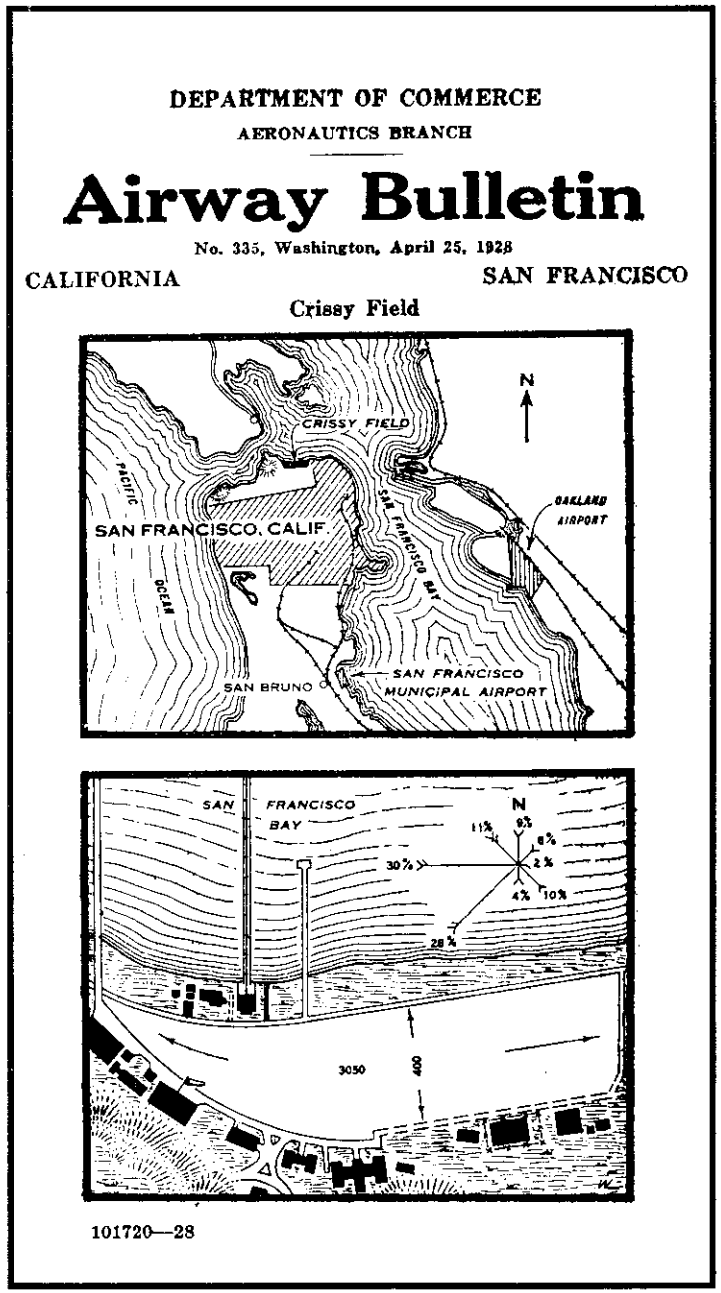
In June 1923, "Lieut. [Albert F.] Hegenberger and Mr. Bradley Jones made a round trip from McCook Field to San Francisco, Calif., testing satisfactorily the first model of the artificial horizon."[215]

In January 1926, Capt. David A. Meyers, the flight surgeon at Crissy Field became interested in the problem of pilots who became dangerously disoriented when they flew through fog or clouds without a view of ground or horizon.

> He thought a number of young aviators too cocky. Overconfidence in their flying skills compromised safety. When a cocky pilot took a physical examination, Meyers extended him an extra session in the Jones-Barany revolving chair....the doctor turned the flyer in the chair...asked him to close his eyes, gave him a few turns to induce vertigo, gently stopped the chair....As Meyers said, it was disconcerting for an aviator to discover suddenly he could not tell which way his body turned, or if it turned at all.

Captain Meyers tried the induced vertigo test on Capt. William C. Ocker....The view box he took to the surgeon's office contained a turn and bank indicator so fixed that when he looked into the box he could read the indicator but could not see outside. Seated in the Jones-Barany chair, Ocker started the gyroscope to activate the turn and bank indicator and gazed into the box while Meyers turned the chair. Reading the indicator rather than relying on his senses, Ocker answered correctly every time as to the direction of motion, starting, and stopping. Ocker and Meyers knew on the spot they had come up with the answer to man's inability to fly without visual reference to the earth....

Demonstrating their "Vertigo Stopper Box," they convinced



This Airway Bulletin shows the final extent of the grassy landing field.

214 NA RG18 Project File 600 Commanding Officer, Crissy Field. Notice to Pilot. Jul. 24, 1931.

215 *ASNL*, n.d.

many pilots of the need for instruments for blind flying. Their work attracted the attention of the School of Aviation Medicine, which tested and confirmed Meyers' experiments.[216]

* * *

The nation's air arm took a giant step forward with the passage of the Air Corps Act of 1926, which not only changed the name of the Air Service to Air Corps, but established it as a full-fledged arm of the service, equivalent to the Infantry, Coast Artillery, Signal Corps, or Corps of Engineers. An Assistant Secretary of War for aviation matters was authorized, as was the establishment of an Air Section of the Army General Staff. A five-year expansion program was proposed which was intended to bring the Air Corps' strength to 1,650 officers, 15,000 enlisted men, and 1,800 aircraft.

Crissy Field was considered at this time to be a very well equipped air base, "The status of equipment in the 91st Observation Squadron is much more favorable than in any other tactical unit in the United States or in foreign possessions."[217]

In August 1926, the 91st participated in joint Army/Navy maneuvers. The problem consisted of an attempt by six destroyers and six submarines to sweep the mines from the harbor approaches and force an undiscovered entrance into San Francisco Bay. Observation planes from the 91st Squadron discovered and reported the "enemy" force and maintained communication with ground forces by radio, flares and Very pistols.[218]

In spite of their good equipment, that fall the Air Officer of the Ninth Corps Area "urgently recommended" the assignment of the latest model Douglas O-2H model to Crissy Field because "it is much more suited to the work of the 91st than the present type of O2 which the squadron has. The O2-H is able to take off and land, even without the use of brakes, in a much shorter distance than the O2. It is believed that no other Observation Squadron in the Air Corps has to fly over such difficult country as the 91st."[219]

* * *

After Charles A. Lindbergh crossed the Atlantic in a non-stop solo flight that made world history, "all eyes now turned to the Pacific, aviation's last great ocean barrier."[220] Hawaiian pineapple tycoon James D. Dole put up $35,000 in prize money for the first to fly from California to Hawaii.

Even after the airbase was expanded to its full extent in 1926, the area east of the circle was only used by aircraft in emergencies. The area west of the circle was approximately 3,500 feet in length. (National Archives)

216 Maurer, *Aviation in the U.S. Army*, p.275-7.

217 NA RG18 Project File 452.1A Chief, Training and War Plans Division to Chief, Supply Division. Jul. 26, 1926.

218 NA RG18 Annual Reports, 1927. Air Officer, Headquarters, Ninth Corps Area to Chief of Air Corps. June 30, 1927.

219 NA RG18 Project File 452.1A Air Officer Ninth Corps Area to Chief of Air Service. Nov. 30, 1927.

In the summer of 1927, Crissy Field was used to prepare for the Air Corps' attempt to conquer the Pacific. Lts. Albert F. Hegenberger and Lester J. Maitland flew a specially modified Fokker C-2 transport with the latest navigational equipment into Crissy Field. The little Presidio airfield was, of course, too small for the Fokker when fully loaded with gasoline.

> Much activity was manifested on June 28th [sic] in connection with the visit of Lieuts. Maitland and Hegenberger. This field was the mecca to which crowds flocked, necessitating extra precautions and guards. Late in the afternoon the visitors were entertained by witnessing a trial flight of the big plane.
>
> The Chief of Air Corps arrived on the field on June 27th, and was piloted in a DH plane by Lieut. Maitland on a tour of inspection of the Oakland landing field on Bay Farm Island. Later in the day Lieuts. Maitland and Hegenberger took off in the big plane for the Oakland Airport to prepare for the eventful flight to Hawaii. A number of enlisted mechanics and men for guard from this field were on hand there for duty in connection with preliminaries to the flight.
>
> On the 28th, shortly after 7:00 A.M., the epochal flight began. After a splendid take-off, and to the accompaniment of much noise from the ferries and shipping in the Bay, the big plane rose majestically and was escorted through the Golden Gate by two formations, one of five O-2's, commanded by Major D.C. Emmons, and the other of five JNS's, piloted by Air Corps Reserve Officers, inactive, in command of Captain William H. Royle, A.C.Res.[221]

In addition to the escort of Crissy Field airplanes, the Signal Corps had set up a special radio transmitter at Crissy Field to assist in the navigation effort, but the signal failed more quickly than had been expected. Hegenberger, the navigational whiz, had to rely on his superb skills, and a good deal of luck to safely make Hawaii. Twenty-five hours and fifty minutes after take-off, they landed at Wheeler Field, Oahu. Lindbergh said it was "the most perfectly organized and carefully planned flight ever attempted." Chief of the Air Corps, Maj. Gen. Mason M. Patrick said it was "determination, preparation, and navigation."[222] The radio beacon installed at Crissy Field, and that on Maui, were left in operating condition until after the civilian flights to Hawaii in pursuit of the Dole prize, at which point they were to be dismantled.[223]

In October, 1927, the Secretary of War directed that Crissy Field "furnish every possible assistance" to the Australian pilots Charles Kingsford-Smith, K.V. Anderson and Charles Ulm in their proposed flight across the Pacific to Brisbane.[224] After a great deal of careful preparation, their Fokker F.VII left from the Oakland Airport. They made a successful crossing, assisted in no small way by their use of "the radio beam to establish their outbound track from the Californian coast," and were received as Australian national heroes.[225] It is possible that this may be a reference to the radio beacon at Crissy Field.

In November, four officers of the army of the German "Weimar" Republic visited Crissy Field as part of an inspection tour of United States Army posts. During their visit they were treated to an overflight of a "radio directed formation" of aircraft.[226]

* * *

In January 1928, Major Emmons, now at the Office of the Chief of Air Corps in Washington, D.C., wrote to the commander of Crissy Field, Maj. Gerald C. Brant, to announce the expected transfer of the 18th Observation Group and the 58th Service Squadron to Crissy Field,

220 Gwynn-Jones, *Farther and Faster*, p.218.

221 *Air Corps News Letter*, Jul. 7, 1927. (**Hereinafter referred to as *ACNL*.**)

222 Maurer, *Aviation in the U.S. Army*, p.260.

223 NA RG18 Central Decimal File 676.3 Office of Chief of Air Corps to Chief Signal Officer. Jul. 18, 1927.

224 NA RG18 Central Decimal File 680.3 Adjutant General to Commanding General Ninth Corps Area. Oct. 5, 1927.

225 Gwynn-Jones, *Farther and Faster*, p.232.

226 *Chronicle*, Nov. 3, 1927 and NA RG18 Central Decimal File 373 Commanding Officer, Crissy Field to Chief of Air Corps. Dec. 5, 1927.

probably as a result of the implementation of the Air Corps' five-year expansion plan.

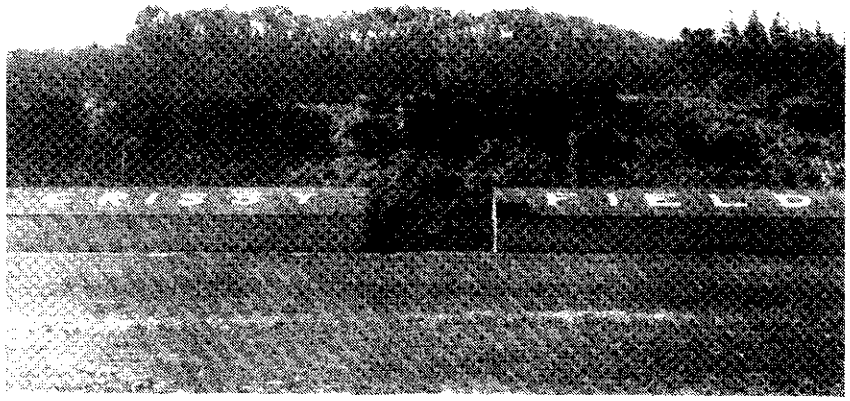
Emmons optimistically proposed additional barracks, hangars, non-commissioned and commissioned officers' quarters at the field, but cautioned to "Please keep this confidential because we don't want the other branches of the service to be unduly disturbed about the new permanent buildings that the Air Corps is about to obtain from Congress."[227]

In reply, Brant discussed his feelings about the proposed buildings and also about "the construction of a road along the seashore side of the field. I have talked with the City Park Board about this," he stated:

> and they agree that nothing should be done until we can get the matter of the sea wall settled. I really think the sea wall proposition a very deserving one inasmuch as it adds a couple of million dollars worth of land at a comparatively small expenditure, and, when completed, will give us a field large enough for all tactical purposes in connection with the Defenses of San Francisco....In connection with the sea wall, I might also add that the City Park Board has promised to extend the sea wall now being constructed at the Yacht harbor down to meet our proposed sea wall at the foot of Lyon Street, thus making a continuous harbor line form the Yacht Harbor to the Mine Wharf.

No such seawall was built. In 1959, the Army built a rubble seawall along the Presidio's northern shoreline above the historic high tide line.

Brant also mentioned his feeling that "While Bay Farm Island [Oakland Airport] might make a much better flying field in many respects, I certainly would not want to live over there. I do not believe the garrison would be nearly as contented as they are here in San Francisco. I do not think we should miss sight of the fact that we have to live in time of peace many years, waiting for possible war time developments."[228]



The words CRISSY FIELD were painted on the roofs of the reserve hangars in 1925. Note the landing field lights on the roof of the hangar near the letter F. In 1941 these two buildings were rebuilt and connected into one structure, today's building 643. (National Archives)

Over a year later, in August 1929, the *San Francisco Chronicle* announced that:

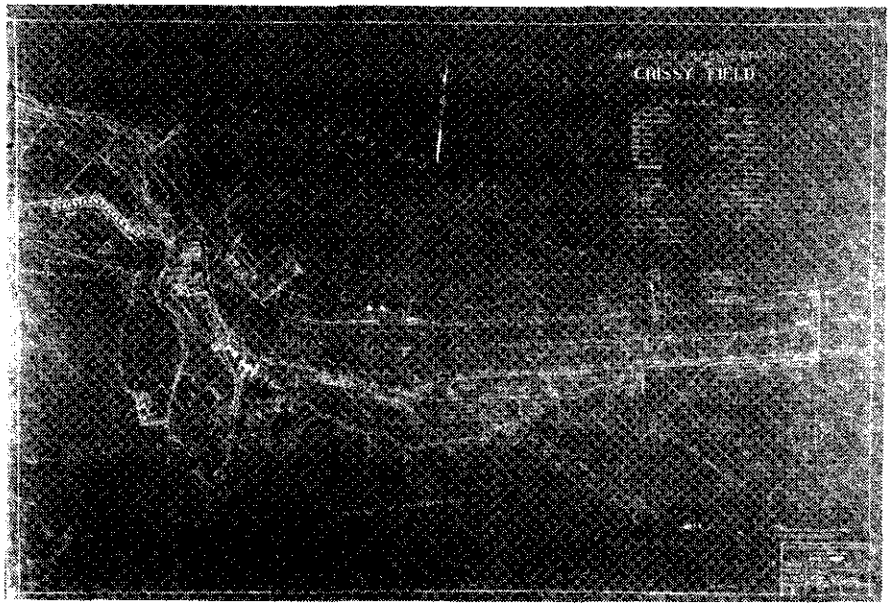
> Appropriations for the enlargement and improvement of Crissy Field will be sought in a bill being prepared by Congresswoman Florence P. Kahn which she will introduce at the December session of Congress, she announced last night. The measure will provide for a breakwater to permit extension of the flying field into San Francisco Bay and for necessary runways and hangars sufficient to make the Presidio airport an important factor in

[227] NA RG18 Project File 600.1-600.12 Maj. Delos C. Emmons to Maj. Gerald C. Brant. Jan. 27, 1928.

[228] NA RG18 Central Decimal File 600.11 Headquarters Crissy Field to Maj. Delos C. Emmons, Office of Chief of Air Corps. Mar. 5, 1928.

> army aviation in California... The contemplated improvement of Mrs. Kahn's bill are in addition to the housing needs of Crissy Field....[229]

In 1925 large block letters spelling out CRISSY FIELD were painted on the roofs of the Reserve Hangars (today's 642 and 623). They appear first in photographs in the annual report covering the time frame from July 1, 1925 to June 30, 1926. This appears to be a manifestation of the increasing order coming to the nation's aviation in general, military and commercial. Many airfields across the country sported similar letters oriented for aerial identification. Three years later the Quartermaster General asked for estimates to mark airfield names on roofs "as an aid to aerial navigation." The building proposed by Corps to be marked was



In 1928, a Board of Officers proposed official boundaries for Crissy Field. It is not known if General Orders were ever issued making these boundaries official. (National Archives)

No.16, The Motor Troop School, but Field Headquarters discouraged this because the school building was "only 300 yards from the Reserve Hangars at Crissy Field which are already marked. Also it is planned to move this building to Ft. Mason."[230] About the same time, mention was made of marking Crissy buildings with chrome yellow lettering over black roofs. It took a few years, however, for this color scheme to appear. By 1934, the roofs of the landplane and seaplane hangars were marked in big squares, presumably in those colors.[231]

In spite of Brett's and Emmons' high hopes and Mrs. Kahn's support, funds were not available, and it is evident that these proposals went nowhere. Neither did a project for "the area at Fort Scott comprising the old brick casemate...[where,] with a steam shovel, we can fill the back of the parapet and level off the entire slope for $16,000.00. This will give us a million-dollar-site for the new quarters."[232]

One suggestion of Major Brett's, however, was acted upon—the establishment of a Board of Officers to consider the question of official boundaries of Crissy Field.

The board consisted of the commanding officers of Fort Scott, Letterman General Hospital, the San Francisco General Intermediate Depot (Fort Mason), the Presidio of San Francisco, and Crissy Field, as well as the Corps Area Quartermaster and the Corps Area Air Officer. They noted that:

> When Crissy Field was originally located its boundaries included portions of two separate military posts; i.e., the Presidio of San Francisco, California, an Infantry Post and Fort Scott, California, a Coast Artillery Post. Crissy Field, however, has always been designated as a sub-post of the Presidio of San Francisco, although the actual running of the post has been left to the Commanding Officer and the post functions in nearly all respects as a separate station. Several questions of jurisdiction over sewers, roads, power lines, etc., have arisen and in February

229 *Chronicle*, Aug. 29, 1929.

230 NA RG92 Office of the Quartermaster General. General Geographic File. Box 981. Assistant Adjutant General, Ninth Corps Area.

231 Sixth Indorsement to ibid. May 7, 1929.

232 NA RG18 Central Decimal File 600.1 Headquarters, Crissy Field to Maj. Delos. C. Emmons, Office of the Chief of Air Corps. Mar. 5, 1928.

> a request was made...to fix for administrative purposes the boundaries of the post.[233]

On September 7, 1928, the Board of Officers presented Special Orders No.23 which defined in graphic format the final recommendations for the boundaries of Crissy Field. "In arriving at the boundary lines shown on the map, consideration was given to the question of future development of all activities, both peace and war, jurisdiction, upkeep and maintenance, guard and police...." The post boundaries did not include old Fort Point, but began just west of the seaplane ramp, jutted into Fort Winfield Scott to embrace Officers' Row, and extended along the entire northern shoreline of the Presidio to Lyon Street.

* * *

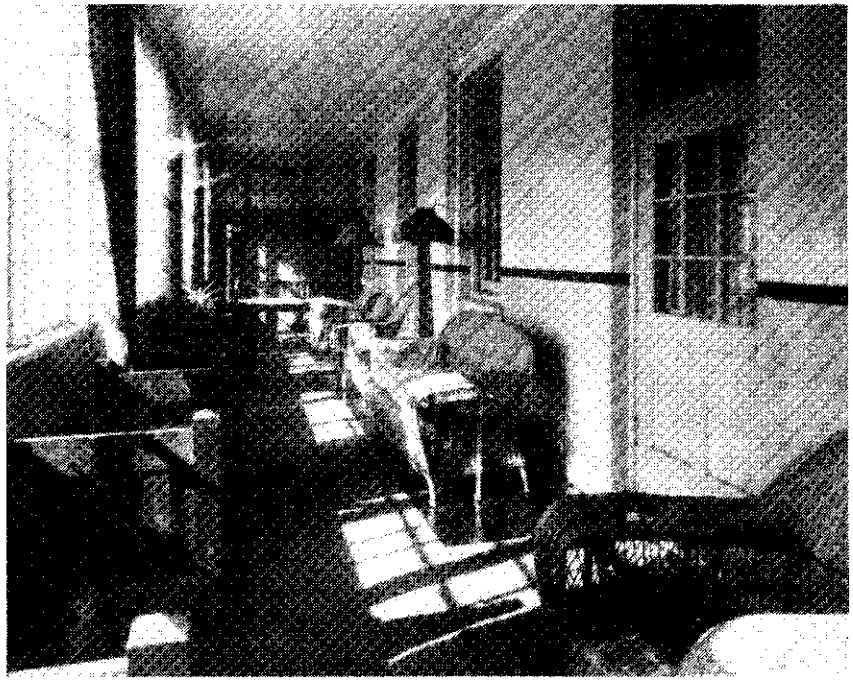
The year 1928 was busy with physical improvements—or, at least, they were particularly well-documented.

The never-ending maintenance of the flying field continued, "The flying field has been graded and dragged, the holes have been filled, and the drains have been repaired and cleaned."

The former air mail hangar was converted into barracks and classrooms for the ROTC student contingent, and a bathhouse and lavatory was built directly behind.

A retaining wall was constructed behind the guardhouse, sidewalks and curbing built around the bachelor officers' quarters, a new street light system installed, three new 10,000-gallon gasoline tanks and a pumphouse installed with a six-foot wire fence around them, and a new pistol range graded and leveled. Handsome wicker and craftsman-style furniture was installed in the sun porch of the barracks.

The servant's sleeping and toilet facilities requested in 1926 were added to the Officers' Quarters, which "raised the morale and added to the comfort of the officers' families."



The sun porch of the enlisted barracks in 1928. (National Archives)

On the operational side of the air base, "The first and only flying casualty since the establishment of this field" was reported. "A Reserve officer on one years' active duty status crashed in the Bay....While attempting a take-off from this field in a DH-4M-2P photographic ship in a heavy wind the ship suddenly went into a spin from an altitude of about 150 feet and crashed into the bay. The plane was a total loss." The extent of the crew's injuries was not so clearly stated. However it was noted elsewhere in the 1928 Annual Report that Lt. Theodore J. Munchoff, the Assistant Photographic Officer was "killed in airplane accident at Crissy Field, Calif., March 26, 1928."

[233] NA RG18 Central Decimal File 600.93 Headquarters, Crissy Field to Chief of the Air Corps. Sep. 7, 1928.

This statement is quite revealing about the extent of the accident rate at Crissy Field. Many of the accidents reported to Crissy Field aircraft did not occur at Crissy Field, but happened to Crissy Field aircraft in locations all over the western United States. In 1926 the three reported accidents occurred elsewhere. In 1928, four of the eight reported accidents to aircraft occurred at Crissy Field or in the water nearby. In November of 1931, the running total of accidents that actually took place at Crissy Field had reached seventy-eight, an average of slightly under 8 per year.[234]

The field's only amphibious aircraft was badly damaged on landing when "the seams opened up in its hull and the plane began to sink, making take-off impossible. The plane was badly wrecked, being towed over rough water, and being salvaged from the bay."

Spotting fire for the Coast Artillery and Field Artillery, and observation missions with the Infantry and Cavalry took Crissy Field aircraft from Fort Rosecrans near San Diego to Fort Lewis in Washington. Photographic missions mapped territory as near as Fort Baker and as far-flung as the Mexican border.

In June, an Army amphibian plane participated in a problem on cooperation between the Army and Navy off San Diego harbor. A Navy aircraft reported an enemy fleet approaching the harbor, radioed the Army's ground station which dispatched a bomber that made contact with the Navy's plane over Torrey Pines, flew to the position reported, and, "made the attack requested." These exercises brought to light problems in the use of different radio equipment by the services, but reinforced the basic cooperation necessary for a sound system of coastal defense.

The standard types of airplanes at Crissy Field from July 1927 through June 1928 were Douglas O-2A and O-2C observation planes, De Havilland DH-4M-2T and DH-4M-2P models for photography, a Consolidated PT-1 pursuit plane, a Douglas C-1C transport, and the venerable Loening COA-1C amphibian.[235]

* * *

Until 1930, Crissy Field continued to be the only regularly-operating tactical airfield (not an air depot) in the eight western states comprising the Ninth Corps Area.[236] Yet in the fall of that year the first winds of change begin to blow.

The *San Francisco Chronicle* picked up word at the Presidio that the abandonment of Crissy Field as an active air corps station was being mentioned in the context of larger plans to make the San Francisco region the largest army aviation center in the west. "Crissy Field has long been criticized as a landing field. The ground space for landing and taking off is said to be too small for successful maneuvering of planes and dangerous because of wind currents."

The newspaper went on to say that:

> During the recent army and navy maneuvers Mills Field was chosen instead of Crissy Field as headquarters for airplanes taking part.
>
> Although the [proposed] Marin county site is intended primarily for a bombardment group base, mention has been made of adding an observation unit and possible a pursuit group.
>
> The 91st Observation Squadron at Crissy Field is the only unit of its type on the coast. A rumor that Crissy Field might be turned over to the navy was denied at 13th Naval District Headquarters.
>
> A second development of interest in air corps circles is the possible reopening of Mather Field at Sacramento. Mather Field was an aviation center during the war, but was abandoned except for maneuvering purposes.[237]

The maneuvers referred to were the major Air Corps tactical exercise of 1930. "Brig. Gen. William E. Gillmore directed field exercises at

[234] NA RG18 Project File 602. Assistant Chief of Staff, Operations and Training Division, War Department to Chief of Staff. Nov. 27, 1931.

[235] All references in this section are from NA RG18 Central Decimal File 319.1 Annual Report, Crissy Field—California, Fiscal Year 1928.

[236] California, Oregon, Washington, Idaho, Utah, Nevada, Arizona, and New Mexico.

[237] *Chronicle*, Sep. 1, 1930.

Mather Field in April 1930. The Air Corps publicized movement of the 1st, 2nd, and 3rd Groups to California as an example of its mobility. Other units taking part included the 7th Bombardment Group from Rockwell Field and the 91st Observation Squadron from Crissy Field."[238]

Always a key function, but one that is often performed in the background, logistics were a featured part of the mission in these maneuvers, particularly since the Air Corps was testing its ability to deploy in fluid conditions and use undeveloped airfields for battle operations at short notice. They had already had plenty of practice in operations out of their own, permanent fields. "Hap" Arnold was in charge of logistics for the 250-plane operation. "On April 17th, 1930...he was involved in a minor accident while taxiing out for takeoff in an O-32 observation plane at Crissy Field. Forced to swerve away from another plane and partially blinded by the dust it had kicked up, he ran into a 25,000 gallon gas tank, which should not have been that close to the runway."[239]

These exercises were notable for emphasizing the value of radio in the direction and control of tactical aviation. Aerial transportation of supplies received Arnold's special attention. Aircraft arriving with the tactical units were formed into a provisional transportation squadron, which successfully moved supplies from Rockwell Field to Mather Field, and provided daily passenger service between Mather and Crissy.[240]

It is instructive to consider these maneuvers in light of the difficult radio communication situation at the combined Army-Navy exercise the previous year. In 1930 substantial improvement was made, and the provisional aerial supply arrangements proved that air units could be supplied by air, given sufficient resources.

In addition to these large-scale maneuvers, Air Corps units participated in a number of joint training exercises with the Army ground forces and with the Navy. In the first half of 1929, for instance, the War and Navy departments announced five joint exercises involving the Air Corps. Three concerned the defense of the Philippines, Hawaii and Panama, two dealt with the harbor defense of Long Island Sound and San Francisco.[241]

The 91st Squadron reported upon its participation in these events from its own viewpoint:

> During the latter part of February the Commanding Officer, Crissy Field, received instructions to move the 91st Observation Squadron to Mather Field for the purpose of preparing that station for occupancy by the Provisional Wing during the Air Corps Field Exercises held April 1 to 24, 1930 and for participation in those field exercises as a tactical organization....
>
> By this time the available tactical equipment consisted of five (5) O-2H airplanes, which was further reduced to four (4) early in May by an accident which completely wrecked one of the airplanes. The squadron remained at Mather Field until every qualified and available pilot had completed his bombing and his pilot gunnery at ground targets. During this period the weather was very good. Advantage was taken of the still air of the early morning hours....
>
> There being no safe place in the vicinity of Mather Field for tow target aerial gunnery, the Squadron returned to Crissy Field on May 12, 1930. Steps were taken at once to begin the tow target phase of the pilot aerial gunnery course. Unfortunately during the latter part of May the fog, prevalent over and in the vicinity of the San Francisco Bay during the summer months, set in. This made it impossible on many days to attain a safe altitude for tow target gunnery; the visibility being such as to make firing unsafe for both the participating ground personnel and the surface vessels in the vicinity of the tow target course. During the latter part of June the fog had become so persistent as to permit firing only on about one day of every five.

238 Maurer, *Aviation in the U.S. Army*, p.245.

239 Coffey, *Hap*, p.141. Note, however, that references have only been found to 10,000 gallon tanks at Crissy.

240 Maurer, *Aviation in the U.S. Army*, p.245-6.

241 ibid.

> The available equipment during the period of tow target firing consisted of only three (3) O-2H airplanes, one of which was required for towing targets. The fourth O-2 was assigned almost exclusively to the aerial position finding tests conducted with the 6th Coast Artillery at Fort Scott. The latter project, undertaken in compliance with War Department instructions, was also impossible of earlier accomplishment due to the activities of the 91st Observation Squadron in connection with the Air Corps Field Exercises at Mather Field. While thirteen (13) O-25A airplanes were ferried to Crissy Field during the latter part of June, these could not be used at once for gunnery due first to difficulties experienced with the airplanes themselves and second the non-availability of trigger motors for this type airplane.[242]

From February to December 1930, official records acknowledge the assignment of the thirteen Douglas O-25 observation planes, as well as one Douglas C-1 cargo plane, six Fokker C-7 transports, and an additional three-engine transport, probably a Fokker Y1C-14. A more modern Sikorsky C-6 amphibian replaced the veteran Loening model.[243] New equipment for the squadron naturally excited the men's interest:

> The activities at Crissy Field, Presidio of San Francisco, Calif., were greatly increased and the morale of all the pilots raised considerably due to the fact that the work of ferrying 13 new Douglas O-25A airplanes from the Douglas plant at Santa Monica was completed. This plane is equipped with a 600 horsepower "Conqueror" engine, and the performance has been found to be satisfactory, although it is expected the planes will give a better performance when the new steel propellers are received.
>
> Observers are particularly enthusiastic, as the rear cockpit is the most comfortable of any planes previously used at Crissy Field. The new planes had hardly arrived when, after an engineering check, the pilots started using them on cooperative missions up and down the Pacific Coast from San Diego to Seattle and going into Montana and Utah. These missions have been delayed owing to the great shortage of equipment, but it now appears that the personnel of the field will now be able to carry out their cooperative training schedule.
>
> At the present time three ships, two equipped for radio and one for tow target work, are on cooperative missions with military posts in the Northwest, including Vancouver [Barracks], Fort Lewis, Fort George Wright and Spokane, Washington, Fort Missoula, Montana, and Fort Douglas, Utah. This work is always extremely interesting and consists of towing targets for anti-aircraft artillery and small arms firing, infantry contact and liaison, and two-way radio communication by both code and voice.[244]

Radio communications continued to be identified as a key factor in aerial command and control, thus an emphasis continued to be placed on this aspect in the remainder of 1930 and the first half of 1931.

> The Fiscal Year 1931 has been a busy one for the 91st Observation Squadron in its activity involving cooperation between the Air Corps and Ground troops. In most of these cooperative missions, two-way radio communications has been the most important feature of the mission, and the results have been more than satisfactory. For the instruction of ground troops the squadron has simulated Attack, Bombardment and Pursuit Aviation in many instances, providing additional interest for the Observation pilots and making for their versatility.
>
> Liaison, contact, reconnaissance and artillery adjustment missions taxed the observers to their limits, oftentimes when the progress of the battle on the ground showed rapid and unex-

242 NA RG18 Central Decimal File 353.1 Narrative Report on Aerial Gunnery and Bombing Practice, 91st Observation Squadron, Training Year 1929-1930.

243 NA RG18 Project File 452.1 Maj. L.W. McIntosh to Adjutant General. Feb. 3, 1930. Also McIntosh to Chief Materiel Division, Air Corps. Mar. 14, 1930 and Office of the Chief of Air Corps to Commanding Officer Crissy Field. Dec. 16, 1930.

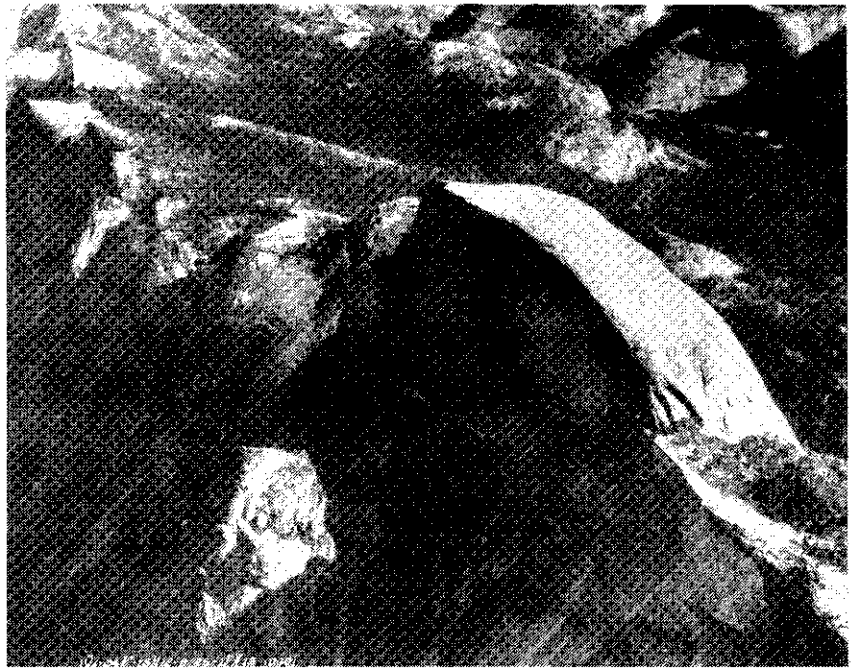
244 *ACNL*, Aug. 29, 1930.

pected developments. Many officers of the 91st have found that the observer is just a little bit busier than the proverbial cat. Though the radio had functioned perfectly, the observer found even that too slow to convey all he had learned through his observation.

The 11th Cavalry, 6th and 63rd Coast Artillery, 10th and 76th Field Artillery, 5th Infantry Brigade Headquarters, 7th, 30th and 38th Infantry are among the units cooperated with. These missions took our airplanes to Vancouver Barracks, Washington; Fort Worden, Washington; Fort Lewis, Washington; Fort Missoula, Montana; Fort Douglas, Utah; Fort MacArthur, Calif., and in several instances our airplanes have gone to Rockwell Field to simulate Bombardment in cooperation with the navy and Marine Corps. On one occasion five of our airplanes operated with ground units at Vancouver Barracks, Forts Worden, Lewis, Missoula and Douglas, being away from Crissy Field more than a month under Captain H.W. Prosser....

Captain Prosser with a detachment of the 91st Squadron took the field at Salinas, Calif., to work with the troops of the Presidio of Monterey, operating in Gigling Reservation [later known as Fort Ord]. On all these flights, radio communication was paramount. Radio communication with Crissy Field was maintained to a distance of more than two hundred miles when our airplanes were departing on or returning from these missions.

During this time, the local training featured radio communication, objectives being changed or added by the station commander, while the airplanes were already on previously assigned missions. Lieut. A.L. Smith, Communications Officer, and his assistants, Lieuts. Byron Cooper and J.K. Poole, by considerable effort, assured the success of these missions as to functioning of



Half Dome. Airplanes from Crissy Field performed an aerial survey of Yosemite Valley for the National Park Service in 1925. (National Archives)

equipment and control of a number of observation teams over a great area, each on a separate mission.

...As a result of all of this training, a better understanding and more perfect teamwork in operation with all arms of the service have been brought about.[245]

A particularly intriguing sort of civilian cooperation mission was flown by Crissy Field pilots sent to Arizona at the request of Senator Carl Hayden "to assist Mr. Neil M. Judd of the Smithsonian Institute [sic]. The Commanding Officer, Crissy Field, will send a photographic Air Corps officer pilot and an enlisted photographer to Phoenix for the pho-

[245] *ACNL*, May 1931.

tographic mission in connection with the prehistoric irrigation canals located along the Gila and Salt Rivers in the vicinity of Phoenix. Project is to start January 20 [1930]."[246]

Although further description of this mission and its results has not yet been found, a glimpse into the fascination of this sort of flying was provided almost two years later when an Army pilot flying over the desert out of March Field, in Riverside, vividly described his work with the Los Angeles County Museum:

> While flying across the desert, I was overwhelmed by the futility of finding anything in this great expanse of rock and sand, but being all fired up with enthusiasm of finding records of peoples long since passed I kept searching each mesa, mountain range and sand wash, hoping that I would see and imagining that i saw caves and burial mounds....Upon approaching the Colorado River...I was still filled with the doubts that had assailed me....
>
> Lady luck was riding with me, however, for I had hardly made one turn to look the country over when I discovered directly below me an immense man stretched out on the brown roof of a mesa as though he were taking a sun bath or gazing up toward his Maker. And what a thrill I got! Words can hardly express my emotions upon seeing this thing too stupendous to have ever been conceived and built by modern man; for modern man would hardly spent the effort to construct such as this way out at the end of nowhere. Upon the discovery of the large figure, I began circling, losing altitude and studying the figure. So intent was I that I did not see that there were other figures forming a triangle with a base of about one-half a mile. Technical Sergeant Stephen McAlko, my photographer, motioned me to look to one side, where I saw another figure of a man and then still another. I noticed also that there were figures of animals and of snakes. I fairly "itched" to get down and make a closer inspection of these eerie monsters.[247]

Another sort of civilian cooperation involved the National Park Service, "Per request of Director National Park Service, authority [is] granted to permit C.O. at Crissy to furnish plane and pilot for Fox camera men to photograph the dedicatory ceremonies of Lassen Volcanic National Park, Calif, July 25th, providing Fox news furnishes prints of all photos made, to Permanent News, and to other Newsreel companies, if they desire them."[248] Earlier, Kinogram Publishing Co. of New York had been granted permission to "make a news picture of planes from Crissy Field flying over Crater Lake...." There were numerous requests from news media for their photographers to go aloft to view the fleet, photograph the Golden Gate and Alcatraz, etc. In 1925, Crissy Field airplanes performed a photographic aerial survey of Yosemite Valley for the National Park Service.

Crissy airplanes also performed aerial surveys along the Snake River for the Bureau of Reclamation, and aerial photography of 1,900 square miles in northwest Washington and in the vicinity of Red Lodge, Montana, for the Geological Survey in 1932.[249]

* * *

In January 1932 additions were noted to Buildings 36 and 37 (now combined as 643), the reserve hangars, in order to "furnish offices for the Reserve Activities and the Utilities Department." In February, Maj. M.F. Davis, now Crissy Field's commanding officer, recommended the replacement of the wood stave drains across the flying field, that dated from the exposition days, with terra cotta pipe. In July, contracts were let to install an asphalt mat in front of the seaplane and landplane hangar, and for 7,575 square yards of paving to be laid "in compliance

[246] NA RG18 Project File 373 Assistant Secretary of War F. Trubee Davison to Senator Carl Hayden. Jan. 10, 1930.

[247] *ACNL*, Oct. 18, 1932.

[248] NA RG18 Central Decimal File 004.521 Commander Air Corps to Commanding General Ninth Corps Area. Aug. 25, 1931.

[249] NA RG18 Central Decimal File 061. Misc correspondence, 1929-1932.

with par. 19-b, AR 30-1435," for "constructing taxi-ways at Crissy Field, Calif." [250] These may be the same projects.

Prophetically, at this time in Washington, the Assistant Chief of Staff for Operations and Training was discussing possible alternate uses for Crissy Field with the Army's Chief of Staff, Douglas MacArthur.

> Data shows that fog can ground planes there 10% of the time. This is not good if other and better locations are available. If the troops moved, others could use the buildings. The field itself could be used as a drill field, or still be employed as an airdrome for use of Corps Area Headquarters, for reserve flying, or for cooperation missions with ground units... Mather Field, 13 miles E of Sacramento is much better located as far as fog is concerned. Also, it would not be under shell fire from an enemy landing party.[251]

The Air Corps' Chief of Building and Grounds Division soon echoed the sentiment to the Chief of the Plans Division, "This Division is in favor of eventually moving the Squadron from Crissy Field. After the new Golden Gate Bridge is built the field will be still more cramped. If the Marin county site is completed, we think that the Squadron could better be placed at Marin than at Mather—cheaper, overhead low, command problems simplified."[252]

Washington certainly had the "straight dope."

In spite of the hint of base closure at the War Department level, the view from the airfield remained busily focussed on the day-to-day:

> During the year 1931, Crissy Field, Presidio of San Francisco, Calif., justified its unofficial title as "The Hub of West Coast Military Airways," with a record of no less than 812 visiting military airplanes for the period. None of these visits was in connection with the annual maneuvers. Ye eagle eyed statistician informs me that the above is not a record by any means. On the contrary, the traffic of visiting aircraft has diminished quite perceptibly during the past few months, probably due to the curtailment of flying time allotted for cross-country training.
>
> In addition to the above mentioned military aircraft, Crissy Field played host to a total of 244 commercial aircraft during the year just ended.
>
> Peculiar weather conditions existed around the Bay area recently. Normally the most fog-bound aerodrome in the Bay area, Crissy was from time to time clear when, at the same time, Oakland Airport and Mills Field were fogged in. In consequence, several mail planes found Crissy Field a welcome refuge.[253]

But a hint that all was not as it should be at Crissy Field came from Maj. Donald P. Muse, who took over as Crissy Field Commanding Officer between Oct. 1932 and Apr. 1933. "In general, housing is satisfactory, but buildings are deteriorating rapidly due to poor construction and the blasting in connection with construction of the Golden Gate Bridge." [254] Although the Doyle Drive approach to the Golden Gate Bridge did not directly affect Crissy Field, as it passed on its south margin, it had considerable indirect impact, cutting off the airfield visually from the remainder of the Presidio. And the bridge itself only added to the difficulties involved in take-off and landings.

In January 1933, the Signal Corps recommendation to close the "Air Corps Alert Radio Station WZZ" at Crissy Field was concurred in by the Office of the Chief of the Air Corps, who stipulated however, that the station "be not dismantled and that all equipment remain intact for possible future use."[255]

[250] NA RG18 Project File 319.1B Activities Report for January 1932 and for June 1932. Also Project File 611. Office of the Constructing Quartermaster, Fort Mason to Commanding Officer, Crissy Field. Jul. 29, 1932.

[251] NA RG18 Project File 602 Assistant Chief of Staff, Operations and Training, War Department to Chief of Staff. Nov. 27, 1931.

[252] NA RG18 Project File 602 Air Corps Chief, Buildings and Grounds Division to Chief, Plans Division. Feb. 15, 1932.

In May 1933 a potentially dangerous fire broke out behind the hangars in a gasoline pumphouse. Soldiers were working in the pumphouse when a fire started in one of the pumps and it exploded, seriously injuring five men. Only "prompt work by army and municipal fire departments kept the fire from 10,000-gal. tanks of gasoline nearby." The Army estimated the damage at $6,000.[256]

During the period from July 1933 to December 1934, a spate of serious accidents caused the Chief of the Air Corps' Inspection Division to prepare a report for the Air Corps Commander, Maj. Gen. Benjamin D. Foulois.

A PT-3A trainer made a forced landing San Francisco Bay after running out of gas. Fortunately, no one was hurt. An O-25 observation plane "was on an extended navigation training flight. Pilot heard noise similar to a connecting rod breaking through the crankcase. Airplane caught on fire, but the pilot and passenger stayed with it and landed it. Plane totally destroyed by fire. Minor injury to pilot only."

An O-19B observation plane flown by a pilot of the Air Reserve on inactive status "attempted to take off from Crissy Field but the motor failed just after he got into the air and he had to land in SF Bay. Minor injury to pilot and passenger."

Even the new base commander caused one of these mishaps. "Maj. D.P. Muse, A.C., took off from Crissy Field and shortly thereafter attempted to switch fuel tanks. In doing so, he turned the fuel valve to the off position. He did not realize his error and landed in SF Bay with a dead engine. No injury to personnel."

An O-25C flying over the San Francisco waterfront suddenly emitted "a tremendous noise in the engine and fire appeared on both sides of the fuselage. Pilot instructed the mechanic to jump but stayed in plane until he got it over the bay, then he jumped. Both rescued by Navy personnel. Minor injury to pilot only."

The only fatal accident involved an airplane heading to Crissy Field. An O-25C took off from Cambria, California for Crissy but encountered bad weather. "MacIntyre turned back, but Reeves continued on in bad weather at a very low altitude and flew into trees and power lines. Airplane totally destroyed by fire and pilot and passenger were both killed."[257]

At the end of 1933, the Air Corps allocated the following aircraft types to Crissy Field: one Fokker C-14 and one C-25 transport; one Fairchild F-1 photographic plane; three Thomas-Morse O-19B, twelve Douglas O-25C, and two Douglas O-35 observation planes; and two BT-2 and one Consolidated PT-3 trainers.[258]

* * *

During the spring and summer of 1933, the commanding officer of Crissy Field and the Office of the Chief of the Air Corps had formulated a project for the construction of a new paved "runway two thousand by two hundred feet sloping gently from east and west with iron covered drain in center," and a taxiway approximately thirty feet wide along edge of field with spurs to both ends of the runway.[259]

The placement of the paved landing mat was proposed for the center of the open area along the northern shoreline—in other words, overlapping and to the east of the area used for the flying field up to this time. The rationale for this decision follows:

> In a project of the above nature it must be kept in mind that Crissy Field is strictly a two way field and any plan of constructing a landing mat should be considered from this standpoint.

253 *ACNL*, Feb. 1932.

254 NA RG18 Project File 319.1B Activity Report for April, May and June 1933.

255 NA RG18 Central Decimal File 676.3 Office of the Chief of Air Corps to Chief Signal Officer. Jan. 12, 1933.

256 *Chronicle*, May 18, 1933.

257 NA RG18 Project File 452.1B Capt. Max P. Schneider, Chief, Inspection Division. Memorandum for General Foulois. Resume of Aircraft Accidents, Crissy Field.

258 NA RG18 Project File 452.1B Commanding Officer, Rockwell Air Depot to Commanding Officer, Crissy Field. Dec. 13, 1933.

259 NA RG18 Project File 611 Chief of Air Corps to Commanding Officer Crissy Field. Jun., 19, 1933. Also Commanding Officer Crissy Field to Chief of Air Corps May 31, 1933 and 1st Indorsement dated Jun 8, 1933.

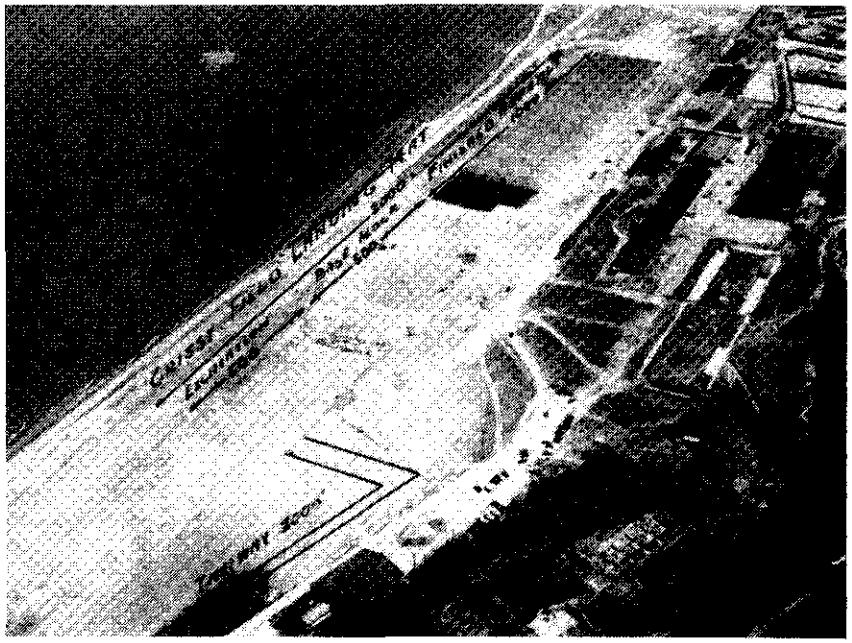
> The total width of the possible space available for landing and take off purposes is 450 feet for the greater length of the field. It is also desired to point out that it is impracticable to have airplanes taxiing out for a take off while others are landing. Local flying and field rules care for this point. There is very little choice in choosing a place for a landing mat. It must be emplaced so that the center longitudinal line is midway between the longitudinal borders of the field. This plan leaves very little space to remove a taxiway from a direct end approach to the landing mat. For this reason a taxi runway bordering the landing mat has not been included in the plans. However there is no way of avoiding this approach due to the characteristics of the field.[260]

Crissy Field headquarters drafted a "Notice to Pilots" at this time, containing the following information:

> (a) A landing mat with East-West runway is being constructed at Crissy Field, California. The mat is to be rectangular in shape and will be located West from the circle for approximately 1600 feet.
>
> (b) Yellow markers will be prominently displayed along the outer borders of the mat and runways.
>
> (c) Effective immediately, it is requested that all pilots avoid the area under construction. All landings and take-offs will be made West of this area.[261]

The improvements contemplated at Crissy Field did not develop out of a vacuum, however, but were a manifestation of the nation-wide need for more modern airfield facilities, dictated by modernized aircraft.

> During the early 1930s, most military and civilian pilots in the United States still flew from grass fields or sod landing strips. In fact sod was better than a hard surface when a pilot relied on a tailskid for braking. But under heavy use and without good drainage and maintenance, a grass field grew soft, muddy, rutted, or dusty...depending on the season. Brakes and tailwheels on airplanes eliminated the need for soft ground for landing. Heavier and speedier planes had to have a longer, harder, smoother surface for taking off and landing.[262]



The first paved landing surface at Crissy Field was laid in 1934. "The mat consists of seven inches of crushed rock as a base, covered with a coat of levelling rock thoroughly rolled and packed, and topped with an inch and a half of natural rock asphalt, rolled and packed down tight." (San Francisco Public Library)

In 1934, the Air Corps embarked upon a program to improve Army airfields by the construction of all-weather landing mats, or runways.

260 NA RG18 Project File 611. 2nd Indorsement Headquarters Crissy Field to Chief of Air Corps. Jul. 28, 1933.

261 NA RG18 Project File 611. Notice to Pilots. Maj. Donald P. Muse to Chief of the Air Corps. Dec. 14, 1933.

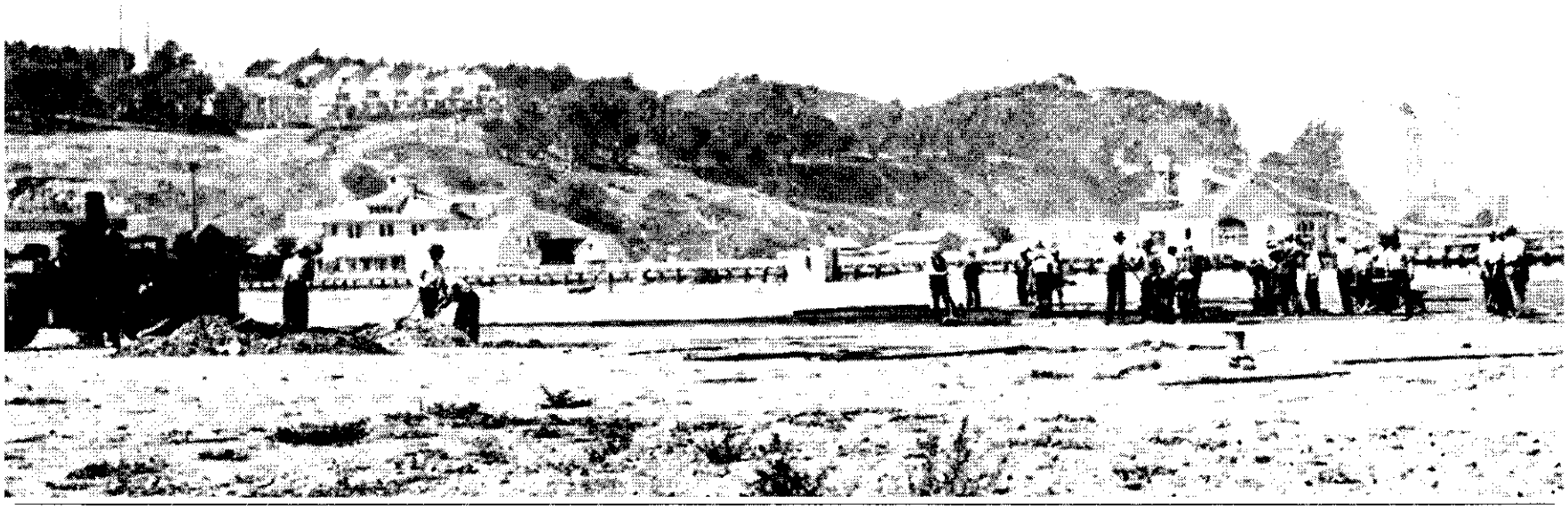
262 Maurer, *Aviation in the U.S. Army*, p.369.

In August 1934, with the great Depression laying its heavy hand on the country, the *San Francisco Chronicle* reported that the "Weather Proof Plane Landing [is] Nearly Finished."

> The new all-weather landing mat on Crissy Field is approximately 75 per cent completed, it was reported yesterday by the construction division of the SERA in charge of the project.
>
> When finished it will be 2000 feet long, 200 feet wide, and will have a taxi runway from the west end of the landing mat to the hangars. This runway will be about 1000 feet long and 30 feet wide.
>
> The project will give a much needed dry landing place to the army, in place of the muddy handicaps experienced heretofore in the rainy season.
>
> The mat consists of seven inches of crushed rock as a base, covered with a coat of leveling rock thoroughly rolled and packed, and topped with an inch and a half of natural rock asphalt, rolled and packed down tight.
>
> It was originally a CRA project, but lack of funds halted work until June 1, when the SERA took it over. Some 300 men are now employed there, the work, except the rolling, being done by hand.[263]

By November 1934, the project was completed. The hangars along the south edge of the runway had concrete aprons connecting them since 1923-6. But now the landing field itself had been paved for the first time.

The landing mat nearing completion in November 1934. "Some 300 men are now employed there, the work, except the rolling, being done by hand." (San Francisco Public Library)



263 *Chronicle*, Aug. 18, 1934.

A "Notice to Pilots" was issued to explain the rules pertaining to the new paved runway:

> Construction of the landing mat at this station has been completed.... Aircraft equipped with tail skids are not permitted to land on the mat, but must land on the polo field East of the landing mat. The area North of the landing mat will be used by this type of airplane in taxiing to and from the hangars. A taxi-way leading from the South-West corner of the landing mat to the hangars along the South side of the field has been completed, and pilots equipped with tail wheels are requested to use this taxi-way, particularly when the field has been subjected to rain.[264]

* * *

[264] NA RG18 Central Decimal File 353.9 Notice to Pilots. Nov. 16, 1934.

Site History–Chapter 5

Winding Down, 1935-1940.

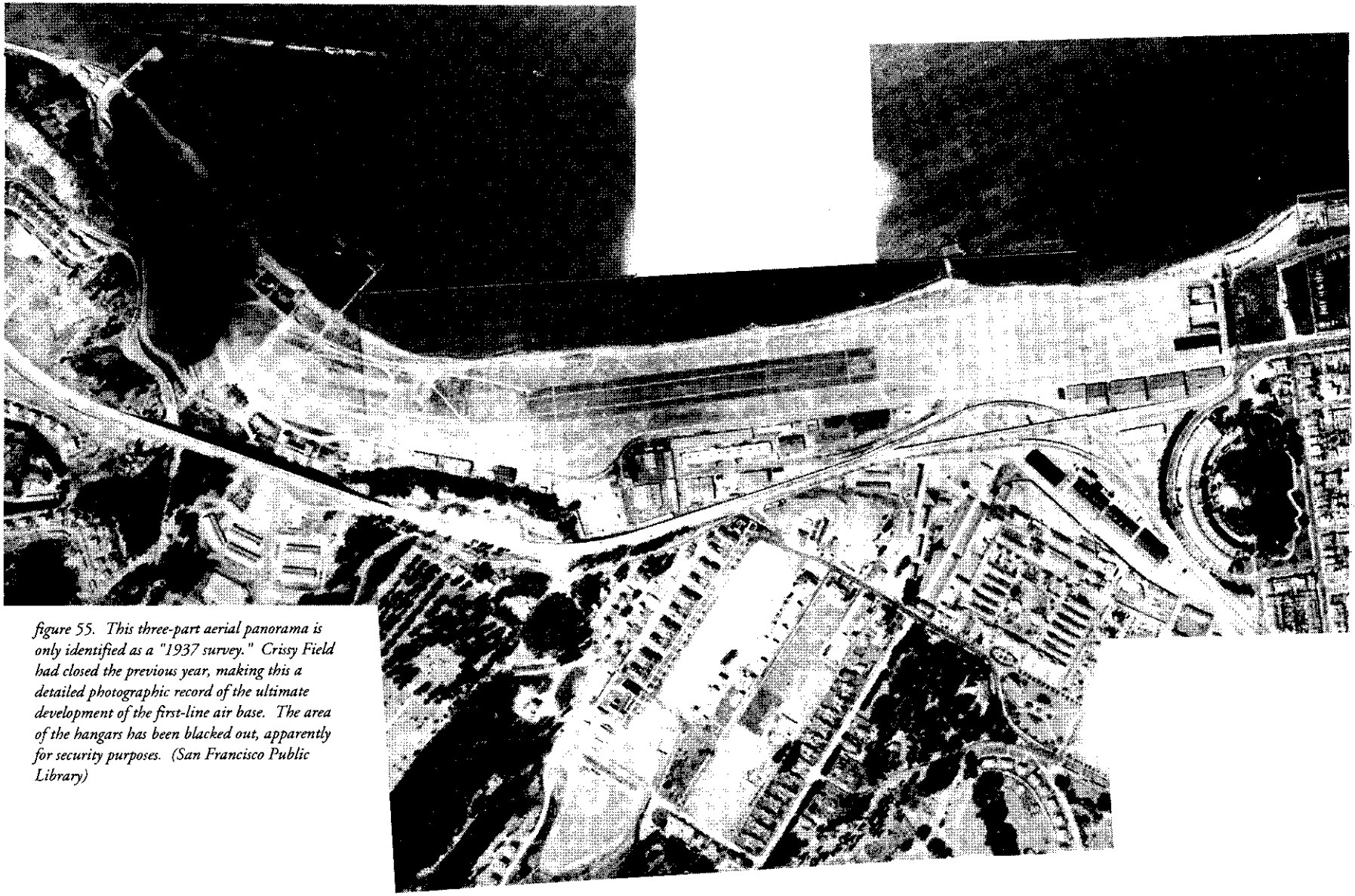


figure 55. This three-part aerial panorama is only identified as a "1937 survey." Crissy Field had closed the previous year, making this a detailed photographic record of the ultimate development of the first-line air base. The area of the hangars has been blacked out, apparently for security purposes. (San Francisco Public Library)

Winding Down, 1935-1940.

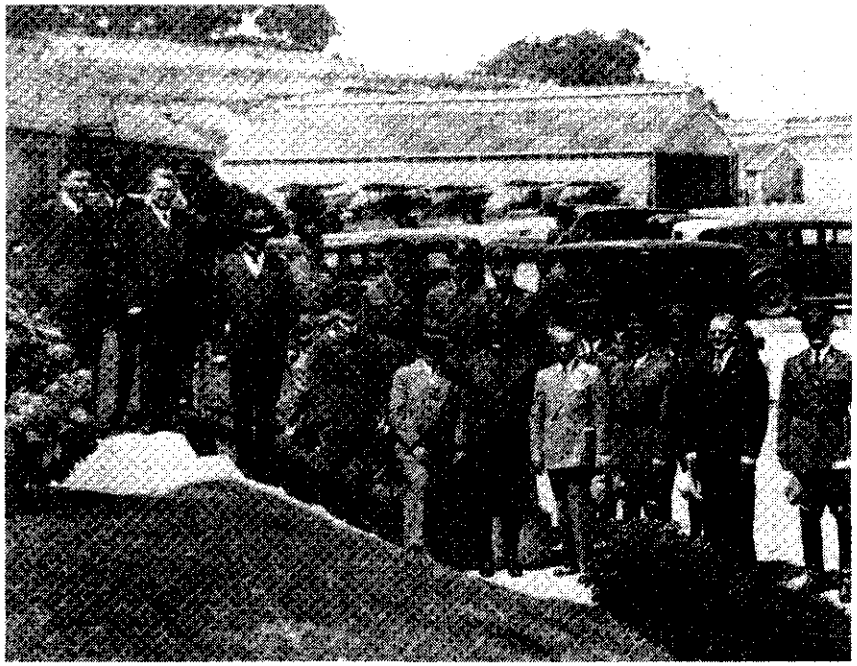
Operations now began to wind down at the recently self-styled "Hub of West Coast Military Airways." During "Defense Week" in February 1935, "Crissy Field turned out its entire compliment of airplanes," as "two Navy blimps and a squadron of P-26's from March Field" passed by. Crissy Field had five airplanes to offer.[265]

The War Department, propelled by the poor percentage of flyable days at Crissy, the recent construction of Hamilton Field at Marin meadows in San Rafael, and the recent reopening of other long-inactive airfields in California, began to move ahead in its plans to close Crissy Field. It also recognized a potential source of opposition to the plan, San Francisco's congresswoman:

> In the past efforts have been made to abandon Crissy and move the units to Mather or Hamilton and leave Crissy on an emergency field status. General [James E.] Chaney is of the opinion that we could not hope to abandon this field entirely as it is in Mrs. Kahn's (House of Rep.) district and in that Mrs. Kahn has always been vitally interested in the Air Corps.
>
> If the hazards of the Golden Gate Bridge were pointed out to Mrs. Kahn, maybe she would consent to the major activities being shifted to Mather or Hamilton.[266]

The next step in the chain of events involved a June inspection by a lieutenant representing the Inspection Division, who summarized:

> During my recent visit to Crissy Field, I discussed its future prospects with its Commanding Officer. He feels that Crissy is already an unusually hazardous field—its location in a bad fog pocket, the fact that cross-wind landings are necessary a good share of the time, and the presence of high hills on the Pacific side [end] of the field. Hazards for both day and night operations will be considerably increased upon completion of the Golden Gate and Oakland bridges. A runway extending out into the bay would reduce the hazards only a slight amount. It is believed that he favors abandoning the location. The new asphalt landing and take-off strip appears to add to the difficulty of making cross-wind landings. The slight angle on each side of the runway permitting off-center drainage, has a tendency to increase the difficulty of cross-wind landing. The Reserve activities appear to be very anxious to leave the present location at Crissy for Benton Field, on East side of the Bay.[267]



A Congressional party from the War Department Subcommittee of the House Appropriations Committee visited Crissy Field in August 1935. Congressman Tilman E. Parks (fifth from the left, with fedora) branded Crissy Field "utterly unsuitable for airplane operation." (San Francisco Public Library)

[265] *ACNL*, March 1935. The airplanes were one Curtiss A-3 attack plane, one BT trainer, one Douglas OA-4 seaplane and two Douglas O-25C observation planes.

[266] NA RG18 Project File 686. Major Carl A. Spaatz. Chief, Training and Operations Division, Office of the Chief of the Air Corps. Memorandum for Executive. Mar. 8, 1935.

[267] NA RG18 Project File 686. 1Lt. S.P. Miles, A.C. Inspection Division, War Department. Memorandum for the Executive. Jun. 1, 1935.

In August 1935 a party of congressmen from the War Department Subcommittee of the House Appropriations Committee visited Crissy Field. Six months later, in January 1936, the *San Francisco Chronicle* reported:

> Abandonment of Crissy Field has been recommended to the House Appropriations Committee by Tilman E. Parks, Democratic chairman of the War Department Subcommittee in a report covering the latter group's recent inspection in the Bay Area.
>
> Using almost the identical words of Representative John J. McSwain, that "Crissy Field is an unnecessary risk to every pilot forced to land there," Parks branded the San Francisco base as "utterly unsuitable for airplane operation."
>
> Other recommendations by the subcommittee included immediate steps toward modernization of buildings at the Presidio, which would eliminate fire hazard and provide comfortable quarters for both officers and men. The same recommendation applied to Fort McDowell on Angel Island.
>
> Stressing the need for long-range seacoast and anti-aircraft guns, Parks described the harbor defense of San Francisco as "shockingly inadequate" and urged the appropriation committee take necessary steps toward modernizing all California military establishments.
>
> The approximate cost of an extensive Pacific Coast defense program was set at $15,500,000 and was recommended to begin at once. Defense projects were also recommended for Texas, Hawaii and the Canal Zone.[268]

In April 1936, the former Deputy Chief of Staff, Maj. Gen. George S. Simonds was slated to take over the Ninth Corps Area. "Hap" Arnold felt that Simonds was "very air minded and well informed," but Crissy Field needed a "fifth O-46A (observation plane) from the Douglas Company...delivered in order that a modern airplane will be available for the general" when he made an aerial inspection tour of his command.[269]

The War Department appropriations bill for fiscal year 1937 was passed with the provision "That no part of this or any other appropriation contained in the Act shall be available for any expense incident to the use of Crissy Field, California, as an air station."[270]

Official orders followed within days:

> Pursuant to instructions contained in War Department letter...the 91st Observation Squadron, Air Corps, and 15th Photo Section, Air Corps, stand relieved from station and duty at Crissy Field, Presidio of San Francisco, and will proceed without delay to Fort Lewis, Washington, and take station thereat.[271]

On July 19, 1936 the *Chronicle* reported:

> Eight army planes will dip their wings in salute over the waterfront tomorrow as the farewell of the 91st Observation Squadron to San Francisco and Crissy field, fulfilling that the old army airdrome be abandoned.
>
> Maj. Floyd E. Galloway will lead planes and pilots to a new home at Fort Lewis, Wash. About 150 men and a large amount of baggage is to remain at the field for land transportation North.
>
> The squadron's last official duty before leaving the field, its home field for the last 15 years, will be a flight of welcome to the new commander of the Ninth Corps Area, Major General

268 *Chronicle*, Jan. 13, 1936

269 NA RG18 Project File 452.1B Brig,. Gen. H.H. Arnold, Assistant Chief of the Air Corps to Maj. F.E. Galloway, Commanding Officer Crissy Field. Apr. 18, 1936.

270 NA RG18 Project File 602. Adjutant General to Commanding General, Ninth Corps Area. Jun. 5, 1936.

271 NA RG18 Project File 300.4 Headquarters Crissy Field, Presidio of San Francisco, Special Order No.63. Jun. 23, 1936.

George S. Simonds, on his arrival here aboard the army transport "Republic."

An officer, 15 men and five planes will remain in the Bay Area based at Oakland Municipal Airport where they will provide instruction for reserve flyers.[272]

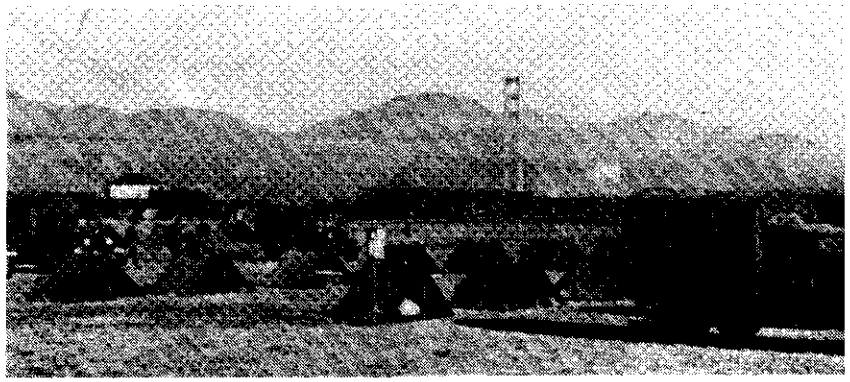
The *Air Corps News Letter* described the departure in somewhat more detail, and with distinctly mixed feelings, under the title "An Ode to Crissy Field:"

A train of escort wagons rolls down Mason Street past the still unpaved Crissy Field. The 30th Infantry was heading to Fort Mason en route to 1932 maneuvers in Hawaii. (U.S. Army, Presidio of San Francisco)

Crissy Field is no more. No longer will the city by the Golden Gate enjoy the distinction of having an Army airport within its boundaries, or the residents thereof be awakened each morning by the sound of Army airplanes humming over their rooftops.

No longer will the pilots of the 91st Observation Squadron returning from cross-country flights have to hope and pray that they will be able to find the field when they arrive, instead of a nice thick blanket of fog, concealing in its depths several assorted hills, bridge towers, high buildings, etc.

The 91st Observation Squadron, and the 15th Photo Section, occupants of Crissy Field since its inception in 1919, were ordered away from their beloved home in the middle of June, and by the 30th of that month had packed, bag and baggage, families, household lares and penates,[273] even to the Squadron dogs, and had moved over 900 miles to their new station, Fort Lewis, Washington.



The pup tents and trucks of an unidentified unit temporarily camped at Crissy Field on August 31, 1938. Motor vehicles replaced horses and mules with increasing rapidity as the Army modernized in response to increasing world tension. (San Francisco Public Library)

272 *Chronicle*, Jun. 19, 1936.

273 Lares and penates were ancient Roman household deities.

> The move was made by almost every conceivable means of transportation. Freight cars, passenger trains, government motor trucks, commercial motor vans, private cars, motorcycles and airplanes were all used in transporting the personnel and impedimenta of the field. The Squadron boat, with its caretaker, was loaded on a coastwise freight steamer and transported to Seattle....Although we had been prepared for the order to move for a month or more, no decision had been made as to the future home of the 91st, so no packing or crating was done until the final order to move was received. Upon the receipt of this order, all ordinary operations at Crissy Field were discontinued, and everybody was set to work completely stripping the field of movable Air Corps property, crating and boxing it, and loading it onto freight cars, of which a total of eight were fully loaded. The furniture of officers and noncommissioned officers was transported by commercial motor van, this being the most practical and economical method.
>
> Practically all the personnel of the post were evacuated on or before June 27th, the only ones remaining after that date being those with property responsibility in order to turn over the property left behind to the Quartermaster, and to complete the audit of Air Corps Supply.[274]

A few of the enlisted men remaining behind transferred to Moffett Field, but most followed their compatriots to the state of Washington. The Army abandoned Crissy Field as a first-line airbase. The Adjutant General of the Ninth Corps Area declared that, "until further orders, the landing field at the Presidio of San Francisco, California (old Crissy Field), will not be used except in case of emergency."[275] Fifteen years of history-making military aviation came to an end at Crissy Field, and with it ended the period of the airfield's greatest significance.

* * *

That November, the Secretary of the Treasury inquired of the Secretary of War about the availability of three acres at the east end of Crissy Field, including 300 feet of waterfront, for the location of a quarantine station. General Simmonds proved to be a blunt defender of the Presidio's integrity. When asked for comment he replied:

> It is time to stop other agencies from taking over military land. They want it only so that they will not have to buy their own land. This practice has already impaired the defenses of San Diego and San Pedro and has practically destroyed Fort Miley....This field is and should continue to be retained as an emergency landing field. Its limited area and the adjacent topography make the field a difficult one at best. The hazard to our aviators should not be increased by any reduction in size of the

Army Day, 1936, at the east end of Crissy Field. Note the paved landing mat at the left, the aircraft at lower center, and the row of trucks on Marine Drive at the lower right. (National Archives)

[274] *ACNL*, Aug. 1, 1936.

[275] NA RG18 Project File 602. Adjutant General, Ninth Corps Area. Jul. 2, 1936.

The western portion of Crissy Field in 1938, shortly after the completion of the Golden Gate Bridge. The yellow and black roof pattern was extant from 1935 to 1941. (National Archives)

> field or by the erection of buildings adjacent thereto. When not in use as a landing field, this field serves for the training of Infantry, and is so used and required at the present time.[276]

The War Department said no to Treasury.

With the term Crissy Field becoming officially obsolete, the Army began again to refer to the location as the "Lower Post." The facilities of the former airbase were kept up, and found other uses. The portion of the field east of the circle and paved landing mat continued to be used for ceremonial activities and large troop formations. Even as the airfield was slated to close, Army Day activities were staged on the field, and troops paraded for the crowds. A little biplane and a larger B-12 twin-engine bomber were parked at the east end of the field for the occasion.[277] The officers of the Ninth Corps Area continued to enjoy polo on the polo field laid out at the east end of the "Lower Post." Increased mobilization in the late 1930s caused the large grassy portions of the airfield still remaining to be used as a temporary encampment and parade grounds for troops passing through, temporarily bivouacked, or formed for inspection. The Headquarters of the 30th Infantry Regiment moved into the field's administration building.

The Works Progress Administration found outlets for a number of projects at the Presidio. They used a number of locations on post, including one of the old reserve hangars (643) as a warehouse. At the lower post, work in progress included:

> Continuation of excavation, filling in low areas, constructing new roads, parking areas, garages and playgrounds; landscaping areas in vicinity of officers' and non-commissioned officers' quarters; landscaping and fire-prevention work around the flying field; construction of one double tennis court in rear of quarters and one double court off east side of barracks.
>
> Steel brushing and painting Crissy Field buildings #20, 21, 22, 24, 27, 30, and 48. Paint yellow and black checkerboard on roofs of buildings #25 and 29.[278] Paint obstructions and boundary lights at Crissy Field.
>
> Resurface 400,000 square feet of landing runway, construct a 6' woven wire fence around east and south sides, landscape the area adjacent to the Golden Gate Bridge Highway Approach.[279]

[276] NA RG18 Central Decimal File 600. 2nd Indorsement, Commanding General Ninth Corps Area to Adjutant General, War Department. Nov. 30, 1936.

[277] NA RG18 Photograph 18-AA-24-19 dated Apr. 4, 1936 in Still Picture Branch.

[278] Today's numbers 650, 654, 651, 933, 931, unk., 926 and 937 respectively. Note that the yellow and black checkerboard pattern on hangars 926 and 937 appears in photographs as early as August 1935.

[279] "Report on Progress of the Works Program in San Francisco, Jan. 1938." William Moser, Jr.

At the end of 1939, troops were again mustered onto Crissy Field for the edification of visiting congressional dignitaries. The *San Francisco Call-Bulletin* reported:

> Garrison troops of San Francisco harbor defenses and the Presidio were reviewed on Crissy Field today by twelve members of Senate and House committees inspecting the nation's military bases.
>
> In command of the marching troops, which included companies from three separate bay area defense units, was Colonel Thomas A. Terry, commanding officer of San Francisco's harbor defenses.
>
> Reviewing officer was BG Henry T. Burgin, commanding general of the Ninth Coast Artillery District. The congressmen were slated to visit Letterman General Hospital after the review, and following lunch, the group was to inspect Forts Mason, McDowell, Winfield Scott and Funston. The party will remain in the bay area until Monday, leaving here that afternoon for Sacramento to inspect army depot and the air base there.
>
> In the party are Senators Elmer Thomas, Oklahoma; Harry S. Truman, Missouri; Sherman Mintor, Indiana; Dennis Chavez, New Mexico; and Chan Guerny, South Dakota. Also Representatives John M. Costello, California; John J. Sparkman, Louisiana [sic]; Overton Brooks, Louisiana; Charles R. Clason, Mass; Paul W. Shafer, Michigan; William D. Bryon, Maryland; and Thomas E. Martin, Iowa.[280]

* * *

From approximately 1922 to 1930 Crissy Field was the only permanent Army airbase in the Ninth Corps Area, the eight western United States. In assessing its role as a first-line airbase in the era between World War I and World War II, it is useful to place this one particular airfield in con text. "To set U.S. Army aviation of 1939 against the airmen's hopes and desires is to conclude that little had been achieved during the previous twenty years. However, to compare conditions with what they had been in 1919, reveals significant changes and notable progress."[281] Any examination of Crissy Field's history demonstrates its considerable contribution towards that progress.

> It [the Air Service] would be employed...to support ground forces or to work separately in carrying out service for people sick or injured; patrol national forests to report fires; and take aerial photographs for the U.S. Geological Survey. Army airmen refined techniques for aerial crop dusting, helped eradicate mosquitoes and other pests, and bombed lava from an erupting volcano to divert the flow from a town that lay in its path. They contributed greatly to the establishment and development of a nationwide system of airports, landing fields, and airways—benefitting civil aviation as much, if not more, than military aviation....
>
> Enthusiastic aviators themselves, Army flyers encouraged others to join the flying game. They promoted aviation for transportation, postal service, firefighting, crop-dusting, surveying, exploring, scientific research, and sport. However the peacetime air arm, small in size and short in money, had to curtail activities. Civil aviation grew and advanced. Civilians commenced winning more of the races, setting more records, and capturing more headlines. Still, they did not entirely shut out the Army flyers.
>
> During the twenties and thirties, a never-ending series of pioneering and record setting flights by aviators of many nations marked aviation progress. U.S. Army flyers played a prominent part. Among their achievements were records in balloon altitude, aircraft endurance with aerial refueling, and aircraft speed.

[280] *S.F. Call-Bulletin*, Dec. 2, 1939. Senator Sparkman represented Alabama, not Louisiana.

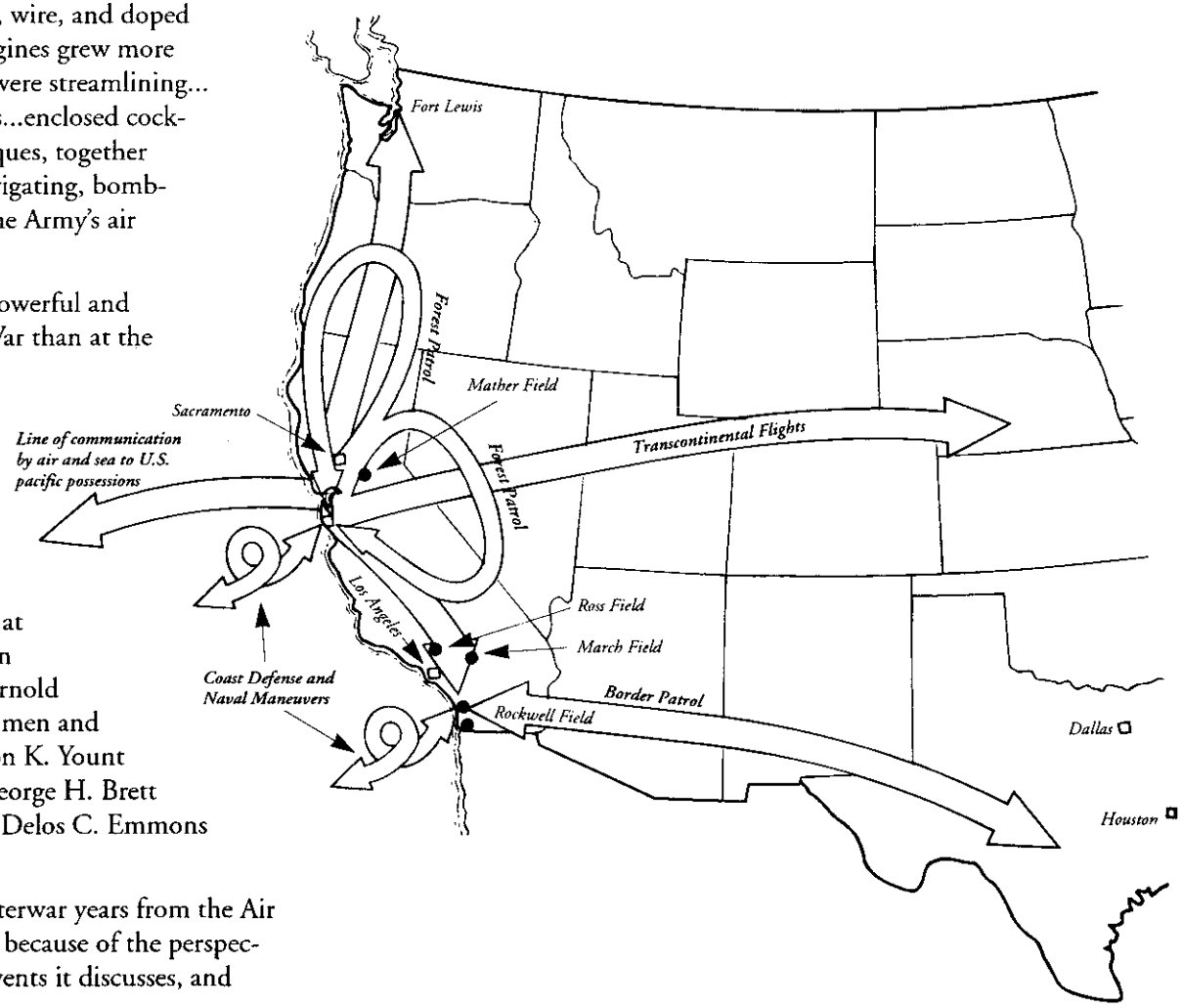
[281] Maurer, *Aviation in the U.S. Army*, p.439.

They were the first to make these flights—nonstop transcontinental, around the world, and flying solo. Such flights in part reflected technological progress yet at the same time assisted in further advancement. Metal replaced wood, wire, and doped fabric in aircraft construction. Airplane engines grew more powerful. Enhancing aircraft performance were streamlining... artificial horizons...voice radios...parachutes...enclosed cockpits....These, and newer operational techniques, together with more and better training in flying, navigating, bombing, and shooting, raised the efficiency of the Army's air arm as an instrument of national defense.

The Army's air arm was smaller but more powerful and effective at the start of the Second World War than at the end of the first....

But all that lay in the unforeseeable future. While the developments of the twenties and thirties did not prepare America's air arm for the war it would fight, they laid a foundation upon which to build the Army Air Forces of World War II. Consider, then, the status of Army aviation at the time of the Nazi invasion of Poland. On September 1, 1939, Maj. Gen. Henry H. Arnold presided over an Air Corps of some 26,500 men and 2,200 planes. Under him, Brig. Gen. Barton K. Yount supervised training programs, Brig. Gen. George H. Brett managed materiel activities, and Maj. Gen. Delos C. Emmons commanded GHQ Air Force.[282]

The operations of the Air Coast Defense Station at Crissy Field from 1919-1936, in the context of its strategic location on the West Coast of the United States.



It is worth quoting this "summing up" of the interwar years from the Air Force's Official History at such length, not only because of the perspective it brings, but also because so many of the events it discusses, and

282 Maurer, *Aviation in the U.S. Army*, pgs. 439 and 444-6.

officers it mentions, are recognizable in Crissy Field's history. Equally important, nearly all the buildings and structures of the coast defense air station survived to the end of the Army's tenure at the Presidio in 1994, a rare survival of the complete infrastructure of a 1920-era military airfield complex.

* * *

Site History–Chapter 6

War and Post-War, 1941-1993

The hangars and workshops at the western end of Crissy Field, just prior to World War II. (U.S. Army, Presidio of San Francisco)

War and Post-War, 1941-1993.

One aspect of Crissy Field history has a type of significance all its own. In June 1941, as the military prepared for the conflict that was now clearly coming, officers in the War Department conceived of a special school to utilize the language skills of Japanese-American soldiers as intelligence interpreters, interrogators, and battlefield translators. In the fall of 1941, the Fourth Army in San Francisco (the successor to the old Ninth Corps Area) was ordered to implement the plan.[283]

But the language skills of these mostly second-generation Japanese-American (Nisei) soldiers proved to be more an assumption than a fact. The Nisei of the Pacific Coast had become more rapidly Americanized than was realized. It soon became obvious that special training would be necessary if they were to become useful to the armed forces as Japanese linguists.[284]

The special school that was needed quickly took form, due to the efforts of the school commander (and Fourth Army Intelligence Officer), a former Assistant Military Attache in Japan, Lt. Col John Weckerling. It was located at the old air mail hangar at Crissy Field, which had been converted to barracks for ROTC students in 1928 and was used for training until the air base closed. It is presently Building 640. Instructor Shigeya Kihara recalls:

> The colonel led us to the school building. We drove through the office, barracks and residential areas surrounded by manicured green lawns and trees and crossed some railroad tracks into a different world—a flat, empty desolate expanse on the shores of San Francisco Bay. We parked at an empty, old, corrugated, tin, abandoned, small aircraft hangar. The area contained no other buildings or facilities. This was it, our Crissy Field School. Sgt. Peterson and WO Schneider, administrative staffers, were waiting for us. Again, we found no desks or chairs, only two old Army cots that we used as chairs for a couple of days. Two carpenters were putting up partitions along the north wall of the hangar for an office, faculty room and three classrooms.[285]

On November 1, 1941, two weeks after Mr. Kihara's first visit, the school opened.

> Early arriving language students pitched in to refurbish the old hangar. Wooden horses were obtained, and planks laid across these to form desks. Discarded theater seats were seized upon for chairs. Crude partitions were erected, to separate classrooms from office spaces, and bedding was lugged into adjacent sleeping quarters. Student life was extremely-spartan, except in one respect. Food was delicious! MIS'ers [Military Intelligence Service] were fed at the 4th Army's school for cooks and bakers, where one could almost dine like a gourmet on the cooking samples. But a student had to run like hell, both ways, to eat and get back to class on time, because of the tight study schedule.[286]

The course of study was demanding, and the hours were long, for instructors as well as for students. The Army had no experience with such a language school, and instructors struggled to create a course of study, and put the lessons together one day ahead of their students.

> The first class of 60 students and four Nisei instructors started training....[Civilian] Instructors were John F. Aiso, Attorney, chief instructor, Tetsuo Inagawa, Shigeya Kihara, Akira Oshida. They were soon joined by four more Nisei instructors....Among the 60 students were 58 Nisei and two Caucasians....Forty-five graduated in May 1942. A quarter of the class, therefore, failed to make the grade.
>
> When recruited for the secret school, all enlistees were promised commissions upon completion of the course. There was no

[283] Weckerling, John, Brig. Gen., USA, ret. "Japanese Americans Play Vital Role in United States Intelligence Service in World War Two." ms. dated 1946.

[284] "The MISLS Album," dated 1946. A copy supplied to NPS through the courtesy of Joseph Y. Kurata, Col., USA, ret.

[285] Kihara, Shigeya; "LTC John Weckerling Founds a Language School," *Globe* Vol. 16 No.1 (January 19, 1993); Presidio of Monterey, CA.

[286] Harrington, Joseph D. *Yankee Samurai: the Secret Role of Nisei in America's Pacific Victory.* Detroit, MI: Pettigrew Enterprises, Inc., 1979, p. 25.

> commission, however, for the Nisei upon graduation. Ten of the 45 graduates...were kept as instructors at Camp Savage, Minnesota, where the school was forced to relocate because of exclusion orders prohibiting Nisei to remain on the West Coast.[287]

The desire to avenge Pearl Harbor unleashed much hostility on Americans of Japanese ancestry living, as most outside Hawaii did, on the Pacific Coast. With the encouragement of the Hearst newspapers, and the political backing of California Attorney General Earl Warren, those urging the evacuation of Japanese-Americans from the West Coast had their way.[288]

It is ironic in the extreme that the officer charged with enforcing Executive Order 9066 was Lt. Gen. John L. DeWitt, commander of the Fourth Army. Under his aegis the Fourth Army Intelligence School began, and now as commander of the Western Defense Command, he directed the carrying out of the evacuation of Japanese-Americans from the West Coast from Building 35, only a few buildings uphill from Crissy Field where the Nisei soldiers toiled at their lessons.

Lieutenant Colonel Weckerling recalled:

> After the attack on Pearl Harbor, there was general approval of the school. However commanders of units under orders to the Southwest Pacific in early 1942 were not entirely convinced that the value of Nisei were worth the risk of possible disloyalty.
>
> The treacherous attack on Pearl Harbor naturally engendered the great hatred of the Japanese and as a corollary the public and the Army as a whole regarded the loyalty of all Japanese-Americans at that time as doubtful. This wholly human reaction was also reflected in the War Department and orders were soon issued that no Nisei would be allowed to serve overseas. The implementation of this plan would have vitiated the only feasible plan to provide qualified interpreters and translators for the Pacific theater and would have thoroughly frustrated the efforts of the field intelligence agents. The leading antagonist of this policy...succeeded in having the order rescinded. Later, when Japanese-Americans were being removed from West Coastal areas, the transfer of the school was urged upon the War Department. It was also realized that the school was too small to supply sufficient interrogation teams to coincide with our operational plans for 50 divisions by January 1944.[289]

Colonel Weckerling, the school commander, was described at this time as trying "to maintain an island of calm in a hysterical military sea."

> It wasn't easy. General DeWitt, his fears fed by anti-Japanese elements in northern California, exhibited an increasing suspicion and fear of everything Oriental. Panic began to rule the day. Kai Rasmussen (the school's executive officer) was suddenly yanked out of MIS and sent to a coastal artillery unit when rumors poured in of Japanese submarines and aircraft carriers offshore.[290] The 4th Army automatically became Western Defense Command at war's outbreak, and DeWitt wanted the Japanese-speaking Weckerling as his staff intelligence officer. Some screaming telephone conversations took place, and Rasmussen's rapid return was arranged.[291]

It obviously not easy to keep your mind on a demanding course of study when your family is being evacuated to relocation camps. The dedication of these Nisei soldiers to proving their loyalty through the performance of their duty, in spite of their nation's treatment of their relatives, is an example of some of the most worthwhile lessons this nation can learn from World War II.

The soldiers studying and living together in their cramped barracks/classroom at Crissy Field began to feel more and more isolated.

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287 *The Pacific War and Peace: Americans of Japanese Ancestry in Military Intelligence Service, 1941 to 1952*, Military Intelligence Service Association of Northern California and the National Japanese American Historical Society. San Francisco, CA, 1991. p.16.

288 Harrington, Joseph D., *Yankee Samurai*, p.32.

289 Weckerling, "Japanese Americans Play Vital Role...," p.3.

290 Rasmussen had been assigned to the Coast Artillery at Fort Scott prior to the war's outbreak.

291 Harrington, *Yankee Samurai*, p.30.

They may have been "only a street car-ride away from nearby cities, but School personnel rarely sought social and recreational facilities in town. Mass evacuation had sent most of their friends to relocation centers and Nisei GIs were not in a position to explain to any curious passerby why they were still in San Francisco."[292] In fact, the story of the Nisei soldiers' contribution to the defeat of Japan in the Pacific War was kept secret for another fifty years.

> At Crissey [sic] Field, on the mainland, Isao Kusuda grew increasingly glum. This stupid war probably meant he wouldn't get the leave he had been promised when the school was over. And he'd be sure to get frozen in service, too. Rumors flew as fast inside the Presidio of San Francisco as elsewhere.
>
> Pvt. Kazuo Lozaki wasn't buying it. [John] Aiso wasn't sure what to say. He'd just dashed downtown himself, to wire his fiance in Los Angeles he was O.K., but sweated his way back to the Presidio on a trolley car while a hysterical female passenger kept screaming "Kill Him! He's a Jap! Kill him!"
>
> ....Language students at the Presidio, who still liked to enjoy delicious food at Chinatown restaurants when off-duty, began to feel conspicuous in a sea of white faces as other Americans of Japanese Ancestry began staying in their homes for safety. They were cautioned to pair up, and stay in uniform, whenever leaving the Presidio.
>
> ....Student linguists later to face death on Guadalcanal and New Guinea were no longer safe on San Francisco's streets.[293]

To face death indeed, these young men were called upon to do. And they did it sooner rather than later. The first group of linguists to be attached to a combat zone went to the Advanced Alaskan Defense Base on Adak Island in the Aleutians. Landing with the second wave in the assault on Attu, "they were subjected to the worst of combat conditions."[294] Kei Sakamoto, a graduate of the first class, was the first Nisei to be sent from the mainland to the South Pacific. From idyllic Bora Bora he soon reached hellish Guadalcanal. Thomas Sakamoto won the Bronze Star in the assault on Los Negros, and witnessed the moment of surrender on the deck of the U.S.S. *Missouri* in Tokyo Bay.

It did not take long for commanders in the field to recognize the extraordinary contribution these soldiers were making to battlefield intelligence. "The importance of linguists in combat was fully recognized when the first group of specialists went on the field on Guadalcanal.... Field commanders began to clamor for the graduates and eventually every major unit in the Pacific had a team of language specialists."[295]

> It became almost routine practice for our Japanese-American language teams (one officer and ten men per Division—proportionately larger teams to superior units and headquarters) to work so rapidly and accurately that our artillery was sometimes enabled to drop shells on enemy command posts and gun emplacements within a few minutes after translations were completed by the language detachment. On many occasions this intelligence helped clear the way for our infantry slowly moving forward through the jungles or held up by enemy fire....
>
> From Guadalcanal, Lieutenant Colonel John A. Burden, then Captain in the G-2 Section of the XIV Corps and one of the two American Caucasian graduates of the first class at the Presidio wrote:
>
> "The use of Nisei in the combat area is essential to efficient work. There has been a great deal of prejudice and opposition to the use of Nisei in combat areas. The two arguments advanced are (1) Americans of Japanese ancestry are not to be trusted, and (2) the lives of the Nisei would be endangered due to the strong sentiment against the Japanese prevailing in the

292 *MISLS Album*, p.28.

293 ibid., p.29 and 32.

294 ibid., p.106.

295 ibid. p.31.

area. Both of these arguments have been thoroughly disproved by experiences on Guadalcanal, and I am glad to say that those who opposed the use of Nisei the most are now their most enthusiastic advocates. It has been proved that only the Nisei are capable of the rapid translation of written orders and diaries, and their use is essential in obtaining the information contained in them."

Major General Ralph C. Smith who commanded the 27th Infantry Division added: "The language section attached to the 27th Division was invaluable in the Makin operation."[296]

The Fourth Army Intelligence School graduated its first and only class at the Presidio in May 1942. In June it moved to Camp Savage, Minnesota (where it was redesignated the Military Intelligence Service Language School), and then to Fort Snelling, Minnesota. In June 1946, the school was renamed the U.S. Army Language School and relocated to Monterey, California. In July 1963, it was reorganized as the Defense Language Institute, one of the most renowned and far-reaching schools of language in the world. Three buildings on the Defense Language Institute campus are named in honor of distinguished graduates of the Military Intelligence Service Language School who gave their lives in World War II. In 1991, on the occasion of the 50th reunion of the Military Intelligence Service Association of Northern California, a model of the Language School at the Crissy Field aircraft hangar was presented to the Commandant of the Defense Language Institute. [297]

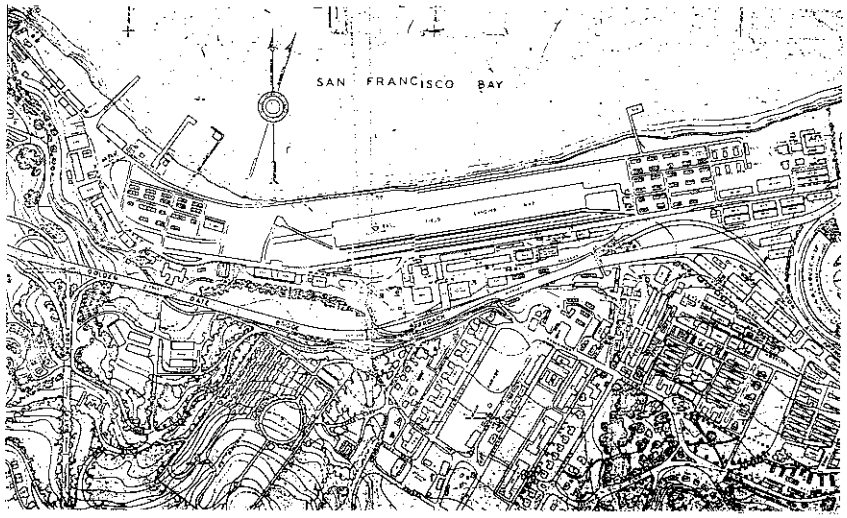
Thus do the Presidio of San Francisco, and Crissy Field in particular, provide a poignant lesson in prejudice and patriotism during wartime.

* * *

Mobilization for war brought significant physical changes to the existing landscape at Crissy Field.

Between November 1940 and February 1941 two cantonments of standard Quartermaster Corps "700 Series" mobilization-type structures were built at either end of Crissy Field.

Area A was located at the eastern end of the airfield, just inside Lyon Street. It consisted of ten, two-story, 63-man barracks, two one-story day rooms, a one-story administration building, post exchange, three storehouses, and two 250-man mess halls. In August 1941 five more barracks, two storehouses, a day room and another mess hall were added. The addition of buildings on the open approaches to the landing strip eliminated the emergency landing area and seriously compromised the safety of the airfield. Area A was used mostly for troops attached to Letterman Hospital, which became the busiest stateside military hospital during the war. Railroad sidings along the south margin of the field



Crissy Field in 1946, showing additions made during World War II, in particular the mobilization barracks in Area A and Area B, on either end of the paved landing mat. (National Park Service, Western Regional Office)

296 Weckerling, "Japanese Americans Play Vital Role," p.6.

297 There is a model of the Language School at Crissy Field in the collection of the National Japanese American Historical Society.

were regularly jammed with long trains filled with the wounded and sick returning from the Pacific war.

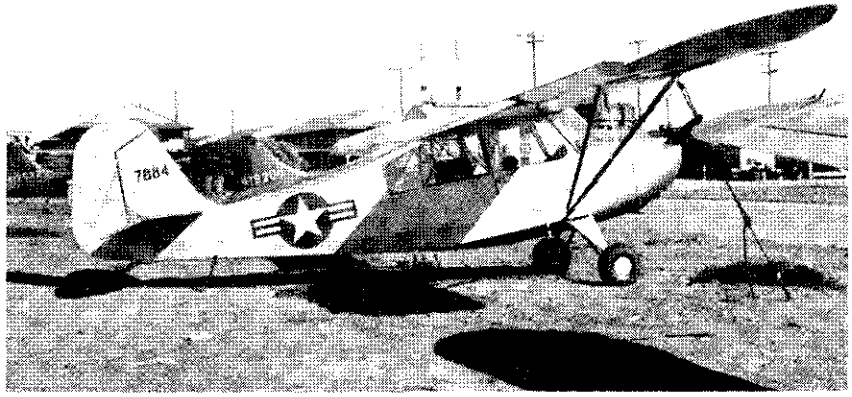
Buildings 274 and 275 were used to house Italian prisoners-of-war. Approximately 170 of these men stayed on, after Italy switched sides, in "voluntary" labor detachments, until December 1945.

The impact of the Area A cantonment to the Crissy Field landscape was as nothing compared with Area B, which was built right in front of the hangars and barracks in the middle of the old flying field. A street grid was laid out, and ten barracks, two day rooms, three storehouses, a post exchange, two mess halls, and a warehouse filled the space where biplanes had once passed.

By 1943, narrow, rectangular extensions about 300 feet in length had been paved at either end of the runway. By 1946 an additional paved taxiway at the western end of the runway crossed the extension at an angle. The airfield was used exclusively by light aircraft engaged in liaison flights for various Presidio headquarters or medical flights associated with nearby Letterman Hospital.

Pavement proliferated on the western portion of the old grassy, dusty and muddy landing field, between Area B and the administrative area, and between Area B and the hangars. In front of the hangar numerous fuel pumps sprang up to service the vehicles of a greatly expanded motor pool, housed, in part, in vehicle sheds between the old landing field and the engineer wharf. There was also a vehicle shed between the former landplane hangar and the garage (now the site of Bldg. 924). By the end of the war, the vehicle and pedestrian traffic patterns, surface treatments, clusters of buildings and their uses, and viewsheds at the western, and eastern, ends of the former air base had been altered greatly, and assumed an essentially contemporary pattern.

Further details of the events at Crissy have a tendency to be swallowed up in the vortex of more important events in World War II. Closed as



An Aeronca L-16A tied down at the east end of Crissy Field, September 28, 1947. Note the two Vultee L-5 and the Palace of Fine Arts in the background. (Courtesy of William T. Larkins)

an air base, the records of the Army Air Forces provide no information. The miscellaneous functions that happened to occur within the bounds of a former air base were administered by different offices, and their records are decentralized. Many records disappeared in a general clean-up program during demobilization and downsizing after the war.

In any case, the documented events that occurred at Crissy Field during World War II, with the exception of the work of the Military Intelligence Service Language School, do not measure up to the events of the air base years in terms of significance.

* * *

The first post-war threat to Crissy Field came at the end of 1948 from a coalition that included San Francisco Mayor Elmer Robinson, the State Lands Commission and the local contracting firm of Tom Hernia-Grace

Peresco, which proposed a 12,000 unit housing project of 86 four-story apartment buildings on 320 acres of land created by filling in the entire shoreline area between Lyon Street and Fort Point. Army concurrence was necessary, since approximately one-third of the proposed acreage lay on Army property. The Army was not about to concur and the project died some eighteen months later.[298]

In 1957 the San Francisco Planning Commission was told by the Army that Crissy Field was "important to the Army Headquarters and guided missile air communications," and "will have a new runway running along the beach to replace the extremely hazardous one now in use."[299] In August 1959, the Sixth U.S. Army Headquarters stated that:

> Crissy Field is required as a base for fixed and rotary-wing Army aircraft. Daily operational flights now in support of 6th ARADCOM and 40th Artillery brigade. Also 6th Army Flight Detachment and Headquarters XV U.S. Army Corps (Reserve) use the Field....Sixteen military aircraft are authorized for Crissy. An additional eight civilian aircraft are based there (Civil Air Patrol and Presidio Army flying Club). There is a future requirement at Crissy for a 3000' runway.[300]

There is some evidence to suggest that the existing landing surface had been resurfaced in 1952, however, in 1958-60 a major upgrading of the airfield facilities took place.

In 1958 a steel and glass tower was transferred to the Presidio from Castle Air Force Base in Merced. Designated Building T-658, the 233-square-foot structure stood on a reinforced steel frame some 52 feet high and was placed just west of Building 640 where it was used for airfield flight traffic control. It remained until 1978.

Nearby, a temporary wood-frame structure, Building T-639, became the Operations Building of the Sixth Army Flight Detachment, which operated out of the airfield, now referred to as Crissy Army Airfield. Inside this building were a ready room and dispatch office, an emergency generator and a "Link trainer," a flight simulating machine. A sign in the ready room reminded pilots, "It is far, far better to be on the ground wishing you were in the air, than in the air wishing you were on the ground."[301]

An "Army Airfield Pavement Evaluation, Crissy Army Airfield, Presidio of San Francisco," written in March 1959 described the airfield facilities as consisting of:

> a flexible pavement runway 2500 feet long and about 50 feet wide, and flexible pavement parking areas on the east end and south side of the runway. A layout of the facilities is shown in plate 1. [reproduced on the facing page]
>
> Although detailed information pertaining to the construction of the field was not available....An asphaltic concrete pavement surface was placed over the existing surface treatment some time in 1952, and nothing has been done to the field since that time....
>
> However traffic records obtained from the Signal Corps indicated that approximately 2500 cycles[302] of rotary-wing aircraft and 6900 cycles of fixed-wing aircraft occurred during the period May 1957 to 30 December 1958. Due to the short length of runway and the restricted approach zones, the fixed-wing aircraft that use the field comprise only very light Army-type aircraft such as the L-19, L-20 and L-23....At the time of this survey the pavements were in good condition....[303]

In 1960, 3100 feet of runway, including extensions and aircraft parking areas were stripped, graded, and paved with a 2-inch thick bituminous concrete surface course over a 6-inch crushed aggregate base. Drainage

298 *Chronicle*, Dec. 3, 1948; Dec. 17, 1948; Jul. 1, 1949; and May 6, 1950.

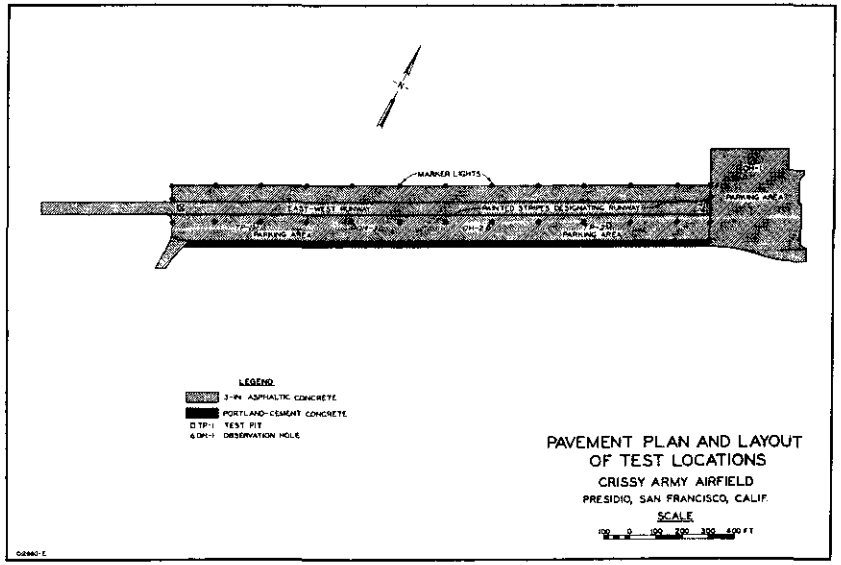
299 S.F. Planning commission luncheon of Feb. 21, 1957 cited by Erwin N. Thompson.

300 Directorate of Engineering and Housing (Hereinafter referred to as DEH) Master Planning File. File P-4 "Crissy Army Airfield, General." 1st Indorsement. Headquarters Sixth U.S. Army to Commanding Officer, Presidio of San Francisco. Aug. 25, 1959.

301 Pers. convs. with Edward W. "Wy" Spalding, former Lt. Col., USAR. Jul. 10, 1993.

302 A cycle, used in this sense, means one landing and one take-off.

303 Presidio of San Francisco, DEH Master Planning Files. File N-2. "Army Airfield Evaluation, Crissy Army Airfield, Presidio of San Francisco, California." March 1959.



The paved runway at Crissy Field in 1959. (U.S. Army, Presidio of San Francisco)

was improved. A number of "B-63 Type Barracks" and other "airfield obstructions" were demolished, including: S251, S252, S255, S258, S236, S265 and S269. Seventy-nine obstruction lights and eight runway lights were mounted around the airfield, and modern wiring installed where needed.

Finally, a 3900-foot long seawall of "Rock & Derrick Stone," was laid along the shoreline and 112,000 cubic yards of fill material went into its construction.[304]

A dramatic series of photographs, taken in June 1959, document an L-23 coming in for a landing at Crissy Field, and show just how near to the Area A buildings planes had to come on their final approach.[305]

But even after the airfield expansion, Crissy Field was still being condemned as unsafe for airplane operations in spite of the 1960 demolition of buildings 241, 242, 249, 250, 251, 252 "in the Letterman Area of Crissy."[306]

In 1957, the *Star Presidian* described the activities of the flying club at the Presidio.

> The Presidio Flying Club, organized only months ago, made giant strides towards enlarging operations this week by acquiring two L-17Bs from the Oregon National Guard....The Presidio Flying Club was organized in September for the purpose of stimulating an interest in aviation at the Presidio; providing authorized personnel with an opportunity to engage in flying as a recreational activity; and encouraging and developing skills in aeronautics, navigation, mechanics and related aero sciences.[307]

During the period from 1959 through 1964, the most common aircraft at Crissy Field were L-20/U-6 "Beaver", De Havilland U-1 "Otter" and L-23/U-8 Beech "Baron" fixed-wing aircraft, and the early models of the Bell UH-1D "Huey", Vertol H-21 "Flying Banana," and Sikorsky H-34 helicopters. By this time, fixed-wing aircraft took off into the wind, and grimly held their course straight ahead, instead of banking right over the Coast Guard Station, as had been done in the old days:

> We used to take off left of the trees at the top of the bluff, thread the gap where Lincoln Boulevard goes through, and roar over the heads of people driving to the Golden Gate Bridge, the wheels barely going over their heads.[308]

In April 1967, the Commanding Officer of the Presidio reported that:

304 DEH Master Planning File. File N-2. Commanding Officer, Presidio of San Francisco to Commanding General, Sixth US Army. Current Working Estimates for Budget Purposes. Dec. 8, 1959. There is photographic evidence that a certain amount of rubble was placed along the shoreline in the area of the wooden seawall by about 1936, perhaps considerably earlier. There has been no written evidence found, however, that indicates any deliberate, substantial seawall construction prior to the wooden seawall of the 1920s.

305 DEH Master Planning File. File N-2. Jun. 3, 1959.

306 National Archives—Pacific Sierra Region, San Bruno, California. RG112, Box 3. Col. James H. Mackin, Memo for the Record. Folder 207-01, Crissy Field, Letterman. Jul. 29, 1965.

307 *Star Presidian*, Nov. 8, 1957.

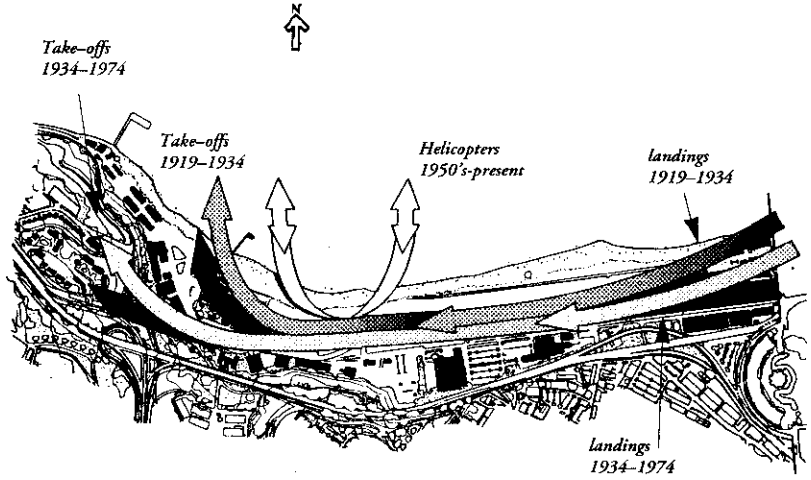
308 Pers. convs., Spalding.

> The safety of operation of twin-engine Army aircraft from Crissy Army Airfield has been my concern for quite some time. Only recently there have been two incidents where these aircraft failed to stop on the runway and engaged the barriers across the overruns with some damage to the aircraft. As a result of these incidents I have directed that twin-engine aircraft utilize Hamilton AFB instead of Crissy.[309]

More Area A buildings were suggested for removal, but "A request to TSG [The Surgeon General] for approval of disposal action of Bldg T-243 through T-250 does not appear advisable as long as the Vietnam action continues....the plan cannot be implemented because utilization of both the old and new hospitals is required as long as the Vietnam situation continues...LGH [Letterman General Hospital] has planned for sometime to replace their Crissy Field facilities by conversion of old hospital buildings..." Yet another war was having its impact on the Presidio. At Crissy Army Airfield, the commanding officer of the Sixth U.S. Army Flight Detachment was often a young officer rotating to stateside duty after a tour of duty in "Nam." Wounded soldiers arriving stateside at Travis Air Force Base were frequently shuttled to Letterman Hospital by Crissy Field aircraft.[310]

In 1970-1972, the Army explored future joint civil-military use of Crissy Field, including studies "to determine the desirability and feasibility of a regional transportation system of STOL facilities [short take-off and landing] linking San Francisco and the Bay Area with major Northern California urban centers," and the feasibility of "San Francisco Police Helicopter Joint Use" of the airfield.[311] In June of 1971, San Francisco police "won conditional Army approval to use Crissy Field in the Presidio to berth its aircraft...two new 'copters'"[312]

In 1972 the "Army Aviation Program" at Crissy Field was described in some detail. The field saw "between 25 and 50 aircraft activities daily."



Air traffic patterns at Crissy Field, as they changed over the years from 1919, when the former Exposition racetrack was used for the Transcontinental Endurance Test, to 1974 when the paved airfield was closed to all but helicopter flights.

It noted that the HQ, Sixth U.S. Army Flight Detachment and the Aviation Section, HQ, 13th Air Defense Artillery Group were the Regular Army units stationed at the airfield. The Reserves had the Air Sections of the 6211th U.S. Army Garrison, the 519th ASA Company, the 221st MP Brigade, and the 820th Engineer Bn, and the Aviation Section, 91st Division (TNG) and the Area Maintenance Support Activity (AMSA-27A) at Crissy Field.

Fixed Wing aircraft of all the above units authorized for the field consisted of six U-21A and two T-42; Rotary Wing aircraft consisted of thirteen UH-1H "Hueys" and four OH-58. Aircraft on hand consisted of one U-21A, two U-6, four U-8 and one T-41 fixed-wing types; and ten UH-1H and one OH-58 helicopters.

309 DEH Master Planning File. File N-2. Commanding Officer, Presidio of San Francisco to Colonel Connor. April, 1967.

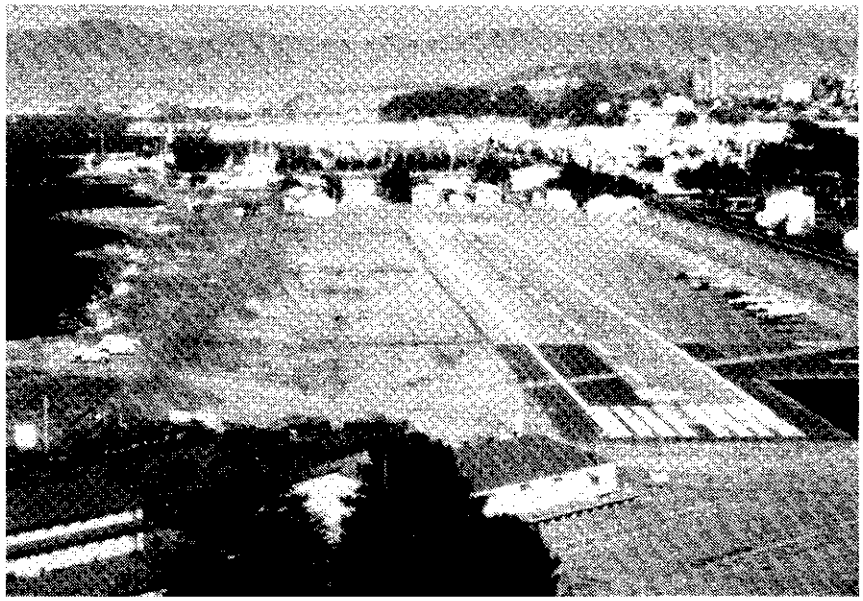
310 DEH Hallway File N-2. Commanding Officer, Presidio of San Francisco to Colonel Connor and Colonel Connor to Commanding Officer, Presidio of San Francisco. Apr. 18, 1967. Also pers. convs. with Spalding, and with Sgt. First Class Iva Young, U.S.A. (ret.) who was Operations Sergeant of the Sixth Army Flight Detachment from 1964-1968.

311 DEH Master Planning File. File N-2.

312 *Chronicle*, Jun. 3, 1971.

It was noted that:

> requirements are those which are based on keeping Regular Army and Reserve component aircraft maintenance and administration separate. Since these two Army organizations conduct their normal business at different times and notably different manners, it is preferable to continue their segregation. By this action, it will allow harmonious operations and result in more productive work accomplishment. This does not preclude joint use of common items such as runway, lighting, control tower, instrument training area, etc.



Crissy Army Airfield, ca. 1970. Note the aircraft parked along the flight line to the right. The helipad has not yet been built. (courtesy, Amy Meyer)

Finally it was pointed out that, in spite of any plans on the books to improve the runways or the overrun areas at either end, the airfield would "still be under the designation as a "Limited" type airfield due to land and other obstructions in approach-departure flight paths and because of the restricted lateral clearances from the center line of the runway," based on guidelines in Army technical manual TM 5–803–4.[313]

On October 20, 1972, the Office of the Chief of Engineers in Washington wrote to the Commanding General of the Continental Army Command that, "Crissy AAF in its present form and manner of operation would require so many waivers and alterations that it is recommended that all fixed-wing traffic be eliminated and the field be converted to a heliport."[314]

On February 7, 1974 the Commanding Officer of the Presidio received "Request that Crissy AAF be closed to Fixed Wing Traffic. Post Engineer to paint X indicating closed runway at each end. Recommend that Crissy remain as a helipad for use of VIP and MedEvac only. All other transient helicopters should be prohibited." On February 14, "Action was taken on the discontinuation of the fixed wing operations by closing Crissy Army Airfield, 2400 hours, 14 February 1974 and retaining an interim helipad area in a portion of the closed airfield area for rotary wing operations."[315]

The Golden Gate National Recreation Area having become a legal reality on October 27, 1972, public pressure increased to have the shoreline area of the Presidio open to the public. Within nine months, the Marin County Board of Supervisors "voted unanimously to endorse a proposal to restrict aircraft activity at Crissy Field in the Presidio to helicopter and emergency flights. The field, too, they said, should be opened to public recreational activity as part of the Golden Gate National Recreation Area."[316]

[313] DEH Master Planning File. File N-2. "Army Aviation Program" Sep. 8, 1972.

[314] DEH Master Planning File. File P-4. Department of the Army. Office of the Chief of Engineers to Commanding General, Continental Army Command. Oct. 20, 1972.

Although it is not believed that this proposal had any official cachet, the political consensus that it conveyed presaged the course of future management of the Crissy Field area. That portion of Crissy Field north of the center of the runway, which enclosed the remnant community of sand dunes and a fine stretch of beach, was irrevocably permitted to the new Golden Gate National Recreation Area. It was the first area of the Presidio to pass to day-to-day control of the National Park Service.

In 1971 and 1972, the Golden Gate Concours d'Elegance, a combined automobile and aircraft show, took place on the Presidio. Period aircraft landing and taking off from Crissy Field included a venerable Ford Trimotor and the high-powered North American P-51D "Mustang" and Grumman F8F-2 "Bearcat."[317]

In September 1973, the mayor of San Francisco, Joseph L. Alioto presented the Army with a donation of $25,000 from the Mayor's Youth Fund, "for the construction of a fence that will protect public use of the new beach north of Crissy Field in the Presidio...as a contribution to the recreational resources of San Francisco."[318] Reaction to the new management was not entirely optimistic:

> ...And has old Crissy Field down there in the Presidio finally had it? My info is that the Army turned it over to the Golden Gate Nat'l Rec Area last wkend, retaining only space enough for a helicopter pad. Just think, no more little World War I biplanes wing-waggling their way in for a landing, but as long as the 6 a.m. and 5 p.m. cannon keep barking, all's well in the quaint world of the Presidio.[319]

The American Freedom Train, "a roadshow of Americana and historical artifacts" connected with the celebration of the nation's bi-centennial briefly went on display at Crissy Field in December 1975 (although its steam locomotive, No. 4449, proved too large to pass through the tunnel beneath Fort Mason, and remained on exhibit at Aquatic Park). This may well have been the final use of the historic railroad tracks in the Presidio. The railroad line that had once been extended to the Quartermaster area along Mason Street for the first World War began to be torn up or paved over. At this writing, only a few hundred feet of track, and a larger segment of the old right-of-way is extant.

So far as is known, the last fixed-wing aircraft to land at Crissy Field was a light civilian aircraft that lost power over the Golden Gate Bridge on November 8, 1976, and was skillfully piloted in to a safe deadstick landing on the abandoned runway. "While making a deadstick landing approach...he spotted a bunch of youngsters performing wheelies on their bikes in the Center of Crissy field. He came in high so he would miss them...and rolled into the fence at the field's west end. Damage to the plane was minor."[320]

With the early Park Service philosophy at Crissy Field reflecting the establishment of Golden Gate as a recreation area, the reported activities at the beach responded to this theme. In May 1977, the park sponsored a kite-flying festival at Crissy Field. "'This is the Golden Gate National Recreation Area's first event for this beach area, to get the public interested in deciding how or if we should develop the place,' said Ranger Bob Kirby, explaining the hundred or so kites straining from the Bay toward the Presidio's red tile roofs."[321] The pilots of even a few years ago would not have approved. One remarked how high-flying kites from Marina Green park, at the old Marina field site, were a distraction and hazard when lining up for a landing approach at Crissy Field.[322]

In 1979 the San Francisco *Chronicle*'s 21st annual Fourth of July fireworks display found a new home at Crissy Field. Every year since, the *Chronicle*, the Presidio, and Golden Gate National Recreation Area have cooperated to stage this event which draws upwards of 75,000 people for the day-long festivities, music, and evening fireworks display. Similar large crowds throng the city's northern waterfront from the Golden Gate Bridge to Aquatic Park to see the Navy's precision flying team, the Blue Angels, roar over Crissy Field—an annual event since 1986.

315 DEH Master Planning File. File P-4. Chief, Aviation Support Branch, Hamilton Air Force Base to Commanding Officer, Presidio of San Francisco. Feb. 7, 1974, and Real Estate File 121. Office of the Facilities Engineer, Presidio of San Francisco to Chief, Federal Aviation Authority. Feb. 21, 1974.

316 *Chronicle*, Jul. 25, 1973.

317 "Schedule of Events," Golden Gate Concours d'Elegance. Aug. 13, 1972. I am grateful to aircraft historian William T. Larkins for supplying this information.

318 *Chronicle*, Sep. 11, 1973.

Charles A. Lindbergh, President Richard M. Nixon, and astronaut Frank Borman on the deck of the ferry Golden Gate, off Crissy Field on September 5, 1972. Alcatraz Island is faintly visible in the background. (San Francisco Chronicle)

In December 1988—the wheels of conservation having ground slowly, but steadily, in the meanwhile—the Advisory Commission of the Golden Gate National Recreation Area gave the public stamp of approval to a management plan for Crissy Field which emphasized the preservation of open space qualities and important ecological communities in the area permitted to the NPS.

The Base Closure and Realignment Act of 1989 set the clock in motion for the entire Presidio to pass into the hands of the National Park Service by 1995. The preparation of this report is a part of the Service's effort to see that the vital cultural resources of Crissy Field receive the level of attention and consideration that they deserve, when the entire Presidio is managed as a park in the near future.

* * *

Back in 1972, a series of proposals were before Congress, to create two large national recreation areas to preserve scenic natural, historic, and recreational values near the major urban areas of New York and San Francisco.

President Richard M. Nixon endorsed the proposal for a Golden Gate National Recreation area, "which complimented his administration's slogan 'parks to the people,' and on September 5, 1972 he underscored his support by visiting San Francisco to 'dedicate' GGNRA."[323]

> The President and Mrs. Nixon are scheduled to arrive at San Francisco International Airport at noon aboard the presidential jet, *The Spirit of '76.* After landing at the airport's Coast Guard station, they will transfer to a helicopter, which is due to set them down at Crissy Field in the Presidio at 12:25 p.m.
>
> A motorcade will take them to the dock area at Fort Point, where they are expected to arrive at 12:35 p.m. and board the ferry *Golden Gate* for a meeting with members of the President's 15-member Citizens Advisory Committee on Environmental Quality.
>
> Following the meeting, the ferry will take the party on a brief tour of the proposed National Recreation Area....
>
> The Nixons are slated to return to Crissy Field at about 1:30 p.m., meet briefly with the press, then take the helicopter back to the airport and reboard the presidential jet.[324]

The president "took a brief ferryboat ride on San Francisco Bay on a windy, sunny day, posed for pictures on the top deck with the Golden Gate Bridge in the background, and said with a grin, 'I'll never have a better backdrop.'"[325]

319 *Chronicle*, Herb Caen's column. Aug. 20, 1974.

320 *Chronicle*, Nov. 8, 1976.

321 *Chronicle*, May 9, 1977

322 Pers. convs., Spalding.

323 Toogood, *A Civil History*, vol. II, p. 220.

324 *Chronicle*, Sep. 5, 1972.

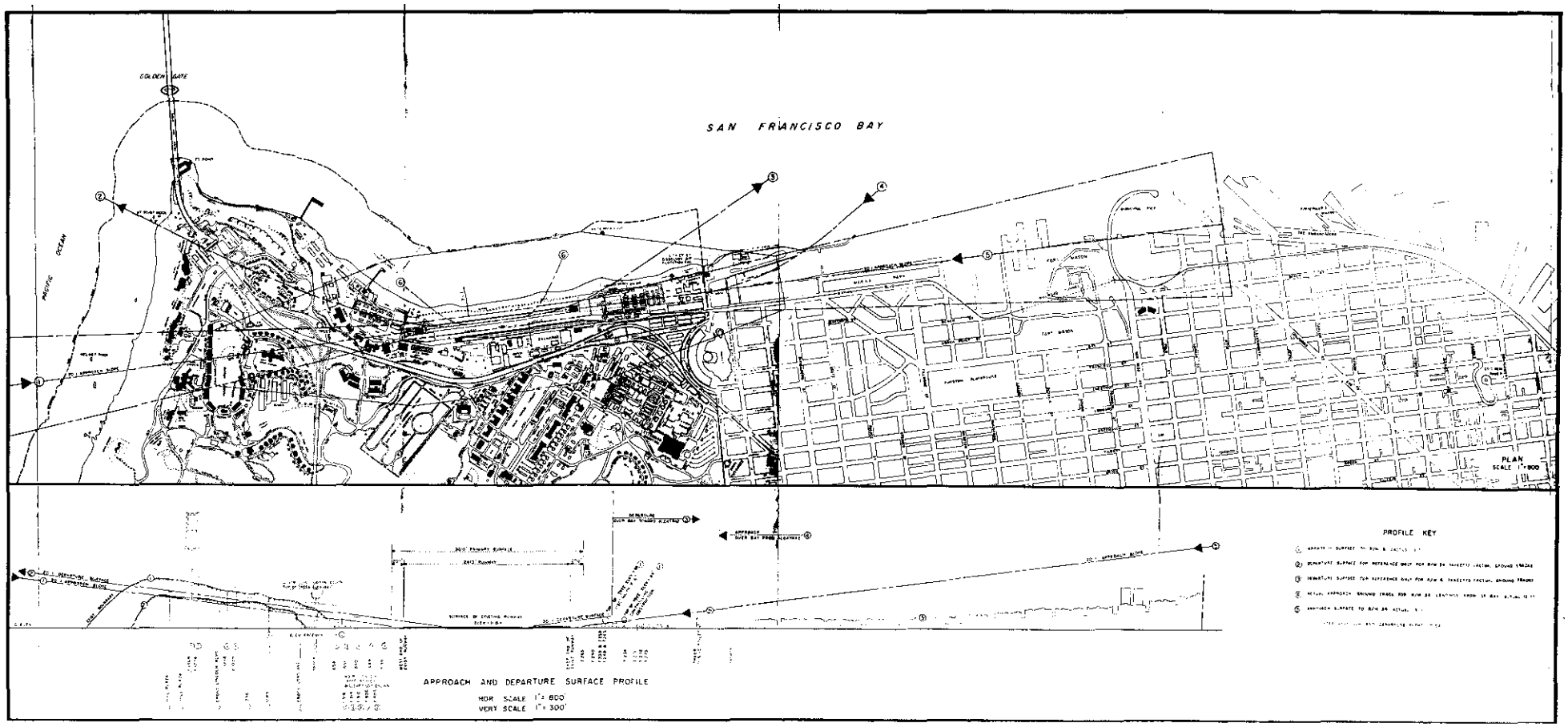
325 *Chronicle*, Sep. 6, 1972.

As he spoke, just off Crissy Field, he was photographed standing between two of aviation's greatest heroes. On one side of the president was astronaut Frank Borman, on the other was aviation pioneer Charles A. Lindbergh, neatly spanning much of twentieth century aviation history.

It was a crowning event at a crucial moment in establishing the Golden Gate National Recreation Area. And it spoke volumes about the importance of Crissy Field, while underscoring and enhancing its historic nature.

* * * * *

This 1972 diagram represents the flight patterns at Crissy Army Airfield in great detail. Note that take-offs for fixed-wing aircraft were made over old officers' row, while helicopters made a "U" shaped landing pattern over San Francisco Bay. (U.S. Army, Presidio of San Francisco)



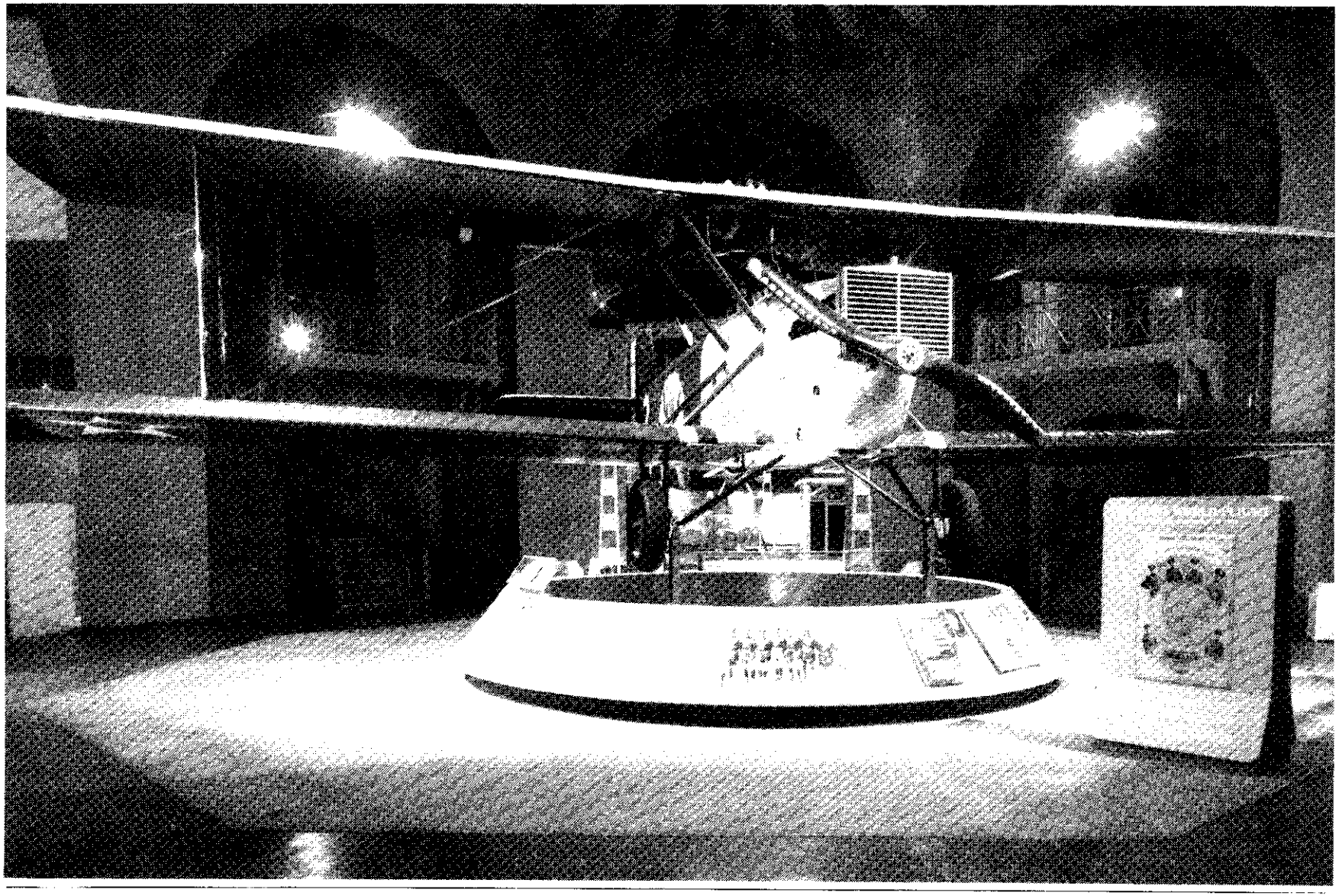
Significance and Integrity Assessment

Recommendations

Acknowledgements

Bibliography

Appendices



This Douglas World Cruiser christened "Chicago" landed at Crissy Field on September 25, 1924 at the end of the first Round-the-World flight. It is now on display at the National Air and Space Museum in Washington, DC. (National Air and Space Museum)

Assessment of Significance

Crissy Field is nationally significant because it is the first air coast defense station on the Pacific Coast and the only such airfield in the nation that remains essentially intact;[326] because it is the only Army air base in the western United States active on a continuous basis from 1919-1936; because of its association with important military officers such as Henry H. "Hap" Arnold, Carl A. "Tooey" Spaatz, George H. Brett, and Delos C. Emmons who played crucial roles in developing American air power in the inter-war years and helped lead the Army Air Forces in World War II; and because it was the site of numerous aviation "firsts" in the 1920s, an important period in history that has been called "aviation's adventuring years."[327]

In addition, Crissy Field is nationally significant because it is the site of the first class of the Military Intelligence Service Language School which, from November 1941 to May 1942, trained Japanese-American language specialists to perform classified translation, interrogation, and battlefield intelligence work throughout the Pacific and Southeast Asia theaters in World War II. Out of this beginning, grew the renowned Defense Language Institute, now located in Monterey, California.

Crissy Field is significant on a regional level because it is the only continually-operating army airfield in California during the 1920s; because it served to assist other government agencies such as the U.S. Forest Service, the U.S. Geological Survey, and the Smithsonian Institution in the management, mapping and aerial exploration of the Far West and its resources; and because it served as a regional center for training military Reserves and stimulated an interest in flying among civilians.

It is the only military airfield in California that retains the historic feeling and design of the early 1920s.[328]

Crissy Field is significant on a local level because it is the oldest extant airfield in the Bay Area, and was an early terminus for the delivery of the U.S. Air Mail to San Francisco.

Crissy Field is an important contributor to the National Historic Landmark status of the Presidio of San Francisco, and is expected to contribute substantially to yet a second National Historic Landmark when the Seacoast Fortifications of San Francisco Bay are nominated for landmark status. Crissy Field is significant under National Landmark criteria VIIf (Military Affairs Not Related to World War I or World War II, 1914-1941), VIIIb (War in the Pacific, 1941-1945) and XVIIIe (Technology-Military—Fortifications, Weapons, War Vehicles).

The period of significance is 1921-1936 for the area as a whole, and 1941-1942 for Building 640. The following Assessment of Integrity is based upon these periods of significance.

* * *

Assessment of Integrity

Crissy Field is blessed with a stunning setting, located on a historic military post, edging the Golden Gate, on the verge of a famous and important metropolitan area. It retains vivid associations to events and people crucial to early aviation, tangible evidence of functional design, and the authentic feeling of an early military airfield.

It is the only Air Service coast defense air station that retains integrity in the nation. It is the only military airfield in California that retains historic features of the 1920s. It is the oldest extant airfield in the Bay Area. It is the site of the first Military Intelligence Language School from 1941-1942.

An application of six qualities of integrity to the cultural landscape of Crissy Field follows. The emphasis is on integrity relating to the period of significance, 1921-1936.

326 Pers. convs. with Peter Bathurst, Cultural Resource Management Specialist, Gateway National Recreation Area, New York, Sep. 10, 1993.

327 Gwynn-Jones, *Farther and Faster*.

328 Pers. convs. with Lucinda Woodward, California State Historic Preservation Office, Sacramento, Sep. 7, 1993.

location

Crissy Field, the airbase and all its essential buildings and other features are in the same location as during the period of significance. No major structures have been moved from their original location, or moved out of their original configuration with one another.

The historic circulation patterns are extant in the right-of-way of Marine Drive, Crissy Field Road, and most of Mason Street which connect with the remainder of the post. The landing field is in the same location, although subtly reoriented over time as aircraft evolved: now extending further to the east, and oriented more towards the bluffs than when first used for aircraft, the extensive flat open field remains essentially intact.

Land use remains the same general mixture of light industrial and open space in the same general locations as during the period of significance. Airfield, motor pool, assembly and transportation, special events, shoreline, sand dunes have been relatively constant features at Crissy Field in some way or another since at least 1919.

design

Crissy Field is the only extant airfield in the United States designed by the Air Service as a coast defense air station. The purposeful adaptation of its overall design to site and mission requirement remains extant in the patterns of spatial organization: hangars and workshops functionally grouped along the airfield margins in the shelter of the bluffs, administration and barracks buildings continuing the row of buildings along the flight line.

The buildings remain true to their original design characteristics in the use of architectural styles appropriate to the location, in their placement relating to functional need or to military hierarchy, and in the general authenticity of existing facades. The clusters of buildings reflect original intent and their functional use during the period of significance.

setting

The setting of Crissy Field, bordered by the Bay and protected from encroachment by the uplands of the Presidio, has been impacted remarkably little since the period of significance.

The construction of Doyle Drive at the end of this period created a visual and audible barrier across the small valley that led upland to the cavalry stables and the rest of the Presidio. This barrier is more intangible than tangible, hidden by the bluffs for much of its length and passing overhead in an elevated viaduct that is laid over the historic scene but does not obliterate it. The area retains its functional and spatial connections to the upper part of the Presidio: Doyle Drive is a visible intrusion but not a physical barrier to the rest of the post.

Historic viewsheds remain over much of the area, from the bluffs to the west, and from the wide open Bay and beach up to the open field and post beyond. Most of the lands, buildings, and structures surrounding Crissy Field, and in its viewshed, are a part of a National Historic Landmark notable for the richness, significance, and beauty of its cultural landscape. The overall significance of the Presidio of San Francisco, even immediately outside the boundaries of Crissy Field proper, enhances the significance of the setting of Crissy Field.

The features making up the boundaries of Crissy Field, shoreline, line of bluffs, roadways, seawalls, field demarcations, all are extant, and largely in their historic relationship to one another.

The basic topography of the landscape has remained unchanged since the period of significance; the crucial relationship between the airfield and the windy, foggy weather is unaltered.

materials

The buildings and structures at Crissy Field retain integrity of materials, with a few minor exceptions that do not compromise their overall integrity as features contributing to the landscape.

The airfield was a grassy field during the period of significance. There is probably more landing field and runway area in open space condition now than during the period of significance, but the materials have changed. In other words, much but certainly not all of the grassy landing field has since been paved.

The major unpaved circulation route, Marine Drive, remains unpaved. The southern margin of the airfield was paved in concrete during the period of significance and is presently paved with asphalt.

Remnants of the natural plant communities of the area exist around the margins of the airfield, as they did during the period of significance.

workmanship

The nature of military construction is reflected in the straightforward, but substantial, quality of workmanship in the permanent airfield structures, in particular the officers' quarters, administration building, guardhouse, and barracks. It is also reflected in the utilitarian level of workmanship in the hangars, workshops and World War II barracks.

feeling

The feeling at Crissy Field is enhanced by the cumulative effect of the original location, historic flavor of the setting, authenticity of material and workmanship, and integrity of design. The dramatic location is at once scenic and historic, and it has profound potential to evoke a sense of time past and man's relationship with nature.

At present, the important features at Crissy Field that most contribute to the airfield's particular character, look and remain well preserved. The landing field remains primarily level open space, partially paved with runways and roadways, partially unpaved. The World War II barracks intrude on, but have not irreversibly compromised the historic scene. The hangars and workshops, the barracks and headquarters along the flight line, and the officers' quarters uphill all retain much of the feeling they had when the airfield was in operation. The open expanse swept by foggy sea breezes has the feeling that a daring aviator of seventy years ago would recognize. An essentially complete Army airfield from the early 1920s still remains at Crissy Field. It is the only one of its type in the nation.

association

Crissy Field is directly linked, by a rich history and relatively little change over time, to epoch-making events which occurred there, and to important people in early civil and military aviation who made their contributions there. Nothing has occurred since the period of significance to impair this association in any way.

On the contrary, the continued Army use of the airfield, the 1972 visit of President Nixon to the site to lobby for a national park with Charles A. Lindbergh and Frank Borman in tow, and the continuing use of the northern waterfront for aviation spectacles like the Blue Angels, all strengthen Crissy Field's connection with important events and people of the past.

The hangars that housed the aircraft, the homes and workplaces of influential officers, and the landing field are all associated with the events and people summarized in "Historic Context" and discussed at length in the *Site History* section. One of the aircraft that participated in the Round-the-World Flight is on display at the National Air and Space Museum in Washington, D.C.

Air Service Officers in the Administration Building, 1923. (National Archives)

General Recommendations

As proposed in the draft *General Management Plan Amendment, Presidio of San Francisco*, the overall treatment of the Crissy Field area, from the commissary (inclusive) to the west, should be rehabilitation of the historic airfield to the era of the late 1920s. This will allow for the re-establishment of the character and feel of the historic airfield yet still accommodate new uses and activities. Within this overall treatment approach, there are certain recommendations for other treatments when warranted.

Interpretation and Education

It is hoped that a heightened awareness of the historic values of Crissy Field, by the Service, its partners, and the public, will be one of the outgrowths of this report. Many of the treatment recommendations which follow are motivated, in part, by the goal of improving the interpretation of Crissy Field to the public.

It is suggested that the Park Service continue to expand the educational opportunities available to the public at Crissy Field through expanded guided walks, slide shows, wayside exhibits, and other interpretive media. Published interpretive materials about Crissy Field should be made widely available, ranging from a brief site bulletin to a complete operational and physical history of the airfield.

Landing Field

In an attempt to represent the airfield's appearance during the period of greatest historical significance, the landing field should be restored to its historic configuration—which extended approximately 3,050 feet east from the location of the seaplane ramp, to a point opposite the present commissary building, and filled the space between the Golden Gate Promenade (formerly Marine Drive) and old Mason Street. Pavement should be removed (with the exception of the helipad and the paved apron that ran in front of the airfield buildings), and the field seeded with grass to achieve the semblance of the original level, grassy open field. A level, grassy open field is the intent, not a finely-manicured lawn. This treatment will also allow for much needed overflow parking and gatherings. [329]

Retain the long horizontal viewsheds, open space, and low vegetation characteristic of the project area. Remove forty-seven palm trees planted in two rows along Mason Street, as they are non-historic and do not contribute to the period of significance.

Some non-historic but important service facilities are located on the field, including fire hydrants and drinking fountains. These items may be important to potential users and should be moved to a more appropriate location, or modified in a way, that does not impact the historic airfield.

Vegetation and Natural Resources Interface

Reconstruction of the original wetlands and sand dunes in the area outside the historic landing field as delineated above is not considered to negatively impact significant historic values.

If it becomes necessary to capture the fresh-water runoff seeping from the bluffs above the western end of the airfield in order to maximize fresh-water inflow when recreating the wetlands on the eastern end of the project area, it is suggested that this water be directed to the recreated wetland by the reconstruction and redirection of existing underground culverts. For efficiency's sake, these culverts should be emplaced after the paving is removed from the western end of the airfield, and before the historic landing field is regraded and seeded to grass.

During the 1921-1936 period of significance, vegetation on the bluffs above the airfield consisted of coastal scrub and serpentine grasslands. Management strategies that rehabilitate these communities would be compatible with historic values.

[329] It is important to realize that recreating the airfield in its historic 1919-1934 location will not allow for official certification of Crissy Field for fixed-wing aerial operations. It is not so much a question of airfield length, as airfield location. Federal Aviation Administration guidelines insist upon twenty feet of horizontal clearance for every one foot of vertical obstacle in the approach and departure slope. Meeting this criterion would require placing the west edge of the airfield nearly opposite the commissary--a situation that adversely impacts both cultural resource preservation and natural resource restoration in the entire northern Presidio shoreline.

Formal landscaping existed during the 1921-36 period of significance in the areas immediately around buildings 650, 651, 654 and 920. It is suggested that further cultural landscape analysis determine the suitability of rehabilitation of the historic landscaping in these areas.

Buildings and Structures

In order to preserve the significant qualities of the Crissy Field historic buildings and the enhance the visitor's experience of the historic airfield, buildings should be rehabilitated in a manner consistent with the guidelines set forth in the *Secretary of the Interior's Standards for Rehabilitation.*

Many resources, besides this history study, are available to help heighten the awareness of designers, planners and tenants to the historically significant features of Presidio buildings, and to offer guidance in making rehabilitation decisions. The Presidio *Physical History Report* provides information on buildings' interior and exterior character-defining features, and the *Illustrated Guidelines for Rehabilitating Buildings at the Presidio of San Francisco* provides guidance on how best to rehabilitate these features.

Rehabilitation of the buildings' interiors should remain sensitive to extant historic fabric, while allowing some flexibility in accommodating new uses, including interpretive and educational uses. Interpretive and educational uses are particularly suitable for buildings 926, 651, and 640.

As recommended in the Presidio *General Management Plan Amendment*, Crissy Field will be managed to enhance the setting for history and recreation, while rehabilitating and preserving important historic resources and natural systems. Some possible future projects could include: restoration of one of the original aircraft hangars to its 1920s appearance; restoring the barracks/classroom area of building 640 to interpret the history of the Fourth Army Intelligence School; restoration of an Air Service office in building 651; restoration of the words CRISSY FIELD to the roof of building 643; and removal of building 924 to authentically represent the hangar area as it existed in the 1920s[330].

Removal of the World War II era cantonment complex of Area B from the western portion of the historic landing field is justified because the buildings do not date from the airfield's period of significance. As mitigation for the removal of these buildings, which contribute to the Presidio NHL, it is recommended that two day rooms, one 170-man mess hall and one storehouse from this complex be used to complete the restoration of the World War II cantonment at Fort Cronkhite.

The commissary lies far enough outside the area of highest historic significance to not be considered an intrusion on the historic scene. On the contrary, its future retention as a museum would allow it to function as a visitor's gateway to, and a natural dividing line between, the historic scene to its west and the natural scene to its east.

Research and Recordation

NPS policy requires that the buildings in the Area A and Area B World War II cantonments be documented to HABS level 1 standard prior to their removal, since they contribute to the Presidio NHL.

Further attempts to identify the exact location of "Hap" Arnold's office in the administration building are recommended. It is also recommended that the concrete target range structure against the bluffs north of Building 640, the wooden pole for communications equipment on the bluffs directly above, and the remnants of the 1920s wooden seawall in the area just south of Marine Drive be added to the List of Classified Structures and to the Presidio NHL update.

Circulation Patterns, Archeology, and Small-scale Features

It is recommended that the historic circulation routes in the Crissy Field area be retained in future site design. The most historically significant of

[330] Building 924 is, however, fairly compatable in design with nearby Crissy Field buildings, so that its retention for other programmatic reasons would not be a major intrusion on the historic scene.

these are old Mason Street, Crissy Field Road, Marine Drive, and the remnants of the railroad tracks, switches and rail roadbed parallel to Mason Street between the Lyon Street gate and the commissary.

Non-historic chain-link fencing intrudes on the historic scene and on visitor use throughout the area. Historic maps show that the 1920s airfield was not fenced off from the remainder of the Presidio. It is suggested that such fencing be removed, in particular on the areas in the middle of the runway, between the runway and the portion of the shoreline now permitted to the park, in front of the landplane and seaplane hangars, and around the motor pool area.

When removing buildings in the DPW area, take special care to identify and document any foundations of the Oregon Pavilion which may have remained in the area after the exposition was demolished.

The entire upland margin of the former wetlands area has high potential for archeology, especially near the commissary building, and needs to be monitored accordingly during ground disturbing activities.

U.S. Coast Guard Station

— The U.S. Coast Guard Station is technically outside the area of this report, but four summary recommendations are felt to be in order because of the impact the Coast Guard Station has on Crissy Field proper. These are: removal of the hovercraft hangar; rehabilitation of the landscaping, in particular trimming the evergreen hedge; repainting the officer-in-charge quarters in the proper colors; and the production of a Historic Structures Report and a Cultural Landscape Report for the area to guide overall management of the area.

* * *

Acknowledgements

First, I must thank Erwin N. "T" Thompson, who perceived the significance of Crissy Field and defined the basic historic district as far back as 1979. He is a great gentleman, and a "walking bibliography," who has always been most generous in sharing his knowledge. In particular I must thank "T" for starting me out on the right track and for sharing his copious research notes gleaned from numerous trips to the National Archives.

Nick Weeks, along with Doug Nadeau, first conceived of the idea of a study and my role in it. Nick was crucial in developing information for the maps, and helped throughout with his perspective and experience with cultural landscape issues.

Doug Nadeau supported me from the beginning, encouraged me, kept me on track when I needed it, and gave me the time for the project.

Gordon Chappell provided numerous source materials and photographs, and much constructive criticism. His extensive knowledge of Presidio history, and American military history in general, helped supply the context for this report.

Ric Borjes came through when I most needed him.

Tom Mulhern backed up the project throughout.

Don Neubacher and Carey Feierabend inspired and motivated me with the fierce enthusiasm that rubs off from the planners, and had the brainchild to print a Crissy Field summary document for the public involvement process.

My good fortune in attending a servicewide workshop on "Documenting and Managing Rural Historic Landscapes" while I was preparing this report was astounding. The people I networked with during that week are doubtless more influential to this project than they realize.

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Milton B. Halsey, Jr. was instrumental in providing the generous support of the Fort Point and Presidio Historical Association to purchase microfilm of the *Air Service News Letter*. This turned out to be one of the most useful sources of information for my report, as well as superb source of further information on Crissy Field and other Bay Area military posts. He also provided much of the biographical information on the commanding officers of Crissy Field. The interest Colonel Halsey has shown in this work, and his advice and assistance is greatly appreciated.

There is also Air Force historian Maurer Maurer. Although I never met him, the annotated bibliography in his *Aviation in the U.S. Army, 1919-1939* was so helpful, that I feel he has been involved in the project since the beginning.

Park Rangers Rich Weideman and Brett Bankie have been enthusiastic supporters of the project and seem to absorb material about Crissy Field like sponges. Brett has been a lively supporter of Crissy Field for years. Material and contacts they supplied have very helpful and their interest in the Crissy Field story is gratifying.

Edward Wyman Spalding provided rare first hand insight into airfield operations.

David Hull of the San Francisco Maritime National Historical Park provided me with useful advice, and most importantly a contact with Richard Geiger. The afternoon I spent with Geiger, librarian for the *San Francisco Chronicle,* was one of the most fruitful of the entire project.

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Michael Boland and Jon Plutte of the Golden Gate National Park Association were crucial to the production of this document and appreciated its value to our shared purpose.

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* * *

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* * *

Maj. George H. Brett

Oct. 1921-1924

Brett, a graduate of Virginia Military Institute, joined the Aviation Section of the Signal Corps in 1916. He rose to be an Assistant Chief of the Air Corps from Feb. 1939 to Oct. 1940. He went to London in Aug. 1941 to coordinate air power issues with the Royal Air Force. In early 1942, Brett became Deputy Commander of the ill-fated ABDA (American British Dutch Australian) Command and then MacArthur's air commander in the Southwest Pacific. He was not able to get along with MacArthur and was relieved by Arnold in July 1942.

Maj. Delos C. Emmons

Aug. 6, 1924-1928

Emmons, a graduate of the U.S. Military Academy, joined the Aviation Section of the Signal Corps in 1917. In 1928, he became Executive Officer to the Assistant Secretary of War. He held the post of Commanding General, General Headquarters, Air Force from Mar. 1939 to Jun. 1941. In December 1941, in the wake of the Pearl Harbor disaster, he was relieved from duty at San Francisco, and rushed out to take command of the Hawaiian Department. In 1943, he replaced General DeWitt as Commanding General, Western Defense Command, with headquarters at the Presidio. In 1944 he became Commanding General of the Alaskan Department, and held the post of Commandant, Armed Forces Staff College prior to his retirement in 1948.

Maj. Gerald C. Brant

1928-

Brant was a graduate of the U.S. Military Academy who joined the Air Service in 1920. He became a Lieutenant Colonel, and Air Corps Officer for the Ninth Corps Area upon leaving the command of Crissy Field, and a Wing Commander of the Hawaiian Department from 1930-1934. He was the Commandant, Air Force Schools from 1939-1940, the Commanding General, Newfoundland Base from 1941-1943, and the Commanding General, Training Command from 1943-1944.

Maj. Lawrence W. McIntosh

Jul. 31. 1931-

McIntosh attended the U.S. Military Academy, and transferred to the Air Service in 1920. He was put on the disabled list in 1934, but returned to duty during World War II as the Inspector General, Headquarters, Army Air Forces Training Command. He retired as a colonel in 1944.

Maj. Michael F. Davis

1932-

Davis was a graduate of the U.S. Military Academy. His career included service with the Punitive Expedition to Mexico, the American Expeditionary Force in World War I. He joined the Aviation Section of the Signal Corps in 1917. He was the Deputy Commanding General of the 10th and 12th Air Forces from 1947-1950, and retired in 1950 with the rank of brigadier general.

Maj. Donald P. Muse

1933-1935

Muse was originally an infantry officer with the Arkansas National Guard. He joined the Air Service in 1918.

Maj. Floyd E. Galloway

1936-

Galloway transferred to the Air Service from the infantry in 1922.

Appendix B—Types of Aircraft Reported at Crissy Field, 1919-1974.

Fall 1919: the first mention of airplane types in official correspondence ("De Havillands").

Oct. 8, 1919: Maj. Dana H. Crissy takes off from the Presidio in a De Havilland on his ill-fated flight.

May 1920: a Spad-VII and a Fokker D-VII were sent to Crissy Field.

Nov. 1920: five De Havilland DH-4Bs.

August 1921: 24th Balloon Co. completed Citizens Military Training Camp at Crissy Field (if is not known if any of the balloons were actually used at Crissy Field).

Sep. 1922: one Fokker CO-4, two-seater corps observation plane (visiting, not stationed here).

Sep. 1922: one dirigible *C-2* (visiting, not stationed here).

Jan. 1922: five Curtiss JNS-1 "Jenny" training planes.

Jun. 1924: Lt. Russell L. Maughan flies one Curtiss PW-8 pursuit plane to Crissy Field (Dawn-to-Dusk Flight)

Sep. 1924: Lt. Lowell H. Smith leads three Douglas DWC World Cruisers into Crissy Field (Round the World Flight).

Aug. 1925: two Naval Aircraft Factory PN9 and one Boeing PB1 Navy seaplanes (staging for Hawaii Flight).

1925: De Havilland DH-4s remain the basic model in service at Crissy Field until mid-year.

Prior to Jun. 30, 1925: seven Douglas O-2s replace an equal number of De Havilland DH-4Bs.

Fiscal year 1926: Douglas O-2 and O-2A observation planes; a De Havilland DH-4M-2P photographic plane, a Loening COA-1 amphibian, and obsolete or obsolescent De Havilland DH-4 and five Curtiss JNS-1 "Jennies."

May 1927: photographs show a Ryan M-1 mail plane at Crissy Field.

Summer 1927: one Fokker C-2 transport (staged at Crissy Field before flight to Hawaii), five O-2s and five JNS-1s.

Fiscal year 1928: Douglas O-2A and O-2C observation planes, De Havilland DH-4M-2T and DH-4M-2P models for photography, a Consolidated PT-1 pursuit plane, a Douglas C-1C transport, and one Loening OA-1C amphibian.

Apr. 1930: five Douglas O-2H observation planes stationed at Crissy Field, one Douglas O-32 observation plane (visiting on maneuvers).

December 1930: thirteen Douglas O-25 observation planes, as well as one Douglas C-1 cargo plane, six Fokker C-7 transports and an additional three-engine transport, probably a Fokker Y1C-14. A more modern Sikorsky C-6 amphibian replaced the veteran Loening model.

Dec. 1933: officially allotted to Crissy Field, one Fokker C-14 and one C-25 transport; one Fairchild F-1 photographic plane; three Thomas-Morse O-19B, twelve Douglas O-25C, two Douglas O-35 observation planes; and two BT-2 and one Consolidated PT-3 trainers.

Mar. 1935: "Crissy Field turned out its entire compliment of airplanes," one Curtiss A-3 attack plane, one BT trainer, one Douglas OA-4 seaplane and two Douglas O-25C observation planes.

Sep. 1947: photographs show one Aeronca L-16A and two Vultee (Stinson) L-5.

Nov. 1957: "The Presidio Flying Club, organized only months ago, made giant strides towards enlarging operations this week by acquiring two [North American] L-17Bs from the Oregon National Guard."

Mar. 1959: "the fixed-wing aircraft that use the field comprise only very light Army-type aircraft such as the [Cessna] L-19, L-20 and [Beech] L-23."

First class of the Military Intelligence Service Language School

Presidio of San Francisco, Nov. 1941 to Apr. 1942

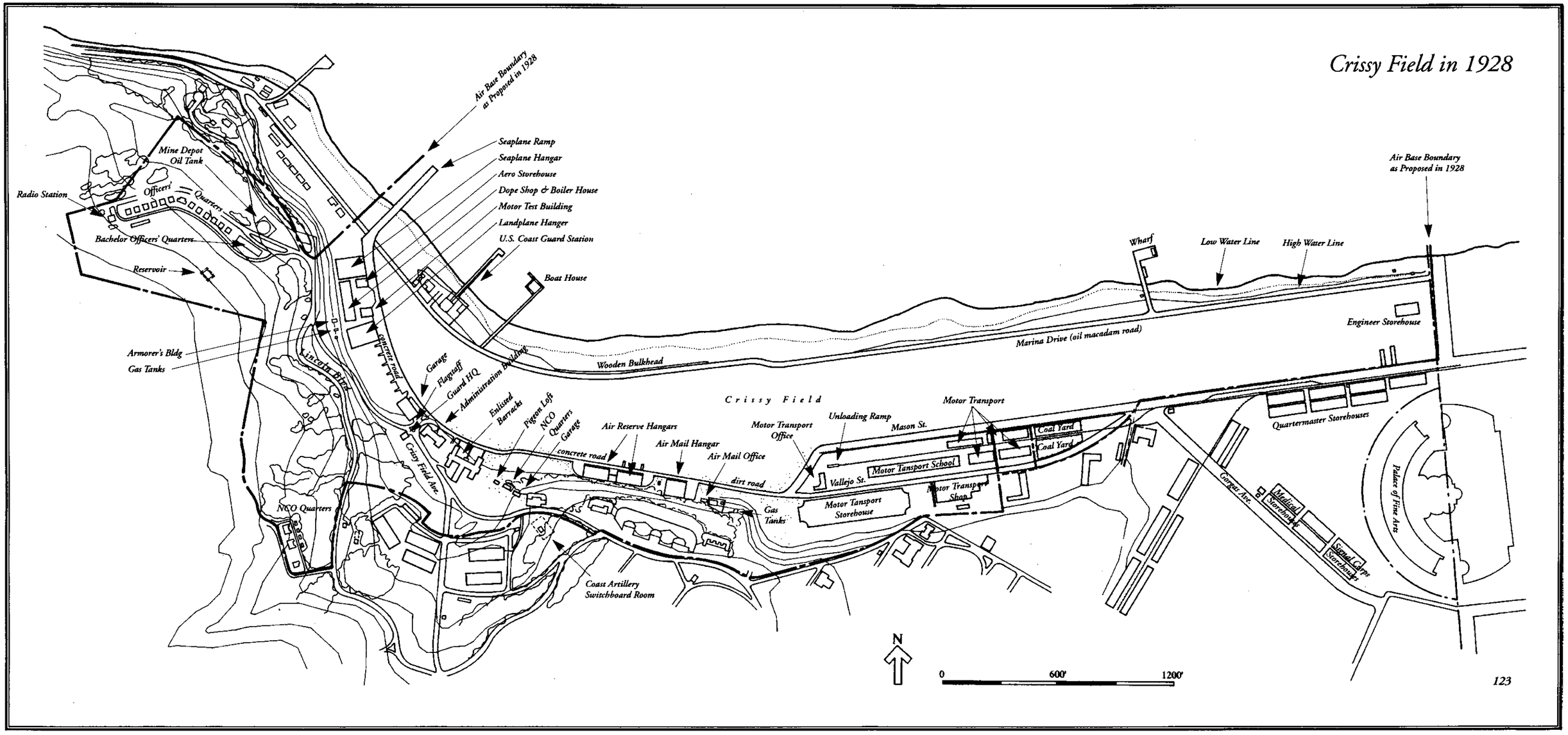
Ariyasu, M.	Masuda, J.	Ohashi, J.
Burden, J.	Matsumoto, M.	Oyama, H.
Fujimura, J.	Kuyama, P.	Sakamoto, K.
Hirashima, W.	Matsumura, J.	Sakamoto, T.
Hotta, Y.	Mayeda, M.	Shinoda, R.
Kadani, T.	Minamoto, M.	Sugimoto, S.
Kaneko, M.	Miyaoi, Y.	Suyehiro, H.
Kato, D.	Miyasaki, T.	Swift, E.
Kawaguchi, K.	Nagata, M.	Taketa, G.
Kawashiri, I.	Nishida, I.	Tanizawa, J.
Kozaki, K.	Nashita, M.	Tsuyuki, H.
Kubo, T.	Nishikawa, W.	Uratsu, M
Kusuda, I.	Nishitsui, F.	Yamamoto, S.
Kuyama, P.	Noritake, T.	Yamashita, S.

Nisei soldiers at their lessons in Building 640, Crissy Field. (National Japanese American Historical Society)

1959-1964: the most common aircraft at Crissy Field were [Beech] L-20/U-6 "Beaver," De Havilland "Otter" and [Beech] L-23/U-8 "Baron" fixed-wing aircraft, and the early models of the Bell UH-1D "Huey" and Vertol H-21 "Flying Banana" helicopters.

1972: Fixed Wing aircraft of all the above units authorized for the field consisted of six Vertol U-21A and two T-42; Rotary Wing aircraft consisted of thirteen Bell UH-1H "Hueys" and four OH-58. Aircraft actually on hand consisted of one Vertol U-21A, two Beech U-6, four Beech U-8 and one T-41 fixed-wing types; and ten Bell UH-1H and one OH-58 helicopters.

A Vertol H-21 helicopter, the kind called "old shakey" or "the flying banana." (courtesy of Iva Young)


Crissy Field in 1928
Air Base Boundary as Proposed in 1928
Seaplane Ramp
Seaplane Hangar
Aero Storehouse
Dope Shop & Boiler House
Motor Test Building
Landplane Hanger
U.S. Coast Guard Station
Boat House
Mine Depot Oil Tank
Radio Station
Officers' Quarters
Bachelor Officers' Quarters
Reservoir
Armorer's Bldg
Gas Tanks
Lincoln Blvd
concrete road
Garage
Flagstaff
Guard HQ
Administration Building
Enlisted Barracks
Pigeon Loft
NCO Quarters
Garage
Crissy Field Ave
NCO Quarters
Air Reserve Hangars
Air Mail Hangar
Air Mail Office
concrete road
dirt road
Gas Tanks
Coast Artillery Switchboard Room
Crissy Field
Wooden Bulkhead
Wharf
Low Water Line
High Water Line
Marina Drive (oil macadam road)
Air Base Boundary as Proposed in 1928
Engineer Storehouse
Motor Transport Office
Unloading Ramp
Motor Transport
Mason St.
Coal Yard
Coal Yard
Motor Tansport School
Vallejo St.
Motor Transport Shop
Motor Tansport Storehouse
Quartermaster Storehouses
Gorgas Ave
Medical Storehouse
Signal Corps Storehouse
Palace of Fine Arts
N
0
600'
1200'

CRISSY FIELD, 1994

Key to Building Numbers

Bold face type indicates buildings/structures associated with Crissy Field, 1921-1936, that contribute to the National Historic Landmark for the Presidio of San Francisco.

Italic type indicates other buildings/structures that contribute to the National Historic Landmark.

Regular type indicates buildings/structures that do not contribute to the National Historic Landmark.

no # seaplane ramp

no # target range (not listed in NHL)

206 exchange service station

207 compressor building

249 corridor unit

250 corridor unit

267 wash rack shed

268 heavy equipment shed

269 entomology building

274 WWII temporary (Area A)

275 WWII temporary (Area A)

277 WWII temporary (Area A)

278 heating plant/garage

280 engineering administration

282 shop

283 office

284 electric shop

285 paint and sign shop

286 storage shed

287 insect/rodent control building

288 carpenter shop

289 transformer vault

290 shop

292-8 flammable material storage sheds

603 commissary/photo lab

605 post exchange

606 post exchange

610 commissary

616 transformer vault

631 ammunition magazine

632 ammunition magazine

633 ammunition magazine

634 motor pool warehouse

635 Battery Blaney

636 Battery Sherwood

639 fire station/flight detachment operations

640 air mail hangar/language school

641 latrine/office

642 generator platform

643 reserve hangar

644 motor pool

645 pump house

646 radio shelter/navigation aids

no # communications equipment pole

649 reserve building (Harmon Hall)

650 enlisted barracks

651 administration building/Crissy Field HQ

652 transformer vault

654 guardhouse

656 loading ramp

675 terminal equipment hut

901 WWII warehouse (Area B)

902 WWII barracks (Area B)

903 WWII barracks (Area B)

904 WWII dayroom (Area B)

905 WWII barracks (Area B)

906 WWII barracks (Area B)

907 WWII dayroom (Area B)

908 WWII dayroom (Area B)

909 WWII barracks (Area B)

910 WWII barracks (Area B)

911 WWII storehouse (Area B)

912 WWII post exchange (Area B)

913 WWII barracks (Area B)

914 WWII barracks (Area B)

915 WWII messhall (Area B)

916 WWII dayroom (Area B)

917 WWII barracks (Area B)

918 WWII barracks (Area B)

919 WWII dayroom (Area B)

920 garage

922 transformer vault

923 transformer vault

924 engineer field maintenance building

926 landplane hangar

929 gas pump house

930 steam rack building

931 armorer's building

933 workshop/dope shed/boiler house

934 motor test building

935 aero storehouse

936 transformer vault

937 seaplane hangar

940 sewage ejector building

942 transformer vault

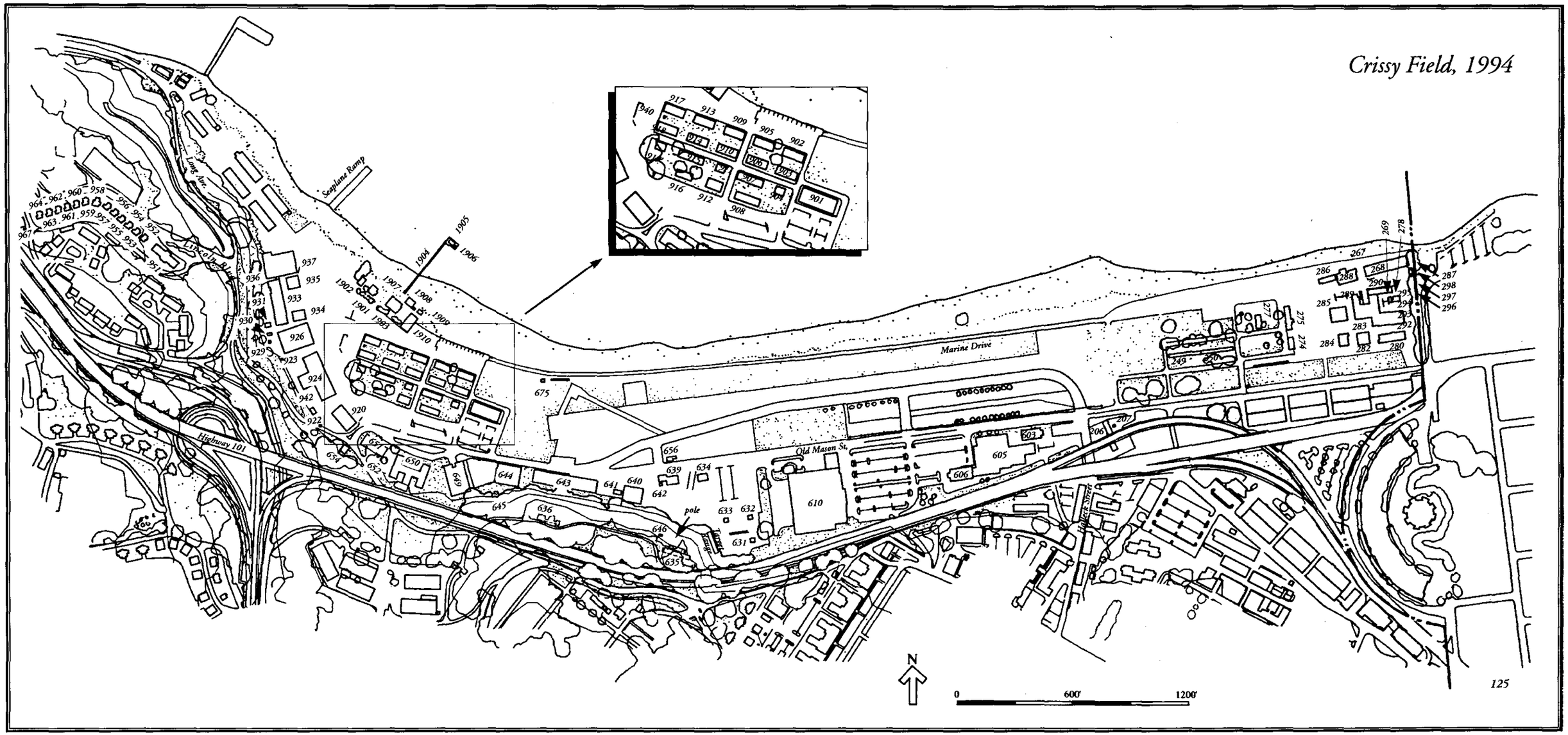
951 bachelor officers' quarters

952 pilot's housing

953 pilot's housing

954 pilot's housing

955 pilot's housing


Crissy Field, 1994
Marine Drive
Seaplane Ramp
Lincoln Blvd.
Long Ave.
Highway 101
Old Mason St.
Lincoln Street
pole
N
0
600'
1200'
125

CRISSY FIELD SHOWING ALL RECOMMENDATIONS CARRIED OUT

Key to Building Numbers

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Regular type indicates buildings/structures that do not contribute to the National Historic Landmark.

no # seaplane ramp

no # target range (not listed in NHL)

603 commissary/photo lab

610 commissary

631 ammunition magazine

632 ammunition magazine

633 ammunition magazine

635 Battery Blaney

636 Battery Sherwood

640 air mail hangar/language school

641 latrine/office

643 reserve hangar

646 radio shelter/navigation aids

no # communications equipment pole

650 enlisted barracks

651 administration building/Crissy Field HQ

652 transformer vault

654 guardhouse

920 garage

922 transformer vault

923 transformer vault

926 landplane hangar

929 gas pump house

931 armorer's building

933 workshop/dope shed/boiler house

934 motor test building

935 aero storehouse

936 transformer vault

937 seaplane hangar

951 bachelor officers' quarters

952 pilot's housing

953 pilot's housing

954 pilot's housing

955 pilot's housing

956 pilot's housing

957 pilot's housing

958 pilot's housing

959 pilot's housing

960 pilot's housing

961 pilot's housing

962 pilot's housing

963 pilot's housing

964 pilot's housing

967 film vault

1901 officer-in-charge quarters (USCG)

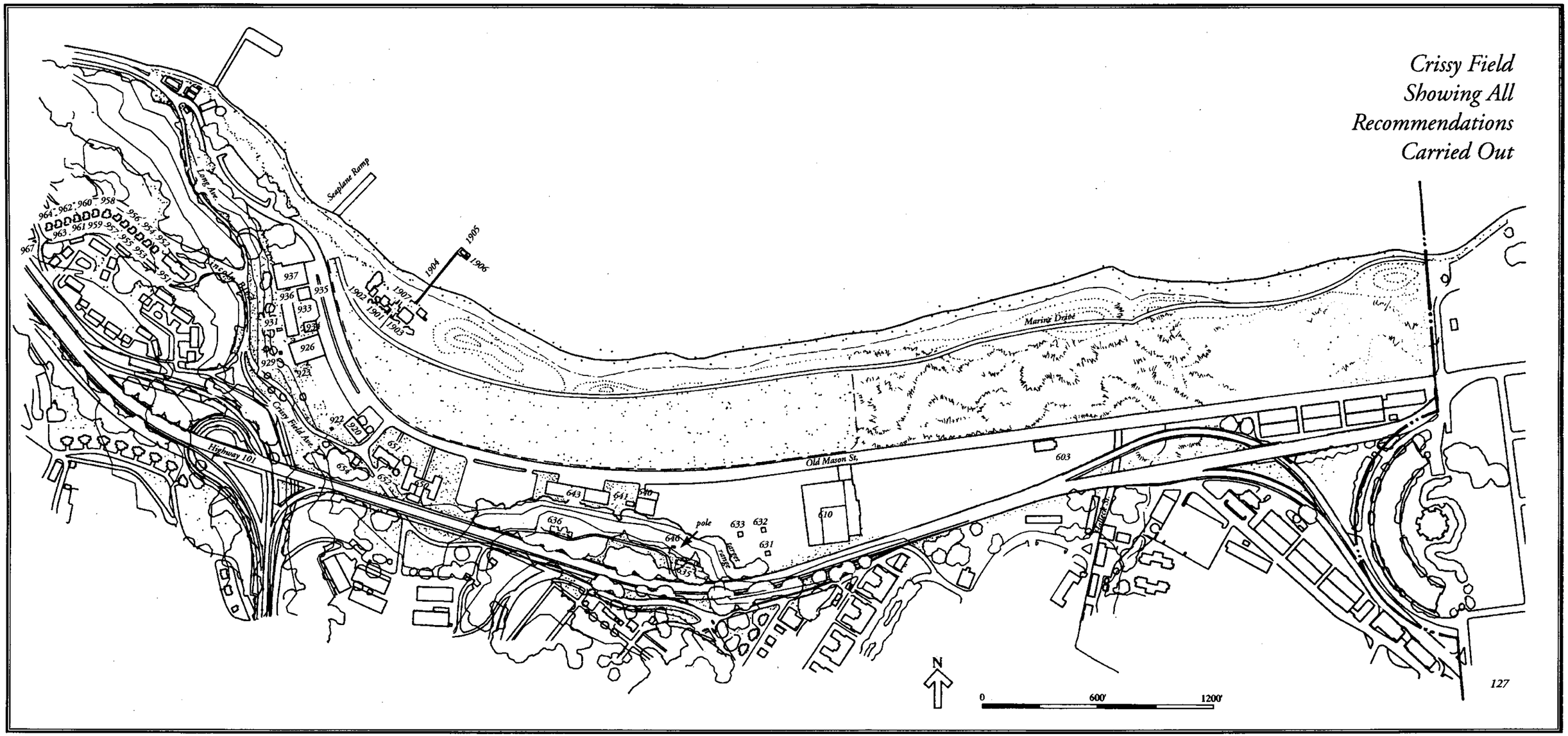
1902 boathouse (USCG)

1903 boathouse and quarters (USCG)

1904 pier (USCG)

1905 buoy shack (USCG)

1906 tide gauge house (USCG)

1907 garage (USCG)

Crissy Field Showing All Recommendations Carried Out