historic structures report
historical data section
archeological data section
volume 1

may 1981

GATEWAY
FLOYD BENNETT FIELD

NATIONAL RECREATION AREA / NEW YORK-NEW JERSEY

HISTORIC STRUCTURES REPORT

HISTORICAL DATA SECTION

ARCHEOLOGICAL DATA SECTION

FLOYD BENNETT FIELD

GATEWAY NATIONAL RECREATION AREA

VOLUME I

By
Porter R. Blakemore
and
Dana C. Linck

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DENVER SERVICE CENTER
MID-ATLANTIC/NORTH ATLANTIC TEAM
BRANCH OF HISTORIC PRESERVATION
DENVER, COLORADO

TABLE OF CONTENTS

ADMINISTRATIVE DATA

DESCRIPTION OF THE AREA

The Floyd Bennett Field Historic District consists of approximately 385.5 acres of the 1,100-acre airport tract now owned by the National Park Service (NPS).

Located in South Brooklyn on Jamaica Bay, it was New York City's first municipal airport. The district includes the site of the original runway and twenty structures of which the most important are the airport administration building and eight hangars constructed during the 1920s and 1930s under a 1927 plan. All structures in the district are included on the List of Classified Structures. See Administrative Data Summary for order of significance and numbers of surviving structures. Floyd Bennett Field was transferred from the Defense Department to the Department of the Interior on October 27, 1972, by Public Law 92-592 of the 92nd Congress.

SIGNIFICANCE OF FLOYD BENNETT FIELD

Floyd Bennett Field is historically significant as New York City's first municipal airport; in its role in the development of American aviation; in its part in World War II; and in the fact that it is one of the few American airports designed in the 1920s which are still standing in basically the same form as when originally built.

PROPOSED USE OF STRUCTURES

Specific Buildings

See attached Administrative Data Summary.

General

While structures within the district will be managed in the historic category, most of their use is expected to be adaptive. The district will be the hub of one of Gateway's three "Gateway Villages" which are described in the park's Decision's Paper is as follows:

> The village concept is intended to describe activity centers, which in these cases have been clustered around two former military posts and a former naval air station, and the concept serves as an organizing rationale for reusing facilities in new ways to serve the park and its visitors.
>
> All three sites will be major year-round activity centers for the park, and all will focus their programs and facilities around the theme of man and the environment. However, each village will have a distinct character based on the nature of its site and resources. The villages will retain a noncommercial atmosphere, although there will be a variety of services, such as food, available in each. They will neither serve as nor look like amusement parks or modern theme parks available elsewhere. They will have strong educational and interpretive programs tied to the park's location in a large metropolitan region.
>
> Emphasis will be placed on the preservation and adaptive reuse of historic resources and the introduction of natural plant materials into an urban environment. New facilities will be constructed and maintained to complement this setting.
>
> Recreational uses appropriate to a "village" setting will be accommodated in this zone, including staying in a hostel; attending or participating in cultural and educational events, lectures, shows, exhibits, and festivals; dancing; singing; doing research; and so on. All development required for the support of these kinds of activities will be acceptable in the villages; examples are restaurants and cafes, stores, classrooms, laboratories, theaters, studios, gymnasiums, day centers, interpretive centers, plazas, open-air markets, promenades, administration and maintenance facilities, apartments and other residences for essential park staff (those

required to stay on site) and for sites for recreational vehicles, and parking areas.

The emphasis on adaptive use should not, however, obscure the need for a good program of historical interpretation. The logical questions of the visiting public will be "What went on in these buildings? Why are we taking such care to preserve them?" Gateway's Interpretive Prospectus (1978) recommends a number of ways to provide answers. In the Administration Building (No. 1) it calls for an exhibit room on the history of aviation at the field, an auditorium where films and slides on the field's history would be shown, and for restoration of the control tower, with an audio exhibit where visitors could hear reconstructed take-offs by historic flights, such as Wiley Post's first solo flight around the world. The prospectus also recommends that one of the hangars be used for exhibiting examples of the kinds of planes that flew from Floyd Bennett Field, and other exhibits showing the impact of technology on the natural environment at Barren Island.

PROBLEMS

The use of district structures, both adaptively and for historic interpretation is complicated by a number of problems:

1. Presently programmed cyclical funds are not adequate to halt deterioration or stabilize the historic structures. A Denver Service Center (DSC) team headed by Jack Lovell reported in early 1979 that there is the beginning of serious deterioration in the structural roof support of Hangars 1 and 2. Funds available for renovation of hangars for recreation purposes were not adequate to do the job at Hangars 1 and 2, so Hangars 5 and 6, which are in better condition, were selected for rehabilitation. The DSC engineers envisioned the possibility that some of our hangar roofs would be caved-in before we can stabilize them. It is extremely important that funds be found to halt deterioration of these buildings.

2. It is difficult to develop interim uses for these buildings because of present safety hazards caused by deterioration, and because of the lack of working support facilities such as bathrooms. The lean-to sections of the hangars, where offices, shops, classrooms, and bathrooms were located are unsafe and unfit for use. The hangars themselves also pose problems. Roller hockey and ball games break hangar windows; some floors are broken and uneven; and the looseness of the hangar doors creates a loud rattling noise that makes musical cultural programming difficult. Additional technical assistance is needed to solve such problems and make interim use of the hangar areas more possible.

3. Whether it be for interim use or for ultimate use within the Gateway Village concept, a major problem with the hangars is how to heat them in a cost-efficient manner, and how to get the funds to heat them. Attention should be given just as soon as possible to planning of heating, taking into account the possible use of alternative technologies such as solar heat, solar hot water, and co-generation. Planning should be such as to avoid affecting the appearance of the historic structures, and should also take into account program planning and seasonal scheduling.

JUSTIFICATION FOR USE

The decision to preserve the exteriors of structures at Floyd Bennett Field and adaptively use the interiors is based on NPS Management Policies, in 1978, excerpted below:

> Partial restoration (usually for adaptive use) may be undertaken when necessary to insure preservation of the structure or to restore the historic scene, or when desirable for interpretive purposes. In all cases, sufficient historical, architectural, and archaeological data must exist to permit accurate restoration, with a minimum of conjecture. pp. V-16 Adaptive use may be appropriate for structures that are visually important in the historic scene but do not otherwise qualify for exhibition purposes. In such cases the facade, or so much of the exterior as is necessary, is treated to achieve the management purpose so that it will be properly understood from the public view. The interior is usually converted to modern functional use, but original fabric is retained wherever practicable. pp. V-16

Historic structures other than those in Category Ia (National Historic Landmarks) may be utilized for commercial and residential purposes when compatible with the primary purpose of the area and consistent with their preservation. Reasonable fees may be charged for the use of facilities. pp. V-24

BASIC DATA

Historic Structure Study - A General History of Jamaica Bay, Breezy Point and Staten Island Units - Tony Wrenn.

General Management Plan, Gateway National Recreation Area, Draft.

Decisions Paper.

Environmental Impact Statement, (Draft).

Management Policies (1978), National Park Service.

National Register Nomination Form, Floyd Bennett Field Historic District (1978).

Interpretive Prospectus - Gateway National Recreation Area, 1978.

Public Law 92-592, 92nd Congress s. 1852, October 27, 1972, an act to establish Gateway National Recreation Area.

ADMINISTRATIVE DATA SUMMARY

Building Number	Name Present/Historic	Date Built	LCS Significance	Present Use	Proposed Use	Remarks
1	Airport Administration Building (Building No. 1)	1931	B	Main power switch for Floyd Bennett Field is in basement. Main telephone switchboard for Floyd Bennett phone system is in an office on first floor.	Interpretation and Administration - small auditorium, exhibit room, interpretive use of control tower, environmental, education, administrative offices.	Leak in Roof will be repaired during FY 80 for $180,000 but much more work must be done to preserve building and make it usable.
2	Hangar No. 1	1930	B	Shop Work/Storage	Recreation/Adaptive use.	Structural support is deteriorating, according to DSC.
3	Hangar No. 2	1930	B	Storage	Recreation/Adaptive use.	See remark for Hangar No. 1
5	Hangar No. 3	1930	B	Under special use permit to helicopter unit of New York Police Department.	Historic and Environmental Interpretation and/or Adaptive Use.	New York Police Department is probably a beneficent presence now because we don't have funds to stabilize and maintain these hangars. As park develops, however, helicopter unit should be moved to a location where it would not be in the middle of National Park Service traffic flow.
6	Hangar No. 4	1930	B	Under special use permit to helicopter unit of New York Police Department.	Historic and Environmental Interpretative and/or Adaptive use.	See remark for Hangar No. 3.

Building Number	Name Present/Historic	Date Built	LCS Significance	Present Use	Proposed Use	Remarks
8	Hangar No. 5	1931	B	Partially Recreation Partially Vacant	Historic and Environmental and/or Recreation/Adaptive use.	Some $750,000 will be spent in FY 80 to rehabilitate this hangar. Hangar No. 3 and Hangar No. 6. DSC says this amount will probably not be enough to do the job completely.
9	Hangar No. 6	1931	B	Partially Recreation Partially Vacant	Interpretation/ Recreation	See remark for No. 5 above.
11	Hangar No. 7	1931	B	Trailer Storage	Recreation/Adaptive	
12	Hangar No. 8	1931	B	Partially Recreation Partially Vacant	Recreation/Adaptive	
14	Garage/Maintenance Shop	1936	B	Vacant	Maintenance/Storage	
15	Pump House No. 30	1931	B	Pumping Machinery and Tanks.	Maintenance/Storage	

HISTORY DATA SECTION

By

PORTER BLAKEMORE

PREFACE

This study has been prepared to satisfy the historical research needs as outlined in the Draft Task Directive, Floyd Bennett Field, Gateway National Recreation Area, completed in February 1979. The project, funded by Package Proposal No. 109, calls for historical data to facilitate the restoration and preservation of the Administration Building, Hangars, and other structures at Floyd Bennett Field that were constructed during the 1930s.

The primary sources dealing with Floyd Bennett Field and its structures along with secondary sources on aviation from the 1920s to the 1940s have been reviewed. The information that has been compiled will be helpful to historical architects and planners when they prepare for the restoration or stabilization of the buildings.

The author is grateful to numerous people who assisted him in the preparation of this study. Special thanks should go to Park Superintendent Herbert S. Cables, Jr.; Chief of Interpretation Sam Holmes; and other members of the staff both at Gateway Park Headquarters and the Jamaica Bay Unit Headquarters. Also, the help of Idilio Gracia Pena, Director of the City of New York Municipal Archives, and his staff; Maria Spina, Head of the Brooklyn Collection in the Brooklyn Public Library; Anthony Fantozzi of the Bayonne, New Jersey, Branch of the National Archives and Records Service; and John J. Behan, Director of Aviation, New York City Department of Transportation, and his staff was instrumental in locating vital source material. Frank Williss, who had originally been assigned the Floyd Bennett Field project, was very helpful in supplying his research notes and indicating sources of information. Finally, Susan Simpson deserves thanks for lending her architectural expertise plus data about the buildings.

LIST OF ILLUSTRATIONS

LIST OF DRAWINGS

CHAPTER 1: HISTORY OF FLOYD BENNETT FIELD

Introduction

Floyd Bennett Field, the first municipal airport built by New York City, played a key role in the technical and commercial development of American aviation in the 1930s. The field was never the most important airport in the country. Yet, its location and the quality of its facilities led to extensive use. Numerous record breaking flights either originated or terminated there. An airmail controversy between Floyd Bennett Field and Newark Airport, which the New York airport lost, led to the field's commercial failure and shows the importance of postal business to the struggling airlines at that time. Finally, after the airport was sold to the Navy in 1942, it played a significant military role in World War II.

What follows is a somewhat brief overview of the airport's past. Though many events will be dealt with lightly, others will be thoroughly documented.

New York City Enters the Air Age

World War I was responsible for the first major growth in aviation throughout the world. The gradual introduction of aircraft into the war, first as reconnaissance vehicles, then as tactical and strategical weapons, gave great impetus to aircraft development. Important new technical advances were made at a time when the populations of the Western world were becoming conscious of the expanding potential of aviation. Particularly in Europe, the conditions after the war were ripe for the development of commercial aviation. The war produced a breakdown in surface transportation. There were thousands of military aircraft sitting idle and ready for use, and the geography of the area left wide bodies of

water separating many nations. All of these factors led to the rapid development of commercial aviation in Europe during the 1920s.[1]

These European conditions did not exist in the United States. Transportation networks were not disrupted in North America. The limited time during which the United States was directly involved in the war did not allow the production of a great surplus of aircraft. The major United States cities were already serviced by efficient railroads. As a result, commercial aviation in this country got off to a very slow start.

The federal government's interest in airmail service supplied the stimulus for commercial aviation in the United States. In the early 1920s, the United States Post Office Department entered the airmail business and maintained its own fleet of aircraft. In 1927 the government turned its established routes over to financially struggling independent airlines giving them a great boost in revenue and business. This proved to be the key to the early success of commercial aviation.[2] This importance is noted by R.E.G. Davies:

> A lucrative mail contract was a pre-requisite for survival (of the early airline companies) for the flying equipment had not yet reached a stage of efficiency in which the cost of operations could be covered by revenue based on fares low enough to attract passengers away from surface transport.
>
> The Government began subsidizing the airlines for space available for mail. The added income enabled the companies to provide passenger facilities, and new and better airplanes, and this had a mushrooming effect on the whole aviation industry.[3]

---

1. R.E.G. Davies, A History of the World's Airlines, (London: Oxford University Press, 1964) pp. 39-55.

2. Ibid.

3. Ibid., pp. 53-55.

Corresponding with this development of commercial aviation in the United States during the 1920s was the construction of new airfields to handle the business. At the end of World War I there were only 115 permanent airfields in the United States.[4] Most had only gravel or grass runways. The first municipal airport in the country was opened at Atlantic City, New Jersey in May 1919.[5] Similar facilities were constructed throughout the country in the 1920s as most large cities acquired municipal landing fields.

The New York City area was in many ways an exception, however. The numerous small private airfields constructed in the area influenced the city leaders to ignore the growing need for a municipal airport to accommodate the developing commercial traffic. In addition, the city was concerned with other transportation problems in the early years of the twentieth century, such as the steamship and railroad growth and the advent of the automobile. Thus it is not suprising that New York City's leaders ignored aviation in the 1920s and were caught short by its rapid growth.[6]

The first effort by New York City to acquire a municipal airport came on April 8, 1925, when the chairman of the Committee on Landing Places for Commercial Air Lines of the Board of Trade and Transportation sent the city Board of Estimate a request that a landing field be made available for commercial aircraft. The board's chief engineer was ordered to look into the matter and came up with a recommendation that

---

4. C. R. Roseberry, The Challenging Skies: The Colorful Story of Aviation's Most Exciting Years, 1919-1939, (Garden City, New York: Doubleday & Company, Inc., 1966), p. 227.

5. Ibid., p. 228.

6. Herbert Kaufman, Gotham in the Air Age (New York: Harcourt, Brace and Company, Inc., 1952), p. 145.

> the City should take active steps in the near future to set aside at least one site for ultimate development as a municipal air field to be operated by the City, and that the day is not far distant when such a field will be self-supporting.[7]

However, no action was taken on this recommendation.

Almost two years later, the Port of New York Authority became involved in the municipal airport issue. That agency was responsible for promoting and protecting the commerce of the metropolitan area. As it grew aware of aviation developments, it investigated the New York area's needs. On January 29, 1927, the Port Authority's deputy manager issued a report that included the following statement:

> The United States Government in response to demands for expedited delivery is inaugurating airmail services throughout the country. The express companies have entered into experimental contracts for air transport. Passenger transportation by air is just beginning. Existing flying fields in the vicinity of New York City are either inadequate or unsuitably located and none of them are commercial airports in the accepted sense. The Metro-politan District of New York . . . should have one or more thoroughly modern airports or terminal flying fields.[8]

Though no specific action was taken on this recommendation, the pace of events quickened as the Federal Government showed an increasing interest in the airport issue. By 1927 the Department of Commerce was growing concerned about New York's lack of a commercial airport. Secretary of Commerce Herbert Hoover, appointed a Fact-Finding Committee on Suitable Airport Facilities for the New York District. The committee, made up of twenty-three government, commercial, and industrial representatives, it submitted its report on November 29, 1927. It recommended six primary and four secondary areas for landing fields in

---

7. Ibid., pp. 149-50.

8. Ibid., p. 150.

New Jersey and in New York. The Hoover Committee, as it came to be called, also suggested that the individual states or cities direct the construction of the fields, not the Interstate Port Authority.[9]

Other events during 1927 put more pressure on New York officials. Charles Lindbergh flew the Atlantic in May, and he was quickly followed by Clarence D. Chamberlain and Charles A. Levine, and then Commander Richard E. Byrd, Bert Acosta, G. C. Noville, and Bernt Balchen. Each of these flights originated in the New York area, and they stimulated the interest of the American people in aviation while dramatically pointing out the immediate possibilities of trans-Atlantic commercial flights.

Finally, Newark, New Jersey began plans for its own municipal airport. Construction was started in late 1927 and the field, Newark Municipal Airport, opened in October 1928. Immediately, it became the primary landing field in the metropolitan area. All of the airmail business that came into New York, with the associated commercial transport service, was centered there.

The metropolitan area had entered into the commercial aviation business, but New York City had not. The shortsightedness of the New York City governmental officials was by 1927 bearing sour fruit. Loud protests about the revenue benefits Newark received at New York's expense forced the city officials to act. The result was Floyd Bennett Field.

Selecting a Construction Site

By late 1927, with Newark beginning construction on its airport and the Hoover Committee report available, New York City officials acted. As already mentioned, the Hoover Committee recommended six primary and four secondary sites for the construction of the first of a series of airports to serve New York City. One of the secondary sites was Barren

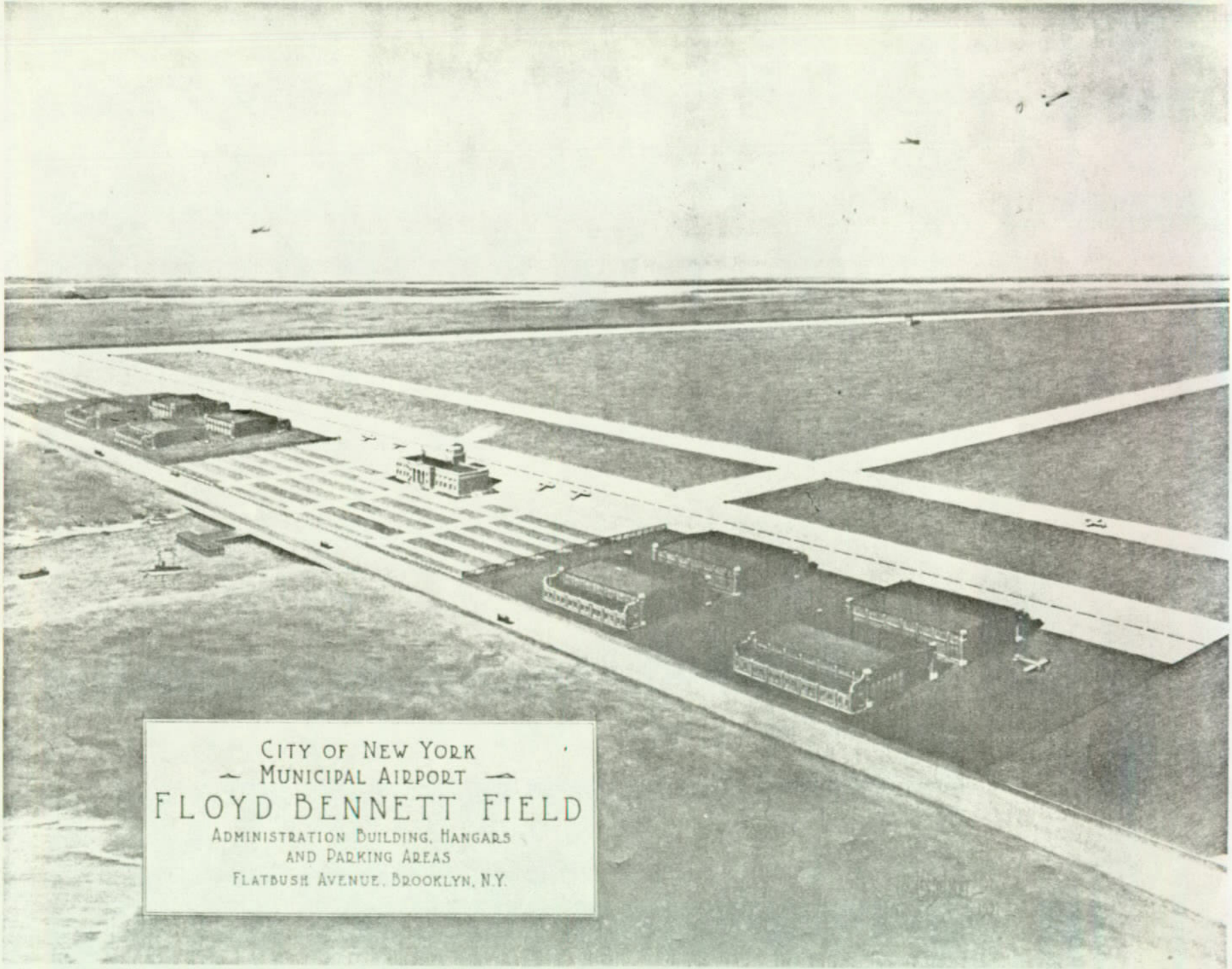
---

9. Ibid., pp. 150-51.

Photograph No. 1

1931 Artist's Conception of Floyd Bennett Field.

New York Municipal Archives.


CITY OF NEW YORK
MUNICIPAL AIRPORT
FLOYD BENNETT FIELD
ADMINISTRATION BUILDING, HANGARS
AND PARKING AREAS
FLATBUSH AVENUE, BROOKLYN, N.Y.

Island in Brooklyn, located at the end of Flatbush Avenue on Jamaica Bay.[10] This site was chosen by the city leaders for the location of New York's first municipal airport.

There are three key reasons why the Barren Island site was selected. First, since the late nineteenth century the city and federal governments, in response to the urgings of many New York commercial and industrial leaders, had been planning to create a major shipping harbor out of Jamaica Bay. By 1927 the city's Department of Docks had spent well over $100,000,000 of city, state, and federal money on the project.[11] The city owned Barren Island, and could achieve two objectives by dredging the main Jamaica Bay channel while using the extracted sand to raise the level of the island to a height suitable for the airport. Also, many New York governmental leaders thought that it made sense to locate the airport near this new industrial and commercial development. Second, Clarence D. Chamberlain, the American aviator who became famous for flying the Atlantic immediately after Lindbergh, was hired by the city as a consultant on aviation. He preferred the Barren Island site over the others because of its location. There were no obstructions nearby that might endanger planes taking off or landing at the field. Since it would be located on Jamaica Bay, the field could easily accommodate seaplanes, which were becoming very popular and were considered the most likely type of aircraft to serve the Atlantic coastal area. Also, Chamberlain felt that the weather around Barren Island was more suitable for flight operations. There was little history of fog in the area, which would give the field a great advantage over other selected sites, and there was also little haze and few bad storms. The third, and most important, reason that the Barren Island site was selected from those the Hoover Committee recommended was the fact that it was already owned by the City of New

---

10. "Fact-Finding Committee, New York Metropolitan Airports, Location of Recommended Airport Sites," November 29, 1927, James J. Walker Collection, Box 568, New York City Municipal Archives.

11. Kaufman, Gotham in the Air Age, p. 151.

York. The city would have to purchase nearly all of the alternative sites from the United States Government or private individuals. That cost was thought prohibitive. The few recommended sites other than Barren Island that were already owned by the city, such as East Island in Jamaica Bay, would take too long to develop. Thus, it is not surprising that Barren Island was selected.

Barren Island

The island the city chose for the new airport was first occupied by the Canarsie Indians in preColumbian times. In the seventeenth century, the Dutch settled western Long Island and established the town of Flatlands. The flat, nearly sea level area seemed quite suitable to settlers coming from Holland and Belgium. Barren Island came under the jurisdiction of Flatlands. Situated to the south, it was tied to Long Island only by infrequent ferry service.

By the late nineteenth and early twentieth centuries, Barren Island had become a small community within Flatlands and the Borough of Brooklyn. The population, which numbered several thousand, was supported by a city-owned incinerator and garbage dump and a glue factory that used horses and other animals as raw material. The town consisted of a main street with taverns, movie theaters, shops, a school, and post office.[12] The community residents were in many ways outcasts living, strangely enough, in Brooklyn, New York. Before Flatbush Avenue was extended to the south ending the island's isolation, the people of Barren Island lived a separate existence. They boosted their meager income from the glue factory and incinerator works by harvesting a little from the sea. The island was not suitable for agricultural products, though a few fruit trees grew there.

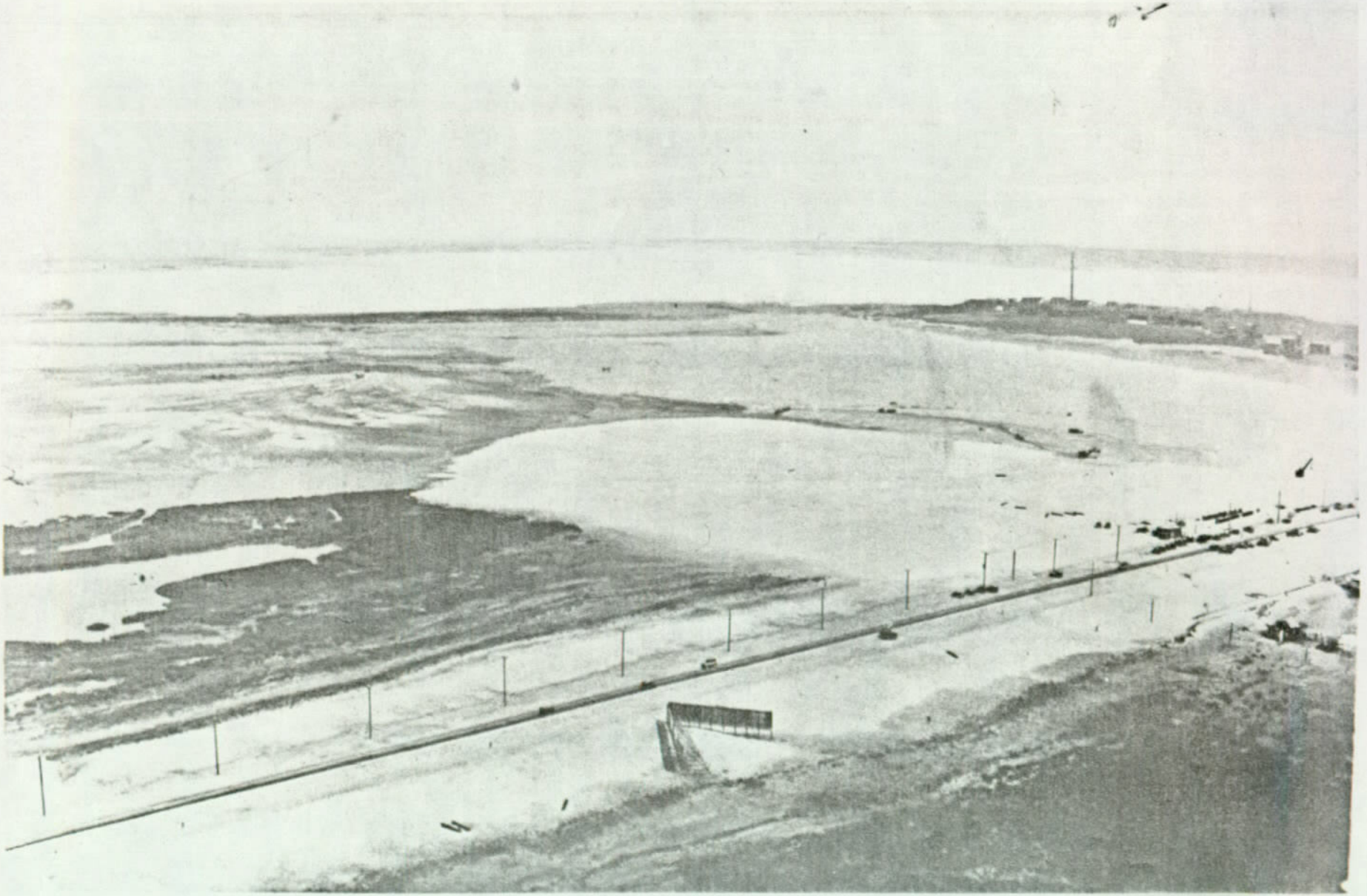
---

12. New York Daily News, November 7, 1940, p. C1.

Photograph No. 2

Barren Island site during the hydraulic sand fill operation in late 1928.

Smithsonian Institution.



Little remained of the Barren Island community when the city began construction of its first municipal airport there in 1929. Both the glue factory and incinerator works were no longer functioning and the tall smoke stacks that starkly reminded the residents of the relatively prosperous past were eventually to be destroyed as obstructions. The population that remained was quite small and most of the buildings had been demolished, as can be seen from period photographs of the area. Clearly Barren Island was a dying community. The few families that were able to hang on until the early 1940s were evicted by the federal government when it purchased Floyd Bennett Field and expanded the airport into a Naval Air Station.[13]

Construction of the Airport

Once the decision to build a municipal airport on Barren Island had been made, the construction was turned over to the Department of Docks, an agency that had gradually inherited the administration of the New York City port facilities. It received the task of building the airport because it was in charge of the development of the Jamaica Bay project. The first contract, No. 1917, was awarded in May 1928 to R. A. Perry of New York. It amounted to a total of $583,820 for "hydraulic filling and for grading in an area of about 350 acres between Jamaica Bay Main Interior Channel and Flatbush Avenue."[14] This project was completed May 16, 1929, but a "Supplementary to Contract No. 1917," No. 1935, which expanded the initial job, was awarded in late 1928 and totaled $74,970. It was completed one month later.[15] Both jobs entailed filling in the designated area to a height of sixteen feet above mean low tide.

---

13. Ibid.

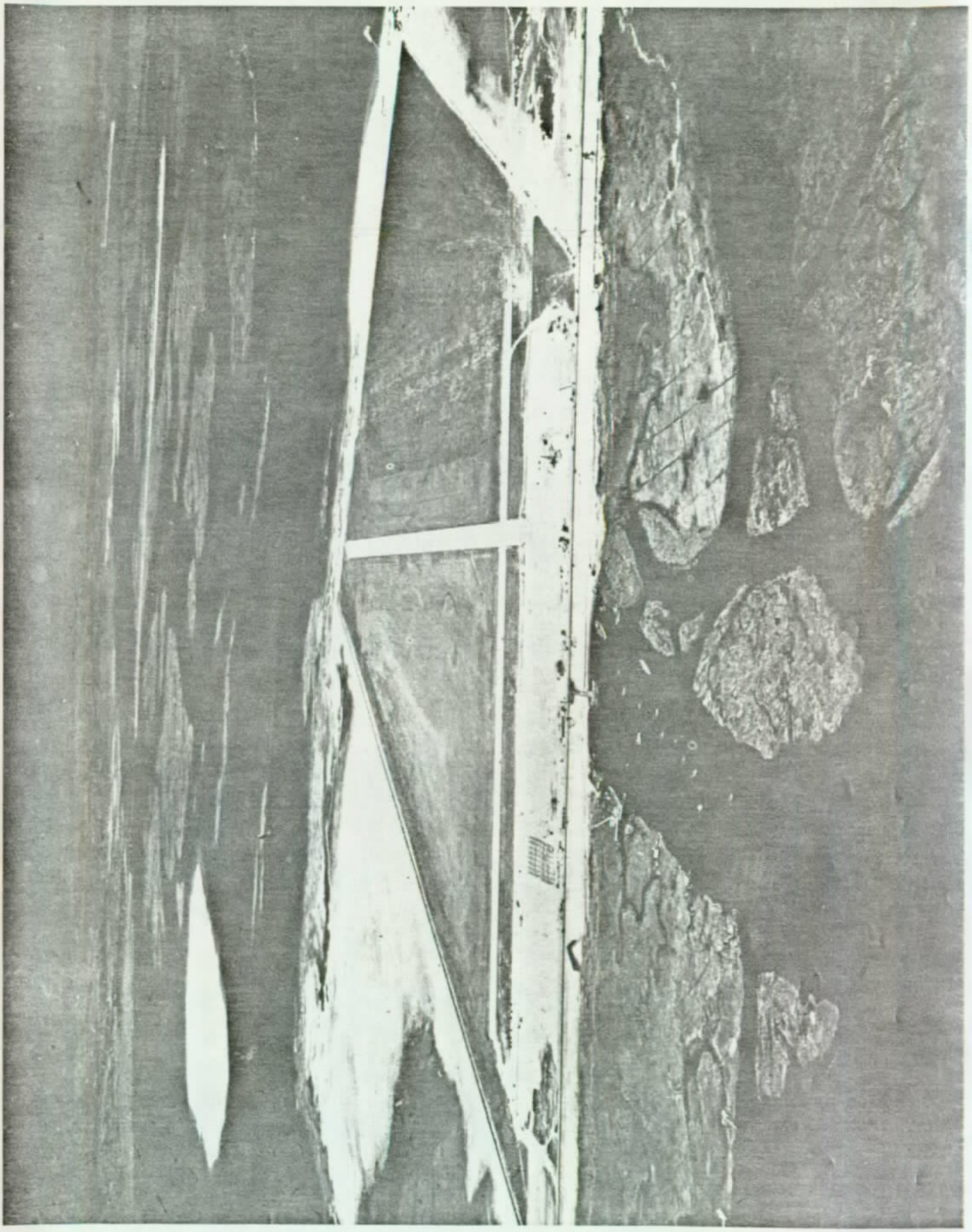
14. "Contracts Awarded for Work at the Municipal Airport," May 14, 1931. Walker Collection, Box 567.

15. Ibid.

Photograph No. 3

Floyd Bennett Field in late 1929 showing the completed runways and the early construction on the hangars.

New York Municipal Archives.



JAMAICA BAY & RIVER INTERIOR CHANNEL

U.S. PIERHEAD LINE

PROPOSED BULKHEAD LINE

Old Shore Line Bulkhead

Northerly line of field

5637.24

Easterly line of field

1283.74

Slope from El +10 to Beach

BEACH

GRASS

CONCRETE RUNWAY 4000'

CONCRETE RUNWAY 3110'

PAVED APRON

FLATBUSH AVENUE

Concrete Retaining Wall

SEAPLANE BASE

RAMP

Present Pier 7

600'

Southerly Line of field

LEGEND

A - Administration Building: 2 Story
T Terminal Building - 2 Story
G Garage
H Hangar
F Gasoline Filling Station
H.P. Central Heating Plant
L Lean-to

CITY OF NEW YORK
DEPARTMENT OF DOCKS
BUREAU OF ENGINEERING
DIVISION OF PORT PLANNING

LAYOUT OF MUNICIPAL AIRPORT

FLOYD BENNETT FIELD
FLATBUSH AVENUE BOROUGH OF BROOKLYN

SUBMITTED BY _____ DIVISION ENGINEER

APPROVED BY _____ CHIEF ENGINEER

APPROVED BY _____ COMMISSIONER

When the hydraulic filling operation was nearly completed, a new contract, No. 1941, was awarded to John L. Walsh of the Northport Sand & Gravel Company of Northport, Long Island. It totaled $722,407.58 for construction of a privet hedge, reinforced concrete runways, gravel strips, subsoil, topsoil, topsoil treatment, seeding, and a wooden platform. Two supplementary contracts to No. 1941 were added in late 1929. They were Contract No. 1979 provided additional topsoil and additional topsoil treatment, seeding, etc., and No. 1963, authorized the widening of the fifty foot wide runways to one hundred feet.[16] The Departmen of Docks wanted to insure that the new airport received the highest rating possible from the Department of Commerce, an "A1A" rating. Since the 1928 revision to the Aeronautics Branch Bulletin on "Construction of Airports" stipulated that the receive the rating runways had to be a minimum of one hundred feet wide, the original runway width was doubled.[17]

Once the land was filled and graded, construction began on the structures. Plans called for an Administration Building, eight aircraft hangars with concrete aprons, and some smaller structures such as spotlight stands. Originally fourteen hangars were planned, but that number was reduced by the time the contracts were awarded.[18] Additionally, a two-hangar seaplane base on the Jamaica Bay (east) side of the field, was proposed. Yet only preliminary work on seaplane ramps were contracted out during the initial stage of construction.[19] Later a seaplane base for the Coast Guard was constructed.

---

16. Ibid.

17. "Construction of Airports," Aeronautics Branch of the Department of Commerce, Revised in 1928, Box 567, Walker Collection.

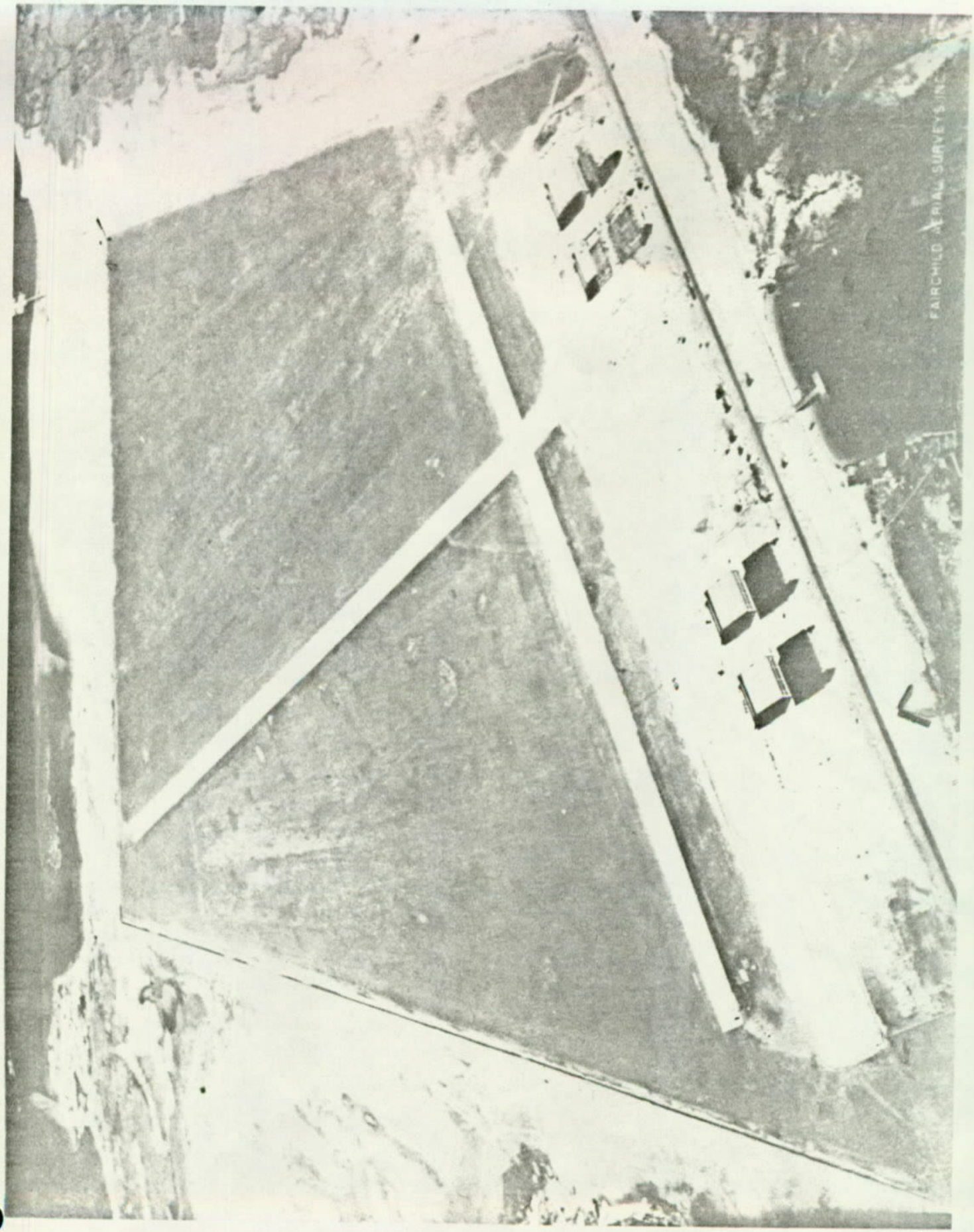
18. "City of New York, Department of Docks, Proposed Municipal Airport, Borough of Brooklyn, General Location Plans," January 30, 1928, Revised April 15, 1931, Box 566, Walker Collection.

19. See Drawing No. 1.

Photograph No. 4

Runways, concrete apron, and hangar construction at Floyd Bennett Field in late 1930s.

Brooklyn Public Library - Brooklyn Collection.


FAIRCHILD AERIAL SURVEYS INC

Photograph No. 5

Floyd Bennett Field on August 6, 1931, showing the proposed location for a seaplane hangar.

National Archives - Photograph No. 80-G-466293.

The Administration Building was a two story structure with a basement and a control tower attached on the field side. Each of the eight hangars had a lean-to attached for maintenance and other kinds of shops or offices. Initially, two runways were constructed. One, running parallel to the apron and hangar row, was 3,110 feet long and 100 feet wide. The second runway formed a "T" with the first. It was 4,000 feet long and 100 feet wide. Without question, the two runways were first rate in construction and length, and nearly the longest in the country. Their reinforced concrete form was an exception when it was common to find grass and gravel runways at municipal airports.

When it was completed, the municipal airport had a sophisticated lighting system for night landings, exceptional runways, and good maintenance and administration facilities. It received an "A1A" rating from the Commerce Department. New York had one of the finest facilities of its kind in the country.

Floyd Bennett

As early as October 1928, the city had decided to name its new municipal airport Floyd Bennett Field.[20] Floyd Bennett, 1890-1928, was one of the true self-giving heros of early American aviation history. He was born in Warrensburg, New York, left school at the age of 17, and worked for ten years as a automobile mechanic. He enlisted in the U. S. Navy in 1917 as an aviation mechanic, was trained to fly, becoming Naval Avaitor No. "9." He served as a flight instructor during the remaining time America was in the First World War. After the war he continued to fly for the Navy and gradually rose to the rank of warrant officer.

---

20. Michael Cosgrove, Commissioner of Docks, to the Board of Estimate and Apportionment, requesting funds for the construction of the airport, October 2, 1928, Walker Collection, Box 568.

In 1925 Bennett was selected as one of the aviators to accompany Commander Richard E. Byrd's MacMillan Expedition to the Arctic. On that trip he demonstrated his flying ability and also his coolness in emergencies. On a flight over Greenland with Byrd, the engine oil pressure began to rise. There was nowhere they could land safely, yet if they did not deal with the problem they ran the risk of the engine's blowing up. Bennett crawled outside of the cockpit to the engine and took the cap off the oil tank to relieve the pressure, a frightening experience at altitudes with freezing winds. A year later Bennett accompanied Byrd on his second trip to the Arctic. Flying from Spitzbergen Island, he piloted Byrd in the "Josephine Ford" to the North Pole and back. It was a remarkable feat. When they returned to the United States, Byrd and Bennett were honored by the whole country. They were awarded the Distinguished Service Medal and the Congressional Medal of Honor by President Coolidge. Next Bennett helped Byrd prepare for a flight across the Atlantic which was to occur in early 1927. However, an unfortunate crash while testing the Fokker aircraft put Bennett in the hospital. He was forced to miss the Byrd flight when it took place in June 1927, one month after Lindbergh's historic crossing.[21]

In late 1927 Bennett and Byrd began to plan for a flight across the South Pole. But Floyd Bennett interrupted the preparations for that flight to join a rescue mission which in turn cost him his life. In the early spring of 1928, while Bennett and Bernt Balchem, another of Byrd's pilots, tried out the two-engined Fokker Universals that were to be used on the Antarctic flight, the Junkers aircraft "Bremen," which was attempting a difficult east to west crossing of the Atlantic, was forced down on Greeley Island, Labrador. Although the plane was not seriously damaged, the crew could not take off before some repair parts and other supplies were brought to them. The "Bremen" was piloted by two Germans, Baron Guenther von Huenefeld, and Captain Hermann Koehl,

---

21. New York Times, April 26, 1928, p. 2.

Photograph No. 6

Portrait of Floyd Bennett that hung in the first floor lobby of the Administration Building.

Brooklyn Public Library - Brooklyn Collection.

and one Irishman, Major James Fitzmaurice. Bennett and Balchem flew the rescue mission, and while on the flight north Bennett became ill. He had not fully recovered his strength after the accident the preceding year. Forced to drop out of the relief effort, he was taken to Quebec where he contracted pneumonia and died on April 25. Emergency efforts by numerous people to save him, including a flight by Charles Lindbergh from New York to Quebec to bring serum to the hospital, were in vain. Bennett's body was brought back to New York City where he was eulogized and then carried to Washington where, with full military honors, he was buried in Arlington Cemetery.[22]

In light of Floyd Bennett's family ties with the state of New York, his role as a hero and pioneer aviator, and the timing of his death, it is not surprising that the city of New York decided to name its new municipal airport after him.

Dedication of the Airport

With construction underway and a name chosen for the airport, New York officials began to plan for the dedication of the airfield in late 1929. Actually, there were two dedication ceremonies. The first was held on June 26, 1930. By that time the runways, taxiways and aprons, and some of the hangar facilities were completed and the field could be opened for limited operations. But though flight operations commenced at the field after this dedication, major construction continued as workmen completed the remaining hangar facilities and the administration building. Mrs. Cora Bennett and Rear Admiral Richard E. Byrd were both present at the first ceremony. The Navy dirigible Los Angeles hovered over the field while an array of Army Air Corps aircraft circled.[23]

---

22. New York Times, April 28, 1928, p. 1.

23. New York Times, June 27, 1930, p. 27.

The formal dedication ceremony occurred almost a year later, on Saturday, May 23, 1931. It was a big occasion, for not only was the field dedicated but also the ceremony coincided with probably the biggest aerial demonstration that ever occurred in the United States.

The United States Army Air Corps decided to stage defense maneuvers throughout the northeast between May 15 and 30, 1931. A huge flotilla of 672 aircraft, started out from Dayton, Ohio, and traveled to Cleveland, Pittsburgh, New York, Boston, back to New York, then to Washington.[24]

Three types of aircraft took part in the maneuvers--the Curtiss Falcon Ad-B attack plane, the Curtiss Condor bomber, and the Curtiss Hawk pursuit plane.[25]

It was a big show and New York City officials chose the arrival date of the aircraft over their city, May 23, as the time for the official dedication of the new municipal airport. A private banquet was held the night before and attended by most political, business, and military leaders from the New York area. The festivities at the field the next day drew a crowd estimated by the New York Times to total 25,000 people. The Times also noted that 597 aircraft flew over the city and the field.[26] More people would have certainly attended the dedication ceremonies if the Army aircraft had only appeared there, but it flew over much of the New York area. All of the hangars at Floyd Bennett Field were finished and the Administration Building was nearing completion. Eight Navy planes from Valley Stream, Long Island Airport, commanded by Lt. R. F. Whitehead, were the first official arrivals at the field. It was already understood that the Navy would occupy part of the field on the first of June as a reserve base.[27]

---

24. Leter from Assistant Secretary of War for Aviation, F. Trubee Davidson, Walker Collection, Box 672; and "Special Air Traffic Rules Effective During Army Air Corps Maneuvers," May 11, 1931, from the Aeronautics Branch, Department of Commerce, Walker Cllection, Box 567.

25. Article from the New York Daily News, May 22, 1931, Walker Collection, Box 567.

26. Ibid.

27. Ibid.

Photograph No. 7

View looking north from the Administration Building Control Tower showing Hangar 5 and the apron area, ca. 1933.

Smithsonian Institution.


FLOYD BENNETT
FIELD

Thus, Floyd Bennett Field was ready to serve the aviation needs of the New York metropolitan area. Everyone involved in the project seemed to believe that there would be no trouble shifting the airmail and commercial business that had centered at Newark Airport since 1927 to the Brooklyn field. After all, Floyd Bennett Field was situated in New York City. It seemed only fair that it be allowed to handle the bulk of the New York aviation business.

The Airmail Controversy with Newark

For months after the formal dedication of the field in May 1931, the Department of Docks continued to improve the facilities at the field in order to meet all federal government requirements and offer the best conditions to aviators. As Herbert Kaufman states:

> More vigorous efforts to improve service were instituted, clearly in order to make the New York field more attractive. The principal road to Floyd Bennett was widened and repaired. Bus service connecting the field with the subway was begun. Work on a seaplane base was rushed, and the City tried to persuade the backers and operators of seaplanes to designate the Brooklyn base as their terminus. There were even steps in the direction of a flying shuttle service to Manhattan designed to cut the time needed to reach Times Square to eight minutes. The Commissioner of Docks announced optimistically, "Floyd Bennett Field's future appears brighter at present than at any time since its dedications, and, with the field rapidly achieving recognition as one of this country's greatest airports, it is believed that, in the very near future, it will be the center of all aviation activity in the New York area."[28]

However, city officials underestimated the quality of the Newark Airport and were overly confident of their ability to convince federal officials that Floyd Bennett Field should monopolize the airmail business in the metropolitan area.

---

28. Kaufman, Gotham in the Air Age, pp. 152-53.

As mentioned earlier, the Post Office Department maintained its own fleet of aircraft to fly the airmail from 1918 to 1927. But in the latter year, the department began to contract out the business to the commercial airline companies that were springing up throughout the country. It was lucrative business for the new struggling companies, who proved willing to go out of their way to use airports that only had the approval of the Post Office Department. When the Newark Airport was completed in 1928, its officials took particular care to insure that their facility met the requirements of the Post Office Department, and, consequently, the field was designated the airmail terminus within the New York metropolitan area. In 1928 there simply was no other airport that came close to matching the up-to-date and, in many ways, innovate facilities of the Newark Airport. The field's assests were also enhanced by the highway system Newark built to connect it with Manhattan, most notably the Pulaski Skyway that terminated at the Holland Tunnel. Therefore, Newark airport had modern facilities as well as quick and efficient transportation routes to the central New York area.

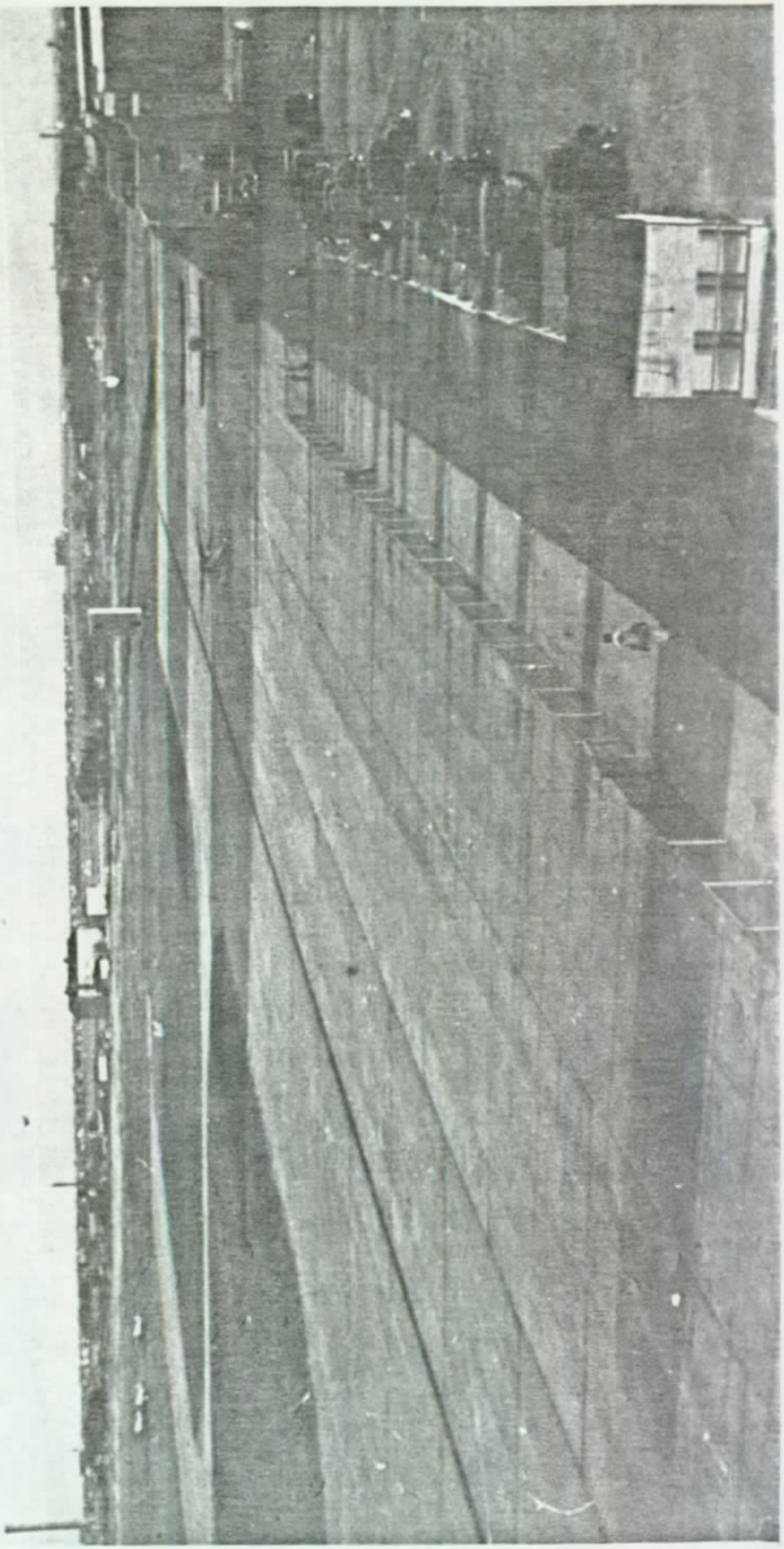
Though it appears they were not aware of it at first, New York City officials had to convince the Post Office Department that their new airport was better than the Newark facility, because it would be expensive to shift the designated terminus from one to the other. Unfortunately for the New York officials, because of the lucrative nature of the airmail business, if they failed to have the terminus shifted from Newark, there was also little chance that the major airline companies would use their new airport for commercial traffic.

The man who led the fight for recognition of Floyd Bennett Field as the airmail terminus was Fiorello H. LaGuardia, who became mayor of New York on January 1, 1934. LaGuardia was an aviation enthusiast. He had been an Army Air Corps pilot during the First World War and later served as a Congressman from New York. He appreciated the great potential for aviation and had many friends throughout the airline

Photograph No. 8

View looking south from the Administration Building Control Tower showing the apron area, the brick spotlight tower, part of Hangar 3, and part of the Barren Island community that remained south of the field about 1933.

Smithsonian Institution.



industry.[29] The new mayor "fired the first shot even before he officially took over the reins of city government."[30] In November 1933, after his election campaign, LaGuardia took his wife to Florida to rest. On the way back, they flew with TWA, then known as Transcontinental and Western Air Lines. When the flight landed at Newark Airport on November 24th, LaGuardia refused to disembark from the aircraft. He declared to frustrated and surprised airline officials that his ticket stated that his flight terminated in New York. Newark, New Jersey was not New York, so he insisted that he be flown to Floyd Bennett Field. After some haggling, the TWA aircraft was flown over to the Brooklyn airport.[31] The incident gained publicity for the new mayor and Floyd Bennett Field, yet it did nothing to change the airmail situation in the New York metropolitan area.

During 1934 and 1935 LaGuardia and his administration began to put pressure on the Post Office Department to shift the airmail business from Newark to Floyd Bennett Field. At the same time, coincidentally, the postal authorities in Washington were trying to recover from a scandal that involved the way airmail contracts were awarded to the various airlines. Favoritism was charged, and to rectify the situation, Postmaster General James J. Farley, cancelled all existing contracts and initiated an investigation of the matter. The Army was ordered to carry the airmail during the interim period. In the midst of this controversy and reorganization, New York City officials lobbied hard to have the Post Office Department compare the various advantages and disadvantages of the Newark Airport and Floyd Bennett Field, being certain that the New York airport would come out on top.

---

29. Ibid., p. 153.

30. Ibid.

31. Ibid.

Pressure was on the New York City officials. They had spent nearly four million dollars building Floyd Bennett Field, and for it to be a commercial success they had to get the major airlines to use the facilities. Yet such a move by the commercial carriers hinged on Floyd Bennett Field's being designated as the airmail terminus. A letter from Jack Frye, vice president and general manager of TWA, to LaGuardia, dated September 21, 1934, spelled out the city's dilemma:

> We wish to advise you that this Company is prepared to enter into an agreement with the City of New York for the use of Floyd Bennett Airport as its eastern terminal, under the terms agreed upon with your representatives. The contract embodying these terms is now being prepared.
>
> As explained to you at our recent conference, it will be necessary that Floyd Bennett Airport be designated by the Post Office Department as the airmail terminal for New York City before we can transfer our operations.
>
> You stated that you were taking steps to have this accomplished, and we would appreciate advice from you as to when you expect to have this consummated.[32]

Consequently, LaGuardia vigorously pursued the matter. Every Congressman from Brooklyn wrote James J. Farley a letter extolling the virtues of Floyd Bennett Field and pointing out the faults of the Newark airport. Floyd Bennett Field, they stated, was more modern, more accessible, and part of New York City. The inadequate facilities at Newark airport, which included poor maintenance accommodations, no restaurant, a poor runway, and no central administration building, led the Congressmen to believe that only political reasons had led to Newark's selection in the first place. The assistant postmaster general at the time of the selection, W. Irving Glover, was a Newark resident.[33] The Congressmen failed to note that Floyd Bennett Field did not exist when Newark airport was completed and selected for the airmail terminus.

---

32. Fiorello H. LaGuardia Collection, Box 721, City of New York Municipal Archives.

33. Letter to James A. Farley, December 5, 1934, LaGuardia Collection, Box 721.

LaGuardia finally succeeded convincing the Post Office Department to review the airmail situation in the New York area. During the winter and early spring of 1935, technical experts from the Post Office Department looked into the situation. A preliminary indication of the outcome of this review came in a letter, dated February 6, 1935, to LaGuardia from Harllee Branch, Second Assistant Postmaster General. While Branch admitted that Floyd Bennett Field was "one of [airports] in the country," he candidly stated that the "inaccessibility" of Floyd Bennett Field was the "big obstacle" preventing to its designation as the airmail terminus. The road route from southern Brooklyn to Manhattan would not allow "satisfactory service," while the alternative communications links suggested for the field were not realistic. If the Long Island Railroad was extended to the airport there would be no assurance of a "sufficient frequency of schedules." The suggestion of extending the pneumatic mail tubes that operated throughout Manhattan and in northern Brooklyn to the airport was not realistic because the tubes could not handle outgoing mail, which had to be bagged or parcels. Seaplane service would not be dependable enough and would lead to greater expense. Newark was more suitable as the airmail terminus for two reasons. First, it was close to the major rail lines coming into the metropolitan area and, therefore, if aircraft were grounded by bad weather the mail could easily be sent out by train. Second, the highway system linking Newark to Manhattan allowed quicker and, thus, less expensive communications with that area. Branch ended his letter by stating that, "The Department will be glad to hear further from you . . . as to how, in your opinion, equal or better facilities for handling the mail can be provided at Floyd Bennett Field."[34] The opinion in this letter was formalized into Post Office Department policy on August 24, 1935, when Branch made the following statement:

> After months of investigation by . . . the Post Office Department, and after careful consideration of all points involved, it has been determined to retain Newark Airport as

---

34. Harllee Branch to Fiorella LaGuardia, February 6, 1935, LaGuardia Collection, Box 721.

the Air Mail terminus for the air mail routes serving the New York metropolitan district.[35]

New York had lost the first round.

Most mayors would have given up the fight after Branch's decision in August. Yet Fiorello LaGuardia was not like most mayors. He was determined to carry on the fight and take the issue straight to James J. Farley.

LaGuardia intended to have the facts before him when he presented his case for Floyd Bennett Field. He ordered the 17th Division of the New York City Police Department to investigate the most direct route from Manhattan to the new municipal airport. The route from Pennsylvania Station to Newark airport and back was timed in good and bad weather. The results showed that the best time going to Newark was twenty-six minutes while the best return time was twenty-four minutes. The best time from Pennsylvania Station to Floyd Bennett Field was thirty-three minutes, and the best return time was thirty-eight minutes. Clearly the evidence LaGuardia received from his own police force supported Newark airport and not Floyd Bennett Field.[36]

Possibly because of the results of this police experiment, LaGuardia shifted his approach in a letter to Farley in October. He suggested to the postmaster general that Floyd Bennett Field, along with two other unnamed airports, be designated alternate airmail terminals, in case Newark airport was closed due to bad weather. LaGuardia insisted that this suggestion was based largely on his desire to insure that the most stringent safety standards for flying were maintained in the New York area. Over a five year tryout period this alternate field plan would cost

---

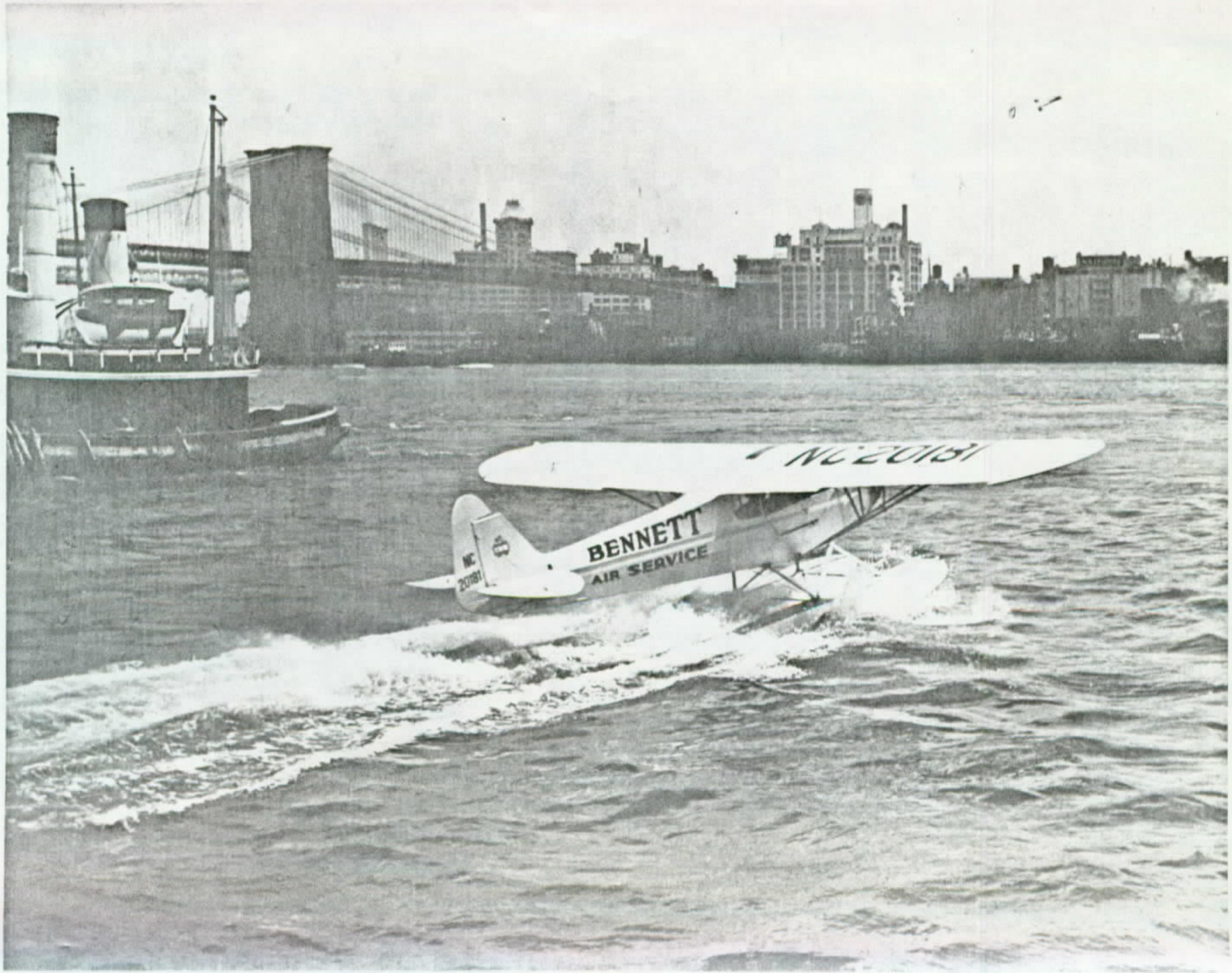
35. Kaufman, Gotham in the Air Age, p. 155.

36. "Report on the Most Direct Route from N.Y.C. to Floyd Bennett Airport," September 26, 1935, LaGuardia Collection, Box 721.

Photograph No. 9

Seaplane leaving the Manhattan Skyport on the East River in June of 1937. This is the type of aircraft that would have provided the shuttle air service between Floyd Bennett Field and Manhattan.

New York Municipal Archives.


BENNETT
AIR SERVICE

an estimated one million dollars. The mayor did not specify in his letter who would have to absorb this expense.[37]

LaGuardia's second effort to have the Post Office Department recognize Floyd Bennett Field culminated on December 12, 1935, at the Post Office Department building in Washington. On that date a "Public Hearing before the Postmaster General of the United States, in the Matter of the Application of the City of New York for the Designation of Floyd Bennett Field as an Air Mail Terminus" was held. Grover A. Whalen chaired the committee sent by the business and political leaders of New York to present the case for Floyd Bennett Field. He started out by stating that his argument would be based solely upon two things: the inalienable right of the city of New York to a place on the air map of the United States; and the availability of Floyd Bennett Field as an air-mail terminus. Whalen pointed out that

> it should be remembered that whether the Postmaster General desires to or not, he controls the future development of municipal airports by the power that he must officially exercise in the designation of airmail terminals throughout the United States. It should also be noted that due to this fact air transport companies have stopped only at airports holding a Post Office designation.

The New York representative went on to point out that the size of New York City, its commercial importance, its federal tax contribution, plus the number of post offices in the city argued that the city deserved to have its own airmail terminus. Then Whalen enumerated the advantages of Floyd Bennett Field. He spoke of the reasons the field was built, its cost, its facilities, its accessibility, the possible mail tube service, the good weather, the area served by the field, the airmail volume, etc. These were the same arguments that were presented to the Post Office Department the preceeding year. Whalen finally presented numerous

---

37. Letter to James A. Farley, October 3, 1935, LaGuardia Collection, Box 721.

witnesses who spoke favorably of the field and recommended its designation as an airmail terminal.[38]

The postmaster general did not decide the issue immediately. Farley listened to the testimony at the hearing and then reviewed the transcripts of all the other correspondence pertaining to the matter. Finally, on March 21, 1936, he announced his decision. He ruled against Floyd Bennett Field. Essentially, Farley rejected the New York application because the city still had not shown that by shifting the airmail service to Floyd Bennett Field the Post Office Department would be able to improve service or save money. In fact, all the evidence showed that service would decline and greater expense would be incurred. Farley concluded by saying,

> Should some feasible plan be later evolved for use of Floyd Bennett Field, which would provide more expeditious service to the majority of the patrons of the airmail service in the New York metropolitan area, further consideration will be given to this matter.[39]

This decision, along with the inability of New York officials to solve the accessibility problem, killed Floyd Bennett Field's chances of commercial success. Though the issue was brought up again on a number of occasions, largely by the press and certain business leaders, the city went ahead with plans to build another airport, LaGuardia Field, which would be more accessible to Manhattan and the railroads. Floyd Bennett Field stayed out of the center of commercial aviation in the New York metropolitan area. It was never a commercial success.

---

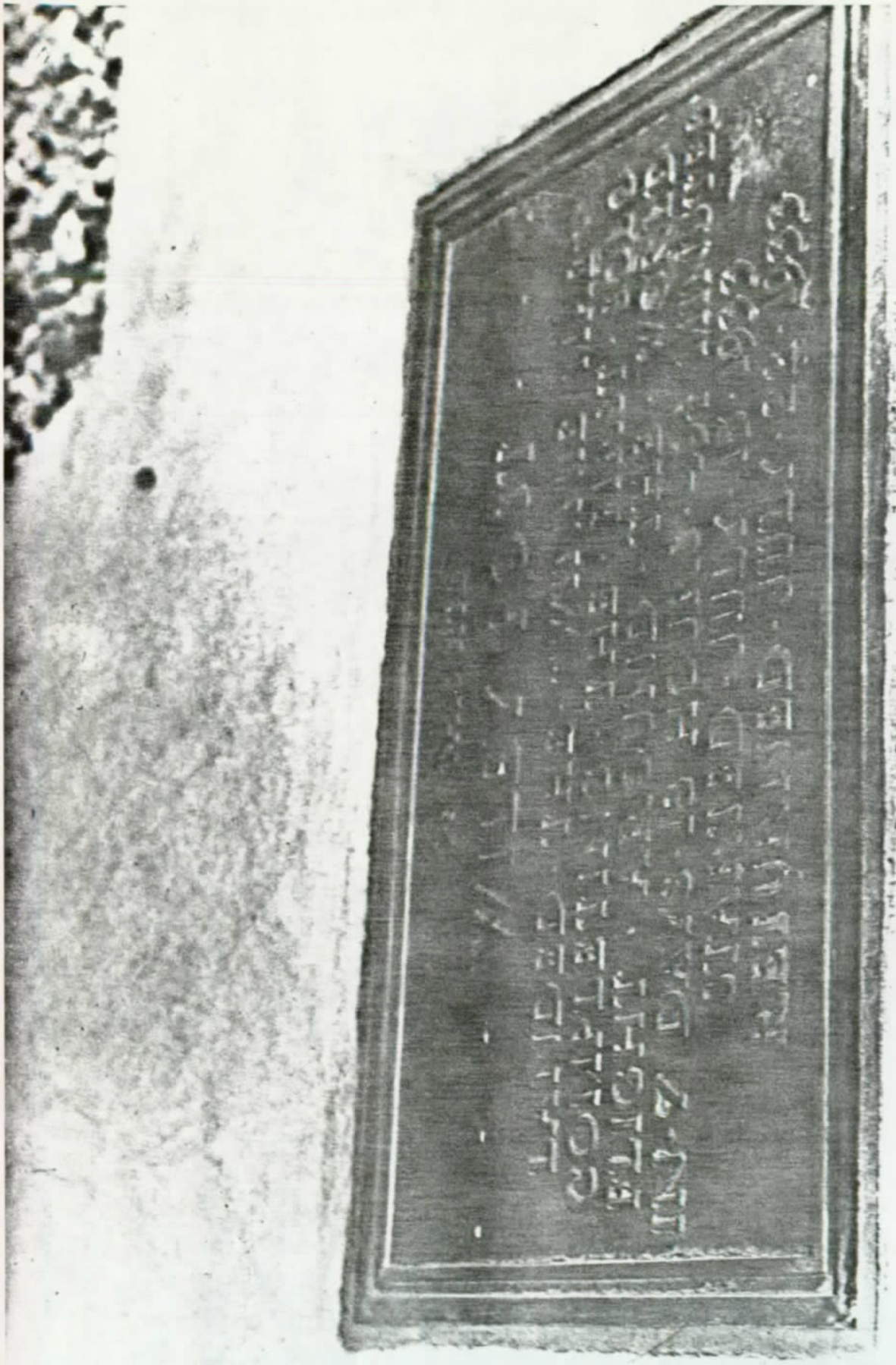
38. Printed copy of the hearing transcript, dated December 12, 1935, LaGuardia Collection, Box 721.

39. Kaufman, Gotham in the Air Age, p. 156.

Photograph No. 10

Tablet commemorating Wiley Post's solo around-the-world flight in 1933 placed on the apron in front of the Administration Building in 1935 after Post's death.

WPA photo from the files of the New York Municipal Archives.



Record Breaking Flights at Floyd Bennett Field

Though Floyd Bennett Field was not a commercial success in the 1930s, it was, nonetheless, the scene of important aviation events. Aviation in the United States made great strides during that decade. The commercial side of the business became dependable, efficient, and money making. Also military aviation changed rapidly as new equipment and new technical and strategic concepts about the military use of aircraft were introduced. The technical advances that were made in engine and airframe design during the era paved the way for the commercial and military success. As a result, the major characteristics of flying that exist today were developed.

The series of important pioneering flights that began in the 1920s and made Lindbergh, Byrd, and others famous throughout the world continued into the 1930s. Speed, altitude, and distance records were set almost annually. A whole new crop of aviators emerged to challenge the notoriety of Lindbergh and his contempories of the 1920s. Wiley Post, Douglas "Wrong Way" Corrigan, Roscoe Turner, Jimmy Doolittle, Hugh Herndon, Howard Hughes all became famous for setting speed or distance records or making flights that were in one way or another unique. Also, during the 1930s, women became closely involved in the new aviation developments. Amelia Earhardt, Blanche Noyes, Nelen Richey, Laura Ingalls, and Jacqueline Cochran established themselves as pioneer heroines of aviation during that decade.

Floyd Bennett Field was involved in many of these historic flights. There are two reasons why the new New York municipal airport, in spite of its commercial failure, became a favorite of pioneering aviators. First, its location set it up as a perfect jump-off site for transatlantic, cross-country, and around-the-world flights. Second, the field had superb facilities, and, in particular, one of the finest sets of runways in the world. The runways were perfect for long distance or speed flights that required a heavy fuel load. Also, an added bonus was the fact that there were virtually no obstacles around the field. A pilot could take off and not have to worry about making a rapid climb to clear a nearby hill

or an artificial obstruction. Floyd Bennett Field was ideally suited for the record breaking flights of the 1930s, and pilots were quick to extoll its advantages and make use of them.

A detailed description of the great flights that either originated or terminated at Floyd Bennett Field during the 1930s will not be given here, largely because it has been done in Tony P. Wrenn's Study of Gateway National Recreation Area.[40] However, some of the flights were unique and will be mentioned as part of this survey of the field's historic importance.

A total of twenty-six attempted trans-Atlantic or around-the-world flights originated or terminated at Floyd Bennett Field between 1931 and 1939. The first significant one began on July 28, 1931. On that date Russell N. Boardman and John Polando left New York on a flight that set a new nonstop distance record of 5,011 miles. They flew to Istanbul, Turkey in the "Cape Cod", a single engine Bellanca monoplane. On the same day that Boardman and Polando left New York, Hugh Herndon and Clyde Pangborn left Floyd Bennett Field on an attempt to break the around-the-world record that had been set two months earlier by Wiley Post and Harold Gatty. They did not succeed, falling rapidly behind the Post-Gatty pace. When they reached Japan, Pangborn and Herndon decided to attempt a nonstop flight across the Pacific. They left Japan on October 4 and flew directly to Wenatchee, Washington, winning a $25,000 Asahi Prize for their feat.[41] The most famous around-the-world attempts were by Wiley Post and Howard Hughes. Post succeeded in setting a new world record by flying solo around-the-world, covering 15,596 miles in seven days, eighteen hours, and forty-nine and a half

---

40. U. S. Department of the Interior, General History of the Jamaica Bay, Breezy Point, and Staten Island Units, Gateway National Recreation Area, a report prepared for the NPS by Tony P. Wrenn. (Denver: National Park Service, 1975.)

41. Gene Gurney, A Chronology of World Aviation (New York: Franklin Watts, 1965), p. 19.

Photograph No. 11

Howard Hughes disembarking from his aircraft after his record breaking around-the-world flight that began and ended at Floyd Bennett Field in 1938.

Brooklyn Public Library - Brooklyn Collection.

minutes between the 15th and 22nd of July 1933. His time record was shattered five years later when Howard Hughes and four companions, radio engineer Richard Stoddart, flight engineer Ed Lund, and navigators Harry P. M. Connor and Lt. Thomas Thurlow, flew a Lockheed Vega around-the-world in three days, nineteen hours, and seventeen minutes, between July 10 and 14, 1938. There were also many unusual trans-Atlantic flights that either ended in tragic failure or success. Probably the most unique was the flight from Floyd Bennett Field to Dublin, Ireland by Douglas Corrigan on July 17-18, 1938. Corrigan left New York supposedly on a flight that was to take him to California. But instead, he flew the wrong compass heading and ended up in Ireland, thus earning the lasting nickname, "Wrong Way" Corrigan.

Along with the around-the-world and trans-Atlantic flights, Floyd Bennett Field witnessed many record setting cross-country flights during its heyday. Between 1932 and 1939, ten notable crosscountry flights originated or terminated at the New York airport. The first was by James G. Haizlip who flew in the Bendix Trophy Race from Los Angeles to Floyd Bennett Field in ten hours and nineteen minutes establishing a transcontinental record, on August 29, 1932. The same day Col. Roscoe Turner completed a similar, but slower, flight. They both broke the record then held by Major James Doolittle.[42] Roscoe Turner, during the following years, continued to break record after record on cross-country flights in a Wendell-Williams aircraft with a Pratt & Whitney Wasp engine. Turner was a dashing figure who looked the part of the aviator hero and made a name for himself carrying a lion cub along as a companion.

There were also a number of east-west and west-east records set by women during this period. Twice during 1935 Laura Ingalls set trans-continental records, flying from Floyd Bennett Field to Burbank, California in July and returning in September. Amelia Earhardt

---

42. Wrenn, Gateway, p. 20.

participated in the Bendix Race during July 1935, but was forced down in Wichita, Kansas.[43]

The final cross-country record set at Floyd Bennett Field came on July 16, 1957. Major John Glenn, Jr. set a Los Angeles to New York record with an average speed of 760 miles per hour in a Chance-Vought F8U-1 Crusader.[44]

There were also other types of records set at Floyd Bennett Field. Amelia Earhardt set a high altitude record there, while Jimmy Doolittle and others set transport aircraft or endurance records. All of these flights contributed to the technical development of aviation during the 1930s, proving to the American public that they could have confidence in the safety and durability of the aircraft that were then coming into production. The boost in public confidence during the 1930s was one of the key factors that led to such rapid developments in commercial aviation during those years. Floyd Bennett Field, because of the quality of its facilities and its location played an important role in that surge of public confidence.

The Navy Purchases Floyd Bennett Field

Throughout the thirties, there was activity at Floyd Bennett Field in addition to record flights. The facilities were used by private aircraft companies to store and maintain their aircraft. They were used by individual pilots and instructors, and, for a period, by American Airlines as a base for its flights between New York and Boston. The New York City Police Department established an aviation unit there. Also, in 1936 the Coast Guard secured a long term lease from the city for a 650 by 650 foot square (about ten acres) plot of land on the east side of the field

---

43. New York Times, July 2, 1933, p. 1.

44. Gurney, A Chronology of World Aviation, p. 33.

for an air station. A contract was awarded in February 1937 to the Graves Quinn Corporation to build a hangar, barracks building, seaplane ramp, garage, taxiways, roads, and other support facilities. The site was completed in early 1938 and at that time the Brooklyn Coast Guard Air Station, which exists today, was commissioned. It was responsible for flying coastal patrols along the major sea lanes leading into the New York area, and carrying out air-sea rescue missions in the vicinity.[45] The Coast Guard activity, however, added to the air traffic in the Floyd Bennett Field area. The annual rent of one dollar on the land, did nothing to ease the financial troubles of the field since the tenants that did pay rent did not pay enough to offset the lack of commercial business. The facilities were well maintained and at times improved, particularly during the mid-thirties when the WPA added two more runways, some smaller buildings, and did much landscaping. Floyd Bennett Field continued to be one of the finest, though largely unused, airports in the country.

In spite of the various uses of Floyd Bennett Field during the 1930s the airport was a commercial failure and became a burden to the city of New York. It is not suprising, then, particularly after LaGuardia Field was built, that LaGuardia and other city officials were receptive to a Navy offer to buy the field so thay could turn it into a Naval Air Station.

The Navy's interest in Floyd Bennett Field can be traced back as early as the spring of 1931. On April Ist of that year the naval reserve aviation unit which had been stationed at Curtis Field, Valley Stream, Long Island

---

45. "History of the Coast Guard Air Station Brooklyn, N.Y., Part G, Aircraft Operations," in 3d Naval District World War II Narrative Histories, Records of the United States Coast Guard, Record Group 26, National Archives, Washington D.C.; "Memorandum to All Divisions and Sections" from U. S. Coast Guard Headquarters, Washington, D.C. March 1, 1837, Correspondence, 1936-1941, R. G. 26.

since 1929, moved to the newly completed municipal airport and occupied Hangar 5. The unit's mission was to train reservists and recruit pre-flight naval aviators.[46] This association with the airport continued throughout the 1930s and twice, in 1937 and again in 1939, the Navy expanded its facilities. By the latter year the reserve unit occupied both Hangars 1 and 2, Building A, constructed between the two hangars, and one half of the Dope Shop.[47] The Navy's presence and investment in the field was growing when the 1930s ended and war broke out in Europe, prompting a move towards military expansion in the United States.

In late 1939 the Navy considered expanding substantially its facilities at Floyd Bennett Field. It first requested that it be allowed to acquire land on the east side of the field next to the Coast Guard complex for a seaplane base. The Germans had begun their U-boat campaign against British shipping, and the United States wanted to extend what it called its "neutrality patrol." This was approved by Congress, and a big new seaplane facility was constructed during early 1940 on the 18.9-acre lot.[48] Late in 1940 the Navy again expanded its facilities at the field when it took over Hangars 3 and 4. At the same time, the unit requested space to build barracks for 100 aviation students who would be trained at the field.

---

46. "History of the Naval Air Station, New York" in the records of Gateway National Recreation Area, p. 2; and "Commanding Officer's Annual Report to the Commandant 3d Naval District," U. S. Naval Reserve Aviation Base, Floyd Bennett Field, Branch of the National Archives, R. G. 181, Box 188, Regional Federal Archives and Records Center, Bayonne, New Jersey.

47. Letter from the Chief of the Bureau of Aeronautics to the Chief of Naval Operations, November 14, 1939, R. G. 80, NA. General Records of the Department of the Navy.

48. Letter from the Navy Judge Advocate General, December 21, 1939, Box 206, Records of Naval Districts and Shore Establishments, FARC.

Photograph No. 12

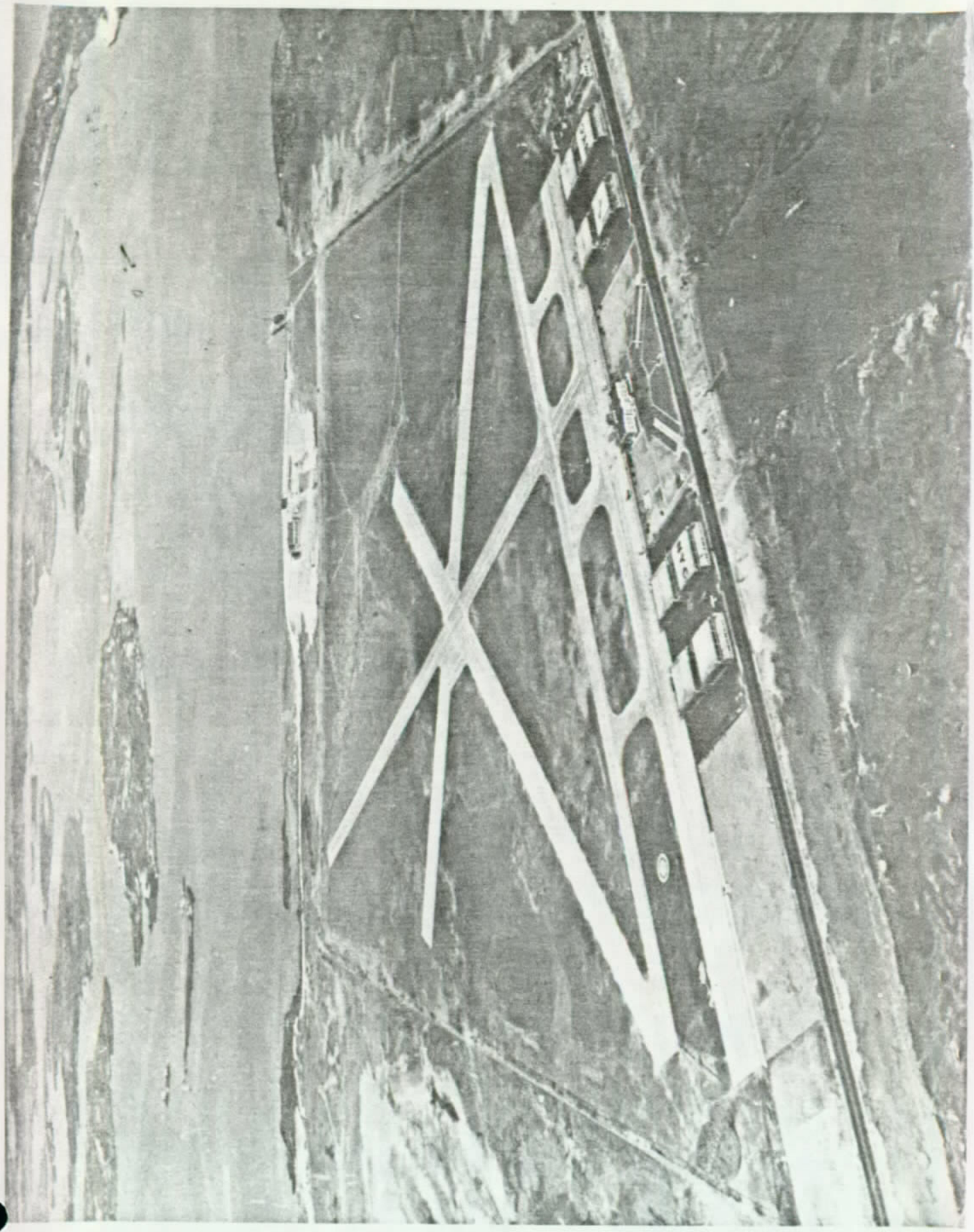
Aerial view of Floyd Bennett Field looking south and showing the beginning of the construction of two new runways by the WPA, January 1936.

National Archives, Photograph no. 80-G-466041.

Photograph No. 13

Aerial view of Floyd Bennett Field showing the expansion of the runway system by the WPA ca. 1937.

Smithsonian Institution.



They agreed to pay $8,000 a year in rent for these additional facilities beginning October 1, 1940. As 1940 ended, however, the Navy began to negotiate for the outright purchase of the whole field from New York City to make it a Naval Air Station.

All of this activity occurred in the increasingly tense atmosphere of the expanding european war which threatened, despite the isolationist sentiment of the majority of Americans, to draw this country into war. A naval air station was urgently needed in the New York area. For this reason the Navy considered buying Floyd Bennett Field and ordered the naval reserve training unit at the field to investigate whether or not there was any other suitable place in the New York area for a naval air station.[49]

In early 1941, at the same time that Roosevelt declared a national emergency, the Navy, with no other suitable site available, moved to buy the field by starting condemnation procedures. They had made an offer for the field which the city rejected. The city countered the government lawsuit by offering to lease the field to the Navy on a long term basis for one dollar a year. The city did not want to lose control over the field, wanted to assure that the police air unit was allowed to retain a right to use it, and was probably afraid it would not get a fair price for it, since the facts showed that of the $10,000,000 spent on the airport since 1928, over $6,000,000 were federal funds.[50] The Navy first took the city up on its offer. The field was closed to commercial traffic on May 26, 1941. A week later, June 2, the New York Naval Air Station, Floyd Bennett Field, was commissioned.

---

49. Memorandum to the Chief of Naval Operations from the Bureau of Yards and Docks, November 25, 1941, Naval Facilities Engineering Command Files, Port Hueneme, California.

50. Memorandum from J. Randall Creel to Mr. Cahill, U. S. Attorney in New York, October 10, 1940, Box 202, R.G. 181, Bayonne FARC. Hereafter cited as Creel Memorandum.

Numerous official figures were present for the ceremonies, including James V. Forrestal, under-secretary of the Navy; Admiral Harold R. Stark, chief of naval operations; Rear Admiral Chester W. Nimitz, chief of the Bureau of Navigation; Rear Admiral John H. Towers, chief of the Bureau of Aeronautics; Fiorello H. LaGuardia, mayor of the city of New York; and John Cashmore, president of the Borough of Brooklyn. It was estimated that 50,000 people attended the commissioning.[51] In spite of the lease, however, the Navy continued to move towards an outright purchase of the airport.

Finally, Assistant Secretary of the Navy for Air Artemus L. Gates wrote LaGuardia on December 2, 1941, that the government was prepared to pay $9,750,000 for Floyd Bennett Field and the adjacent city-owned and privately owned areas which would expand the facility to over 1,200 acres.[52] The final deal was consumated on February 18, 1942. The municipal airport became Navy property and entered World War II. It would serve during that conflict with distinction, playing a vital role.

The Second World War

The Second World War started in Asia as early as 1931 and in Europe in September 1939. The United States did not get legally involved in the conflict until the Japanese staged their surprise attack on Pearl Harbor on December 7, 1941. The Navy, of course, played a vital role in winning the war, fighting major campaigns in the Pacific against the Japanese and the German U-boats in the Atlantic. On the home front, naval bases throughout the United States served as training facilities for new officers and men and also as jump-off points for supplies and men

---

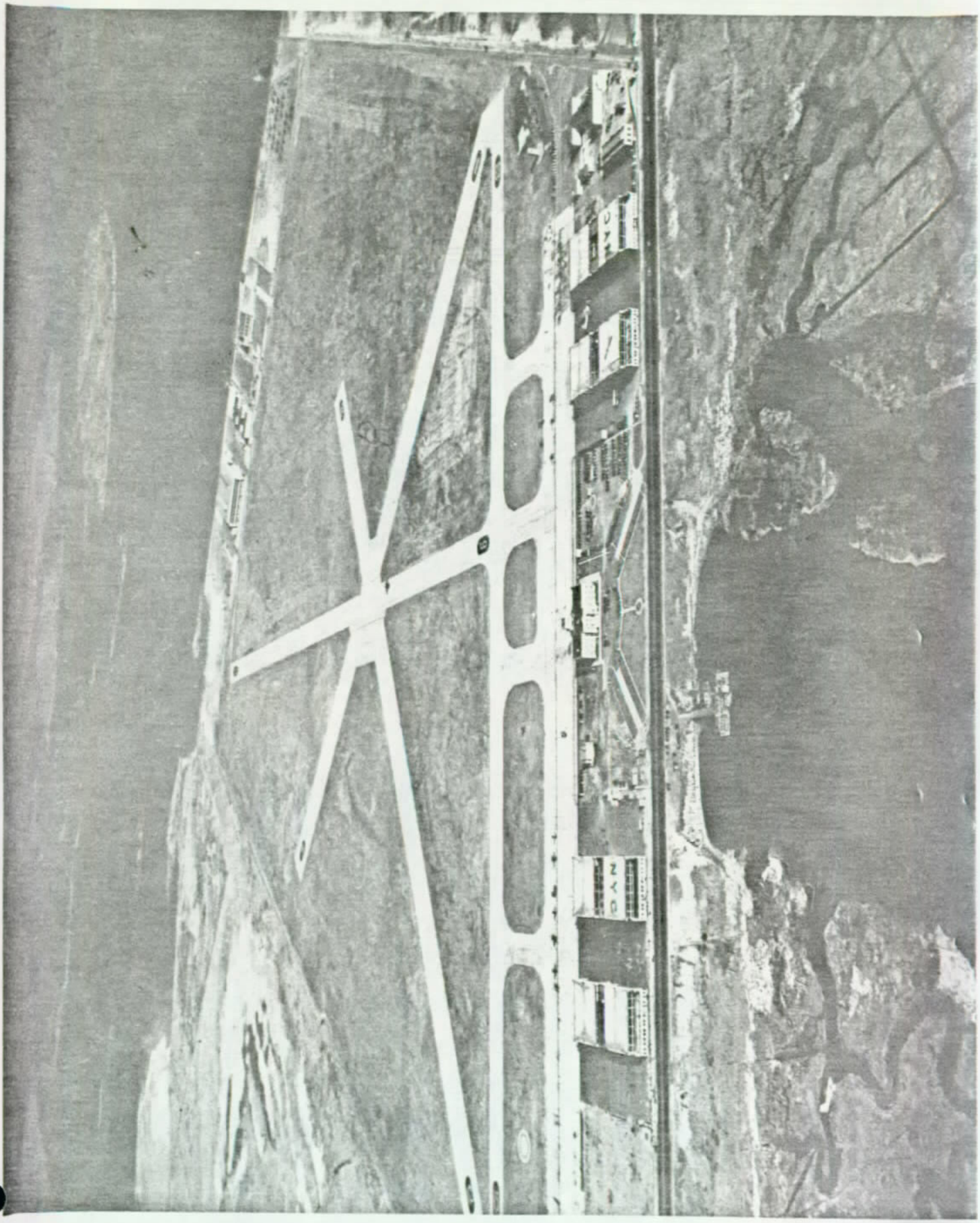
51. Public Relations Bureau of the Third Naval District Press Release, June 1, 1941, Box 201, RG 187, Bayonne FARC.

52. Letter from Artemus L. Gates to Fiorello H. LaGuardia, December 2, 1941, Naval Facilities Engineering Command Files, Port Hueneme.

Photograph No. 14

Aerial photograph of Floyd Bennett Field taken January 17, 1942, six months after the Navy took over the whole field. In the upper right can be seen the Coast Guard Air Station and the new Navy Patrol Base.

National Archives, Photograph No. 80-G-354816.



going to the various theaters of combat. Floyd Bennett Field was important to the war effort because it served many functions as a training and supply facility.

Extensive new construction was begun at the field immediately after the Navy leased it in the summer of 1941. Three of the four existing runways were widened to 300 feet and lengthened to 5,000 feet. In addition a new Runway 6-24, measuring 300 feet wide and 5,000 feet long, was constructed on the northern part of the field. A new seaplane hangar was built on the eastern side of the field and two seaplane runways were dredged out of Jamaica Bay. Also barracks, training classrooms, a BOQ, officers club, enlisted men's club, warehouses, machine shops, high explosives magazines, and a gunnery range were built. The taxiways and roads were extended. The Navy acquired land to the north and south of the field, evicting the last residents of the original Barren Island community.[53] The Navy also tried to acquire land to the west of Flatbush Avenue which belonged to the city of New York Parks Department, but Parks Commissioner Robert Moses blocked the attempt.[54] Even without the Marine Park property, however, the field was increased 300 percent in size and the facilities greatly expanded into a sprawling complex.

The new New York Naval Air Station fulfilled many missions during the war. One of its primary functions was to train aviation cadets for the fleet. Many of the new structures built during 1941 were designed for this function. Classrooms, barracks, auditoriums, and dining and recreation facilities were needed to house, feed, and train the recruits that were ordered there. In addition, a training squadron of Navy aircraft was stationed at the field to provide flight lessons. That unit

---

53. New York Daily News, November 7, 1940, p. C-1.

54. Western Union Telegram, Robert Moses to Vice Admiral Ben Moreel, March 16, 1944, Naval Facilities Engineering Command Files, Port Hueneme.

required supply, maintenance, and storage facilities as well as a staff of personnel to instruct the students and maintain the aircraft. This type of training was vital to the American war effort. As the United States expanded its Navy and as the importance of naval aviation was demonstrated in battle, Floyd Bennett Field and bases like it supplied the necessary manpower to the combat units.

The Naval Air Station was also the base for anti-submarine squadrons during the war. It has already been mentioned that neutrality patrols originated at Floyd Bennett Field as early as 1940. When the war began in late 1941, these squadrons were expanded as the United States moved to protect the ships entering and departing its most important East Coast harbor from the German submarine menace.

Floyd Bennett Field also served as a base for the Fleet Service squadrons during the war. These units consisted of carrier aircraft which maintained a communications link with the surface units in operation in the Atlantic--carrying mail, personnel, and vital supplies to and from the fleet. In this manner home front was able to stock the Naval units with new types of aircraft as they were produced.

Floyd Bennett Field was midway point for aircraft and supplies that went to the European Theater of combat. For example, on October 23, 1942, the Naval Air Station was ordered to load a shipment of Army aircraft bound for Europe onto barges.[55] There are many wartime photographs of aircraft with British markings parked in storage at Floyd Bennett Field awaiting shipment overseas.

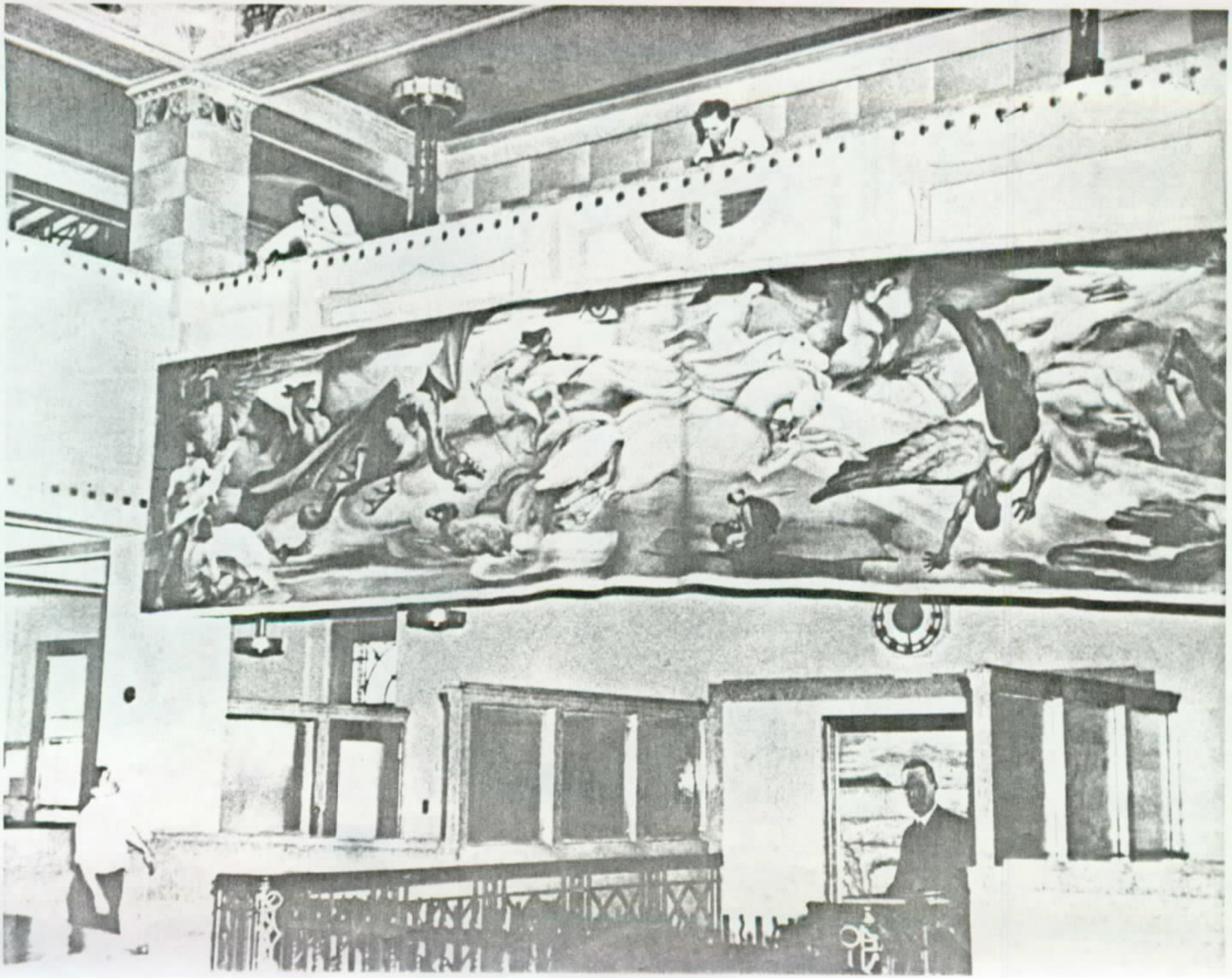
---

55. Letter from the Army to the Commanding Officer of Floyd Bennett Field, October 23, 1942, Bayonne FARC, Box 206, RG 181.

Photograph No. 15

View of the first floor lobby of the Administration Building at Floyd Bennett Field showing the portrait of Floyd Bennett and the WPA mural that was taken down in the late 1930s because of a protest that it was communist inspired.

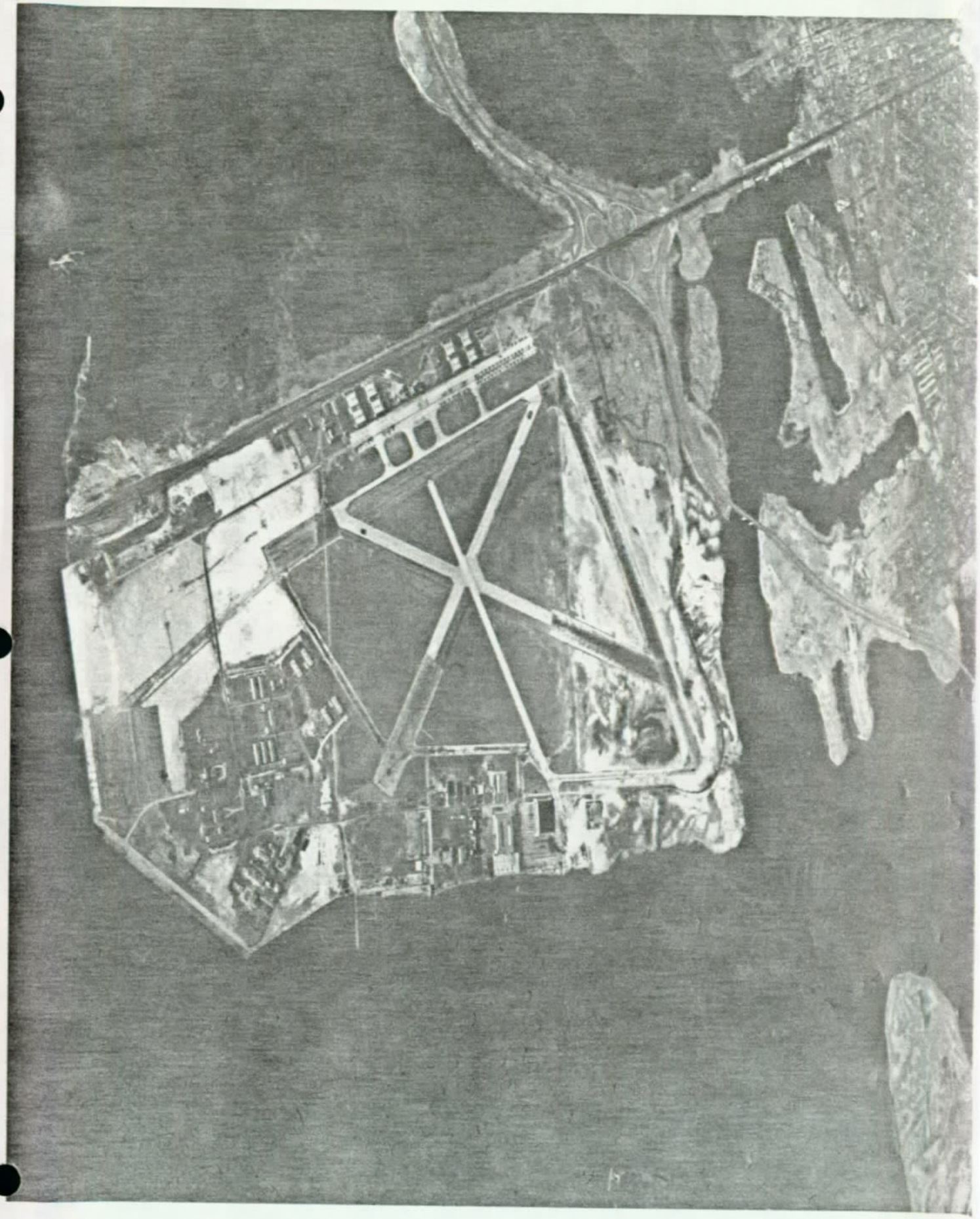
Brooklyn Public Library - Brooklyn Collection.



Photograph No. 16

Aerial view of Floyd Bennett Field November 1, 1943, showing the extensive changes made to the airport by the Navy during the early part of World War II.

National Archives, Photograph No. 80-G-85512.



Photograph No. 17

Aircraft parking or storage area north of hangar row at Floyd Bennett Field early in World War II. The aircraft lined up in rows, which have British markings, are DeHavilland "Mosquitos."

National Archives, Photograph No. 80-CF-71245-2A.

70

One photograph shows hundreds of DeHavilland "Mosquitoes" lined up ready for shipment.[56]

Finally, Floyd Bennett Field became the East Coast terminal of the Military Air Transport Service (MATS) in December 1943.[57] The field averaged 720 flights per month involving over 5,000 passengers and a million pounds of air cargo. Floyd Bennett Field, as the East Coast terminal, was the receiving point for much of the traffic heading for Europe or the North Atlantic as well as the distributing point for personnel and supplies going the other way. The volume of MATS traffic made Floyd Bennett Field one of the busiest airports in the United States during the war, especially when its other activities are added.

After The Second World War

Floyd Bennett Field retained its identification as a naval air station until July 1946, when it was reorganized and designated a naval air reserve training station. It maintained this title until the early 1950s when it became one of the naval air stations under the jurisdiction of the chief of naval air reserve training. As such, the field essentially remained a naval air reserve facility. Beginning in 1947, there was some talk within the New York area of returning part of the field to the control of the city so that it could be used as a commercial facility to take up the excess traffic of LaGuardia Field and the newly built Idlewild. Idlewild Airport was not quite finished and stability problems at LaGuardia Field needed repair work that would require the temporary closing of the airport. The reduced Navy activity at the field led the Navy to evacuate the old hangar row. They continued to use the Administration Building

---

56. National Archives Photograph No. 80-CF-71254-2A.

57. "U.S. Naval Air Reserve Training Command," a brief history in the files of Gateway National Recreation Area, p. 149.

but centered their activities on the southern and eastern sides of the field. So it appeared that Floyd Bennett Field was a logical alternative. The city never did get the use of Floyd Bennett Field, however, in spite of the press announcements that it would resume commercial operations. The airport congestion problems worked themselves out while the advent of the Cold War with the Soviet Union and then the Korean War led to a buildup of U. S. military forces and an increased need for all of the facilities at Floyd Bennett Field.

Shortly after the outbreak of the Korean War in 1950, three naval air reserve and two Marine air reserve squadrons of the Naval Air Station, New York, were recalled to active duty with the fleet. Thus began a reinvigorated life for Floyd Bennett Field which was to last to the end of the Vietnam conflict twenty years later. As a naval air station within the naval air reserve system, Floyd Bennett Field served a multi-faceted mission. Its primary function was to provide "fully trained squadrons and an air wing staff for immediate fleet mobilization in the event of a national emergency."[58] In 1959 the staff at Floyd Bennett Field included 56 officers and 646 enlisted men, both Navy and Marine. Over 3,000 naval and Marine Corps reservists came to the field during regularly scheduled weekends to maintain their readiness to go on immediate active duty. A total of thirty-four aircraft squadrons were constantly in training for future combat. Pilots, navigators, and maintenance support personnel were trained at the field.

Many of the squadrons stationed at the field were called to active duty as the Vietnam War escalated during the mid-1960s. As the Americans withdrew from Vietnam and started a massive military demobilization, the Navy began to consider closing the field.

The state of New York considered turning Floyd Bennett Field into a broad housing complex, a kind of mini-city, to absorb some of the

---

58. "Background Information on the U. S. Naval Air Station New York," Naval Facilities Engineering Command Files, Port Hueneme.

housing needs of Brooklyn. The project would have housed 180,000 residents, costing 1.4 billion dollars for the homes, schools, parks, and other facilities. It would have resulted in "a massive relocation resource for the Bedford-Stuyvesant and surrounding areas of Brooklyn."[59] This plan fell through because of opposition from the city of New York and also from environmentalists who wanted to see the area turned into a park.

The Naval Air Station, New York, was decommissioned, nevertheless, in mid-1971. Only a small naval air reserve detachment was maintained on the eastern side of the field next to the Coast Guard Air Station. Three years later the remaining land was turned over to the Department of the Interior for inclusion in Gateway National Recreation Area.

---

59. New York Daily News, November 7, 1969.

CHAPTER II. A CONSTRUCTION HISTORY OF FLOYD BENNETT FIELD

The structures at Floyd Bennett Field that have been nominated for the National Register of Historic Places were built either during the first phase of construction that ended in 1932 or during the Works Progress Administration (WPA) phase that took place between 1934 and 1938. The data in this chapter will concentrate on the structures completed during those two periods. They include the runways and taxiways, the Administration Building, the eight hangars with their lean-tos, the four infill buildings between the hangars, the Dope Shop, two electrical vaults, the Sewage Pump Station, the Gasoline Pump House, and the Sprinkler Pump House. The initial construction of each unit will be documented and discussed along with the various modifications made to each structure through the years.

Two other major phases of construction took place at Floyd Bennett Field after the end of the WPA program in 1938. The first was during the Second World War, 1941-1945, when the Navy, having purchased the airport, greatly expanded the facilities for wartime use. The last phase of construction occurred in the years after the Second World War when the Navy continued to modernize the airport. These last two construction periods are not fully germane to this report, which concentrates on the historical period of the 1930s. Nevertheless, the modifications to the original structures made during those phases will be detailed and the new structures the Navy built will be listed.

The Initial Phase of Construction, 1928-1932

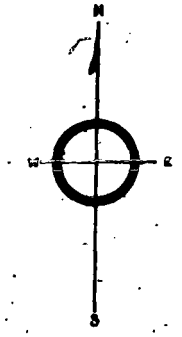
The city of New York made the decision to construct a municipal airport on Barren Island in 1928. At that point, the field and buildings had to be designed before contracts were awarded for the various jobs. Numerous design plans for the field were considered (see attached American Airports Corporation drawing for one rejected example). The plan which was finally accepted called for two runways, a row of hangars, and Administration Building on the west side paralleling

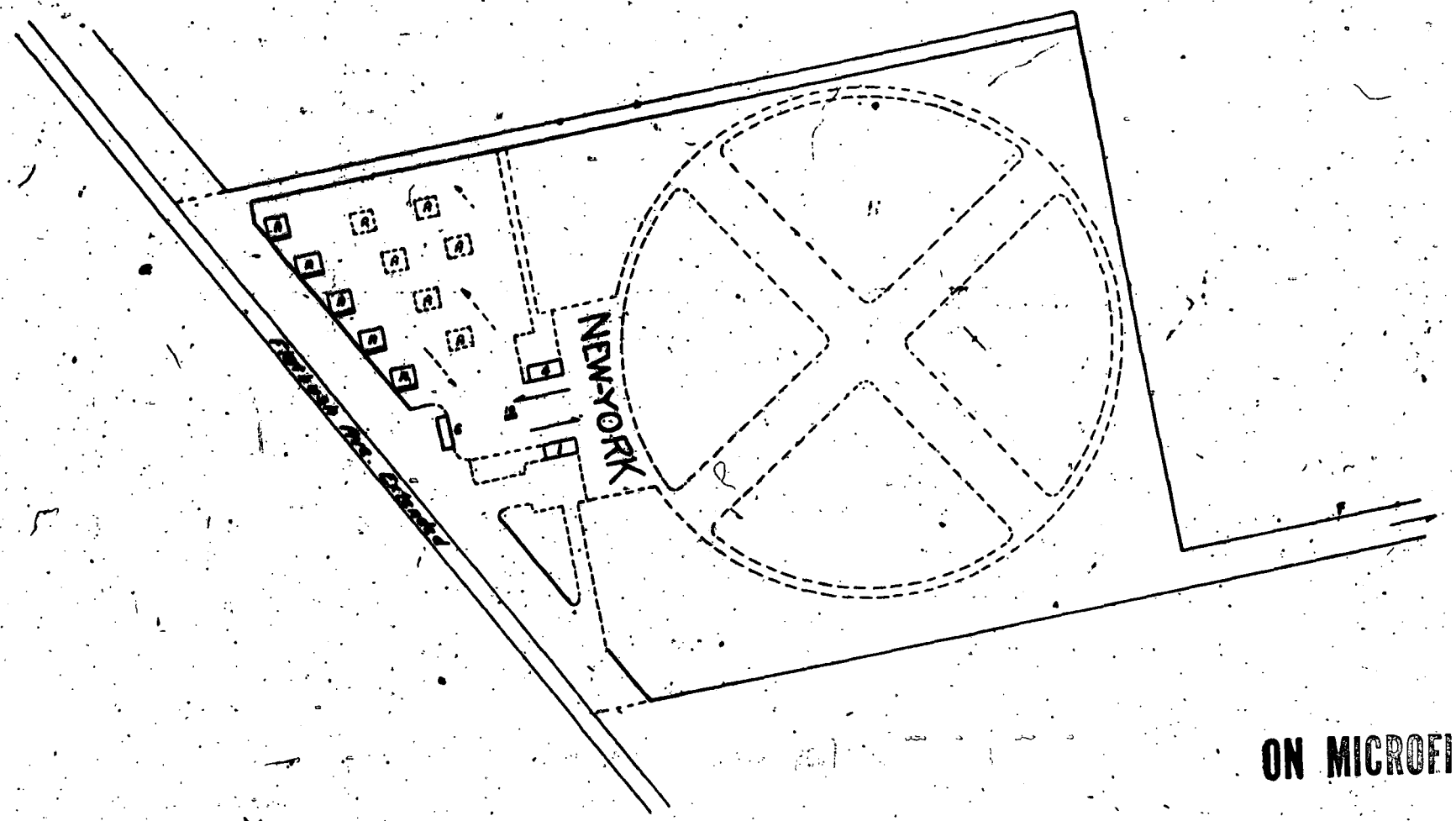
1 STATION.
2 DEPARTURE.
3 ARRIVAL.
4 SERVICE.

6 ADMINISTRATION (CONTROL TOWER)

10 GASOLINE.
A HANGAR.

E SEAPLANE.





ON MICROFILM

646/41930

AMERICAN AIRPORTS CORPORATION
527 FIFTH AVE. N.Y.C.

SKETCH OF PROPOSED LAYOUT
MUNICIPAL AIRPORT-BARREN ISLAND.
BOROUGH OF BROOKLYN. N.Y.

REDUCED SIZE REPRODUCTION

Flatbush Avenue and a seaplane base at the southeast corner of the field on Jamaica Bay (see attached Department of Docks drawing labeled "Layout of Municipal Airport"). Though only eight hangars were built along Flatbush Avenue and no seaplane hangars were built, the basic 1929 design was retained and the field looked much like the drawings throughout the 1930s.

The ground had to be prepared before any other type of construction could begin. Part of the hydraulic fill operation was completed even before the city decided to build an airport on Barren Island. In the years before 1928, the federal government spent $2,218,393.51 on dredging for the Jamaica Bay harbor project. Much of the silt taken out of the bay to make a channel was deposited on Barren Island.[1] Yet, the job had to be completed.

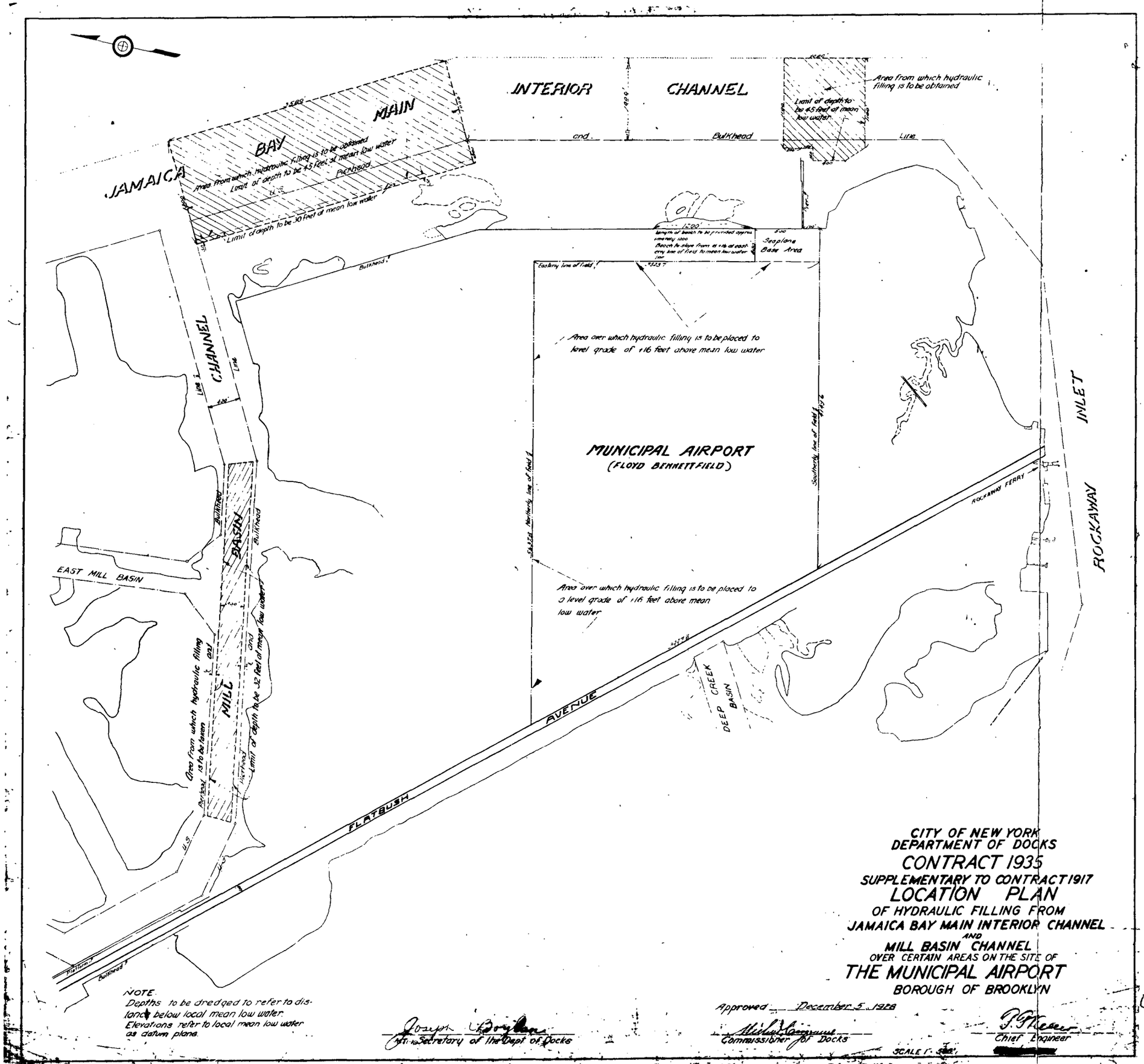
In 1928 the city of New York awarded two contracts to complete the sand fill operation at the Barren Island site. The first, No. 1917, was let to R. A. Perry of New York City for a total of $591,805. It included hydraulic filling and grading in an area of about 350 acres between Jamaica Bay and Flatbush Avenue. The level of the land was to be raised to sixteen feet "above mean low water."[2] The project was completed on May 16, 1929, at a cost of $591,814.74. The fill was taken out of the Mill Basin Channel north of the area and the Jamaica Bay Main Interior Channel which ran to the west.[3] The second contract, No. 1935, was needed to complete the work.

---

1. Creel Memorandum. This document, which lists the various contracts let on Floyd Bennett Field, was drafted when the Navy began to consider purchasing the airport.

2. "Contracts Awarded for Work at the Municipal Airport," May 14, 1931, Box 567, Walker Collection; and drawing titled "Location Plan of Hydraulic Filling, Contract 1935, Supplementary to Contract 1917," December 5, 1928, Archives of the Aviation Branch of the Department of Transportation, City of New York. Drawings from this collection will hereafter be cited as Aviation Branch Drawings.

3. Creel Memorandum.



ON MICROFILM

1046/41931

It was also awarded to R. A. Perry in late 1928 at a cost of $75,000, and completed in mid-1929 for slightly less than that amount.[4] By mid-1929, the Barren Island site for the airport was filled and ready for other work.

The next phase of construction began in the summer of 1929 when Contract No. 1941 was awarded to John L. Walsh of the Northport Sand & Gravel Company of Northport, Long Island. This contract consisted of seven distinct parts and totaled $757,700.16.

Part one detailed the construction of a "privet hedge" along the northern border of the field. Two parallel rows of plants were to be put in. They were to be placed in an eleven inch layer of fertilized topsoil that was itself placed on top of a six inch layer of clay subsoil. This privet hedge was to be situated on the northern border largely to prevent sand from drifting onto the landing field.[5]

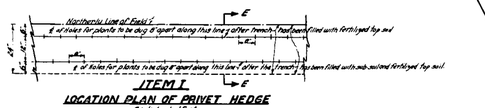
The second and third parts of Contract No. 1941 called for the construction of two concrete runways. One paralled Flatbush Avenue, became known as Runway 15-33, and was 3,110 feet long. The second, Runway 6-24, ran perpendicular to the other in a northeast-southwest direction and was 4,000 feet long. In the original contract each runway was eight inches thick, fifty feet wide, and constructed of steel reinforced concrete. Part three of Contract No. 1941 detailed the placing of gravel strips along the edges of the runways. Each was two feet wide and eight inches deep. The packed gravel provided for adequate drainage and a firm shoulder between the grass infield and the runways.[6]

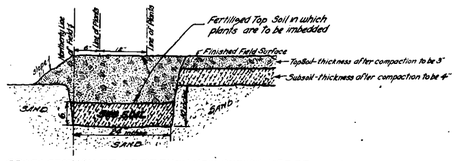
---

4. Ibid.

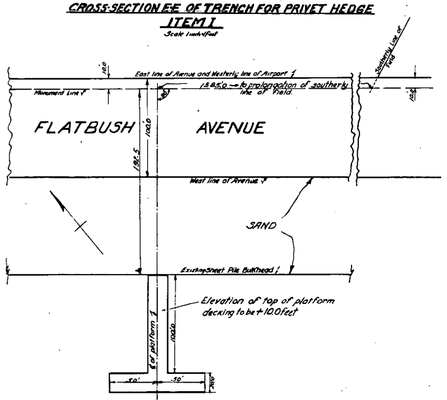
5. Aviation Branch Drawings, Contract No. 1941, Drawing No. 1.

6. Ibid, Drawing No. 2.

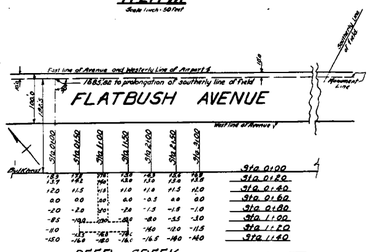




CROSS-SECTION EE OF TRENCH FOR PRIVET HEDGE
ITEM I
Scale 1 inch = 1 Foot



ENLARGED LOCATION PLAN
OF
TEMPORARY WOODEN PLATFORM
ITEM VII
Scale 1 inch = 50 Feet

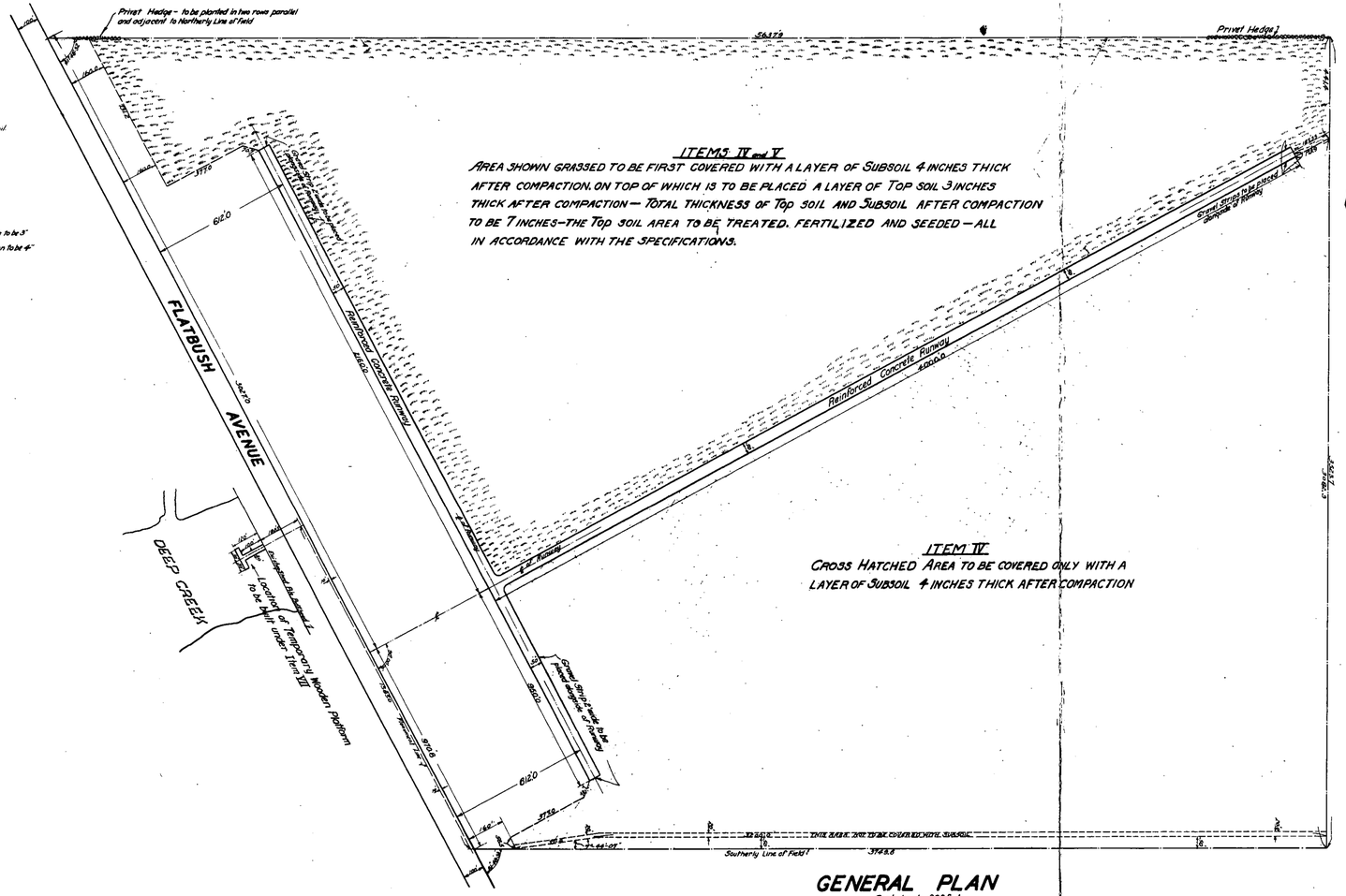


ITEM VII

LEVELS AND SOUNDINGS OVER AREA IN WHICH TEMPORARY WOODEN PLATFORM IS TO BE BUILT

Scale 1 inch = 100 Feet

Note: Soundings and Levels refer to Local Mean Low Water as datum plane.



ITEMS IV and V

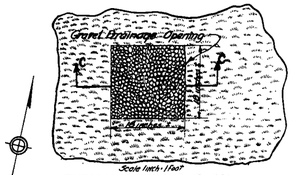
AREA SHOWN GRASSED TO BE FIRST COVERED WITH A LAYER OF SUBSOIL 4 INCHES THICK AFTER COMPACTION. ON TOP OF WHICH IS TO BE PLACED A LAYER OF TOP SOIL 3 INCHES THICK AFTER COMPACTION — TOTAL THICKNESS OF TOP SOIL AND SUBSOIL AFTER COMPACTION TO BE 7 INCHES — THE TOP SOIL AREA TO BE TREATED. FERTILIZED AND SEEDED — ALL IN ACCORDANCE WITH THE SPECIFICATIONS.

ITEM IV

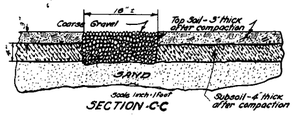
CROSS HATCHED AREA TO BE COVERED ONLY WITH A LAYER OF SUBSOIL 4 INCHES THICK AFTER COMPACTION

GENERAL PLAN
Scale 1 inch = 200 Feet

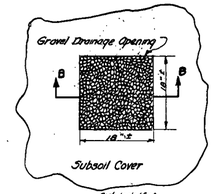
For details of Concrete Runways and Gravel Strip - see sheet 2



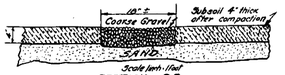
TYPICAL DRAINAGE PLAN
IN GRASSED AREA



SECTION C-C



TYPICAL DRAINAGE PLAN
IN AREA NOT GRASSED



SECTION B-B

Note:
Surface of Subsoil after compaction to slope towards drainage opening. Exact location of drainage openings to be determined by the Engineer as the work progresses.

THE CITY OF NEW YORK
DEPARTMENT OF DOCKS
DIVISION OF PORT PLANNING

CONTRACT No. 1941

FOR THE PERFORMANCE OF CERTAIN WORK AT THE

MUNICIPAL AIRPORT (FLOYD BENNETT FIELD)

FLATBUSH AVENUE BOROUGH OF BROOKLYN

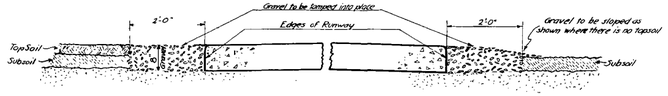
ITEM I PRIVET HEDGE
ITEM IV SUBSOIL
SHEET No. 1 ITEM V TOP SOIL
ITEM VII TEMPORARY WOODEN PLATFORM

SUBMITTED BY _____ DIVISION ENGINEER
APPROVED BY _____ CONSULTING AERONAUTICAL ENGINEER
APPROVED BY _____ CHIEF ENGINEER
APPROVED BY _____ COMMISSIONER
DATE January 31 1920

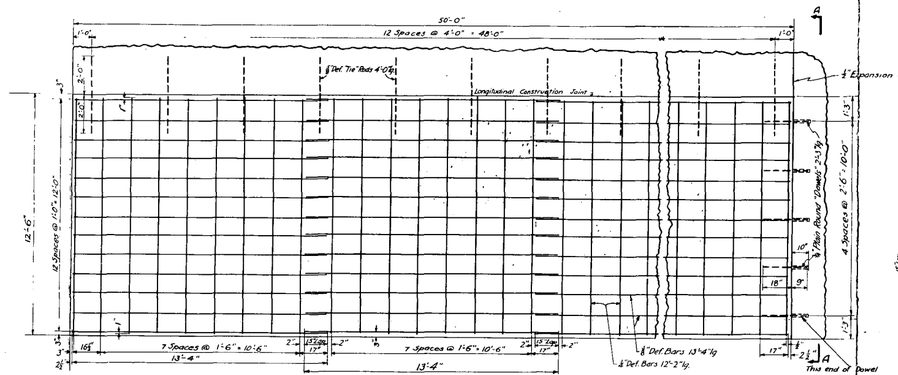
ON MICROFILM

646/63033 1 of 2

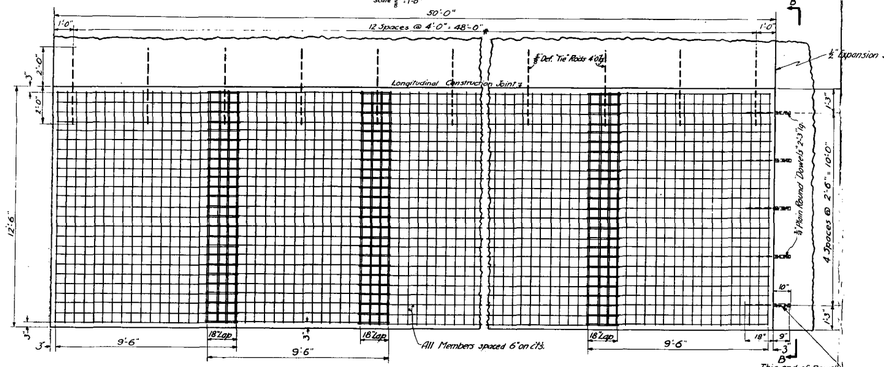
82



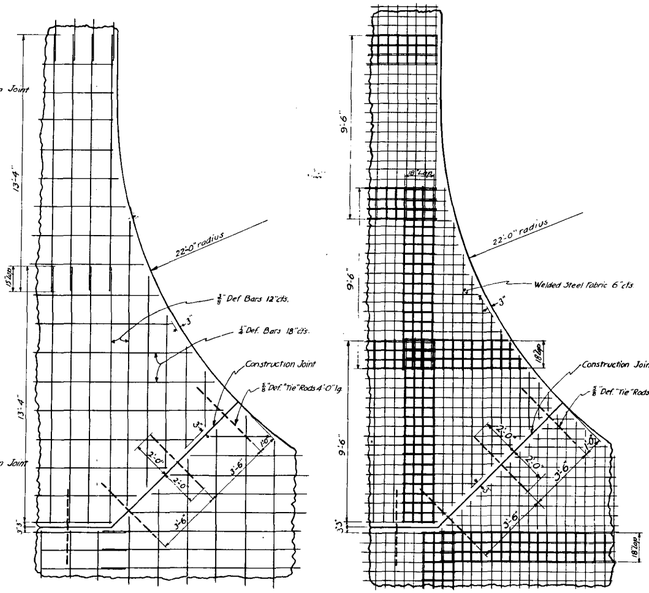
DETAIL OF GRAVEL STRIPS
scale $\frac{3}{4}$"=1'-0"



TYPICAL PLAN (BAR MAT REINFORCEMENT 55*per100*)
scale $\frac{3}{8}$"=1'-0"

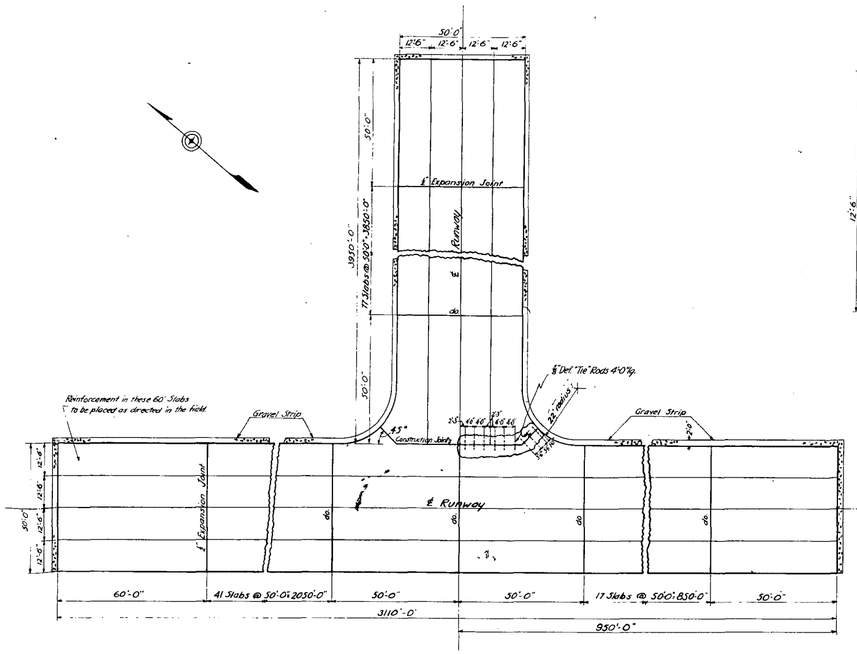


TYPICAL PLAN (STEEL FABRIC REINFORCEMENT 49*per100*)
scale $\frac{3}{8}$"=1'-0"

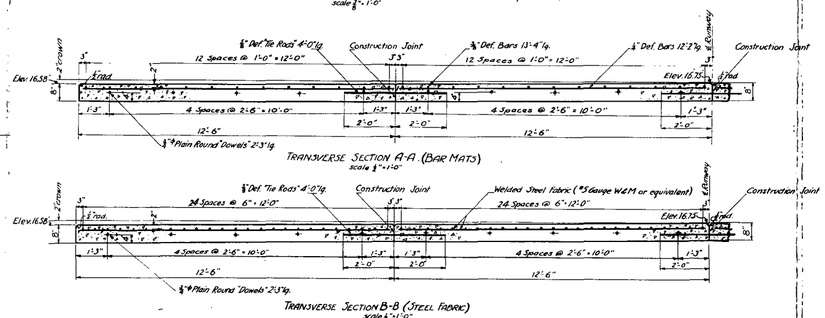


BAR MAT REINFORCEMENT — STEEL FABRIC REINFORCEMENT

DETAILS AT INTERSECTION OF THE RUNWAYS
scale $\frac{3}{8}$"=1'-0"



PLAN OF CONCRETE RUNWAYS
scale 1"=20'-0"



TRANSVERSE SECTION A-A (BAR MATS)
scale $\frac{3}{4}$"=1'-0"

TRANSVERSE SECTION B-B (STEEL FABRIC)
scale $\frac{3}{4}$"=1'-0"

DETAILS OF CONCRETE RUNWAYS

NOTE -
The center lines of both runways at the surface are level and both are at the same elevation.
For General Location Plan see Sheet 1

THE CITY OF NEW YORK
DEPARTMENT of DOCKS
DIVISION OF PORT PLANNING

CONTRACT No. 1941

FOR THE PERFORMANCE OF CERTAIN WORK AT THE

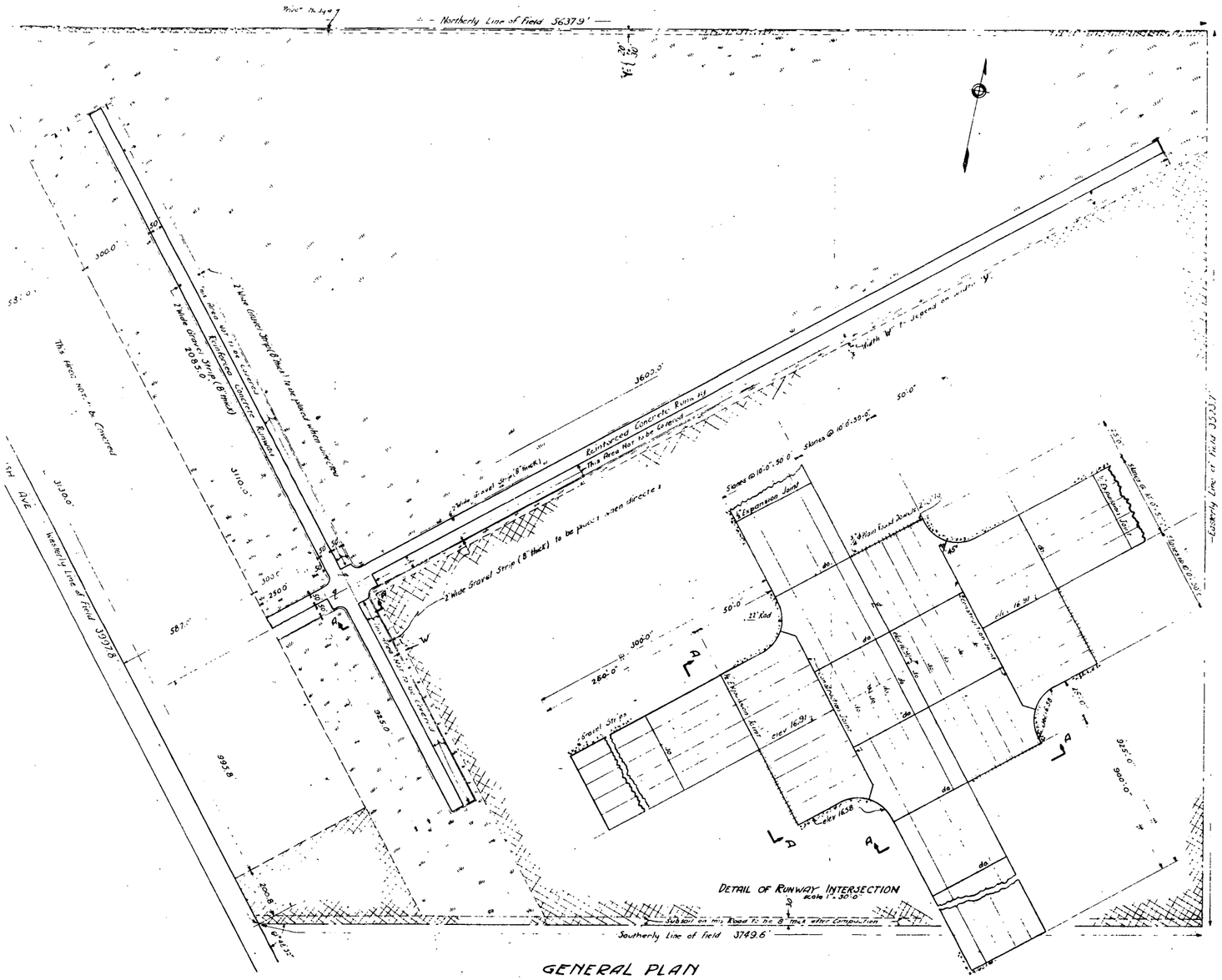
MUNICIPAL AIRPORT (FLOYD BENNETT FIELD)

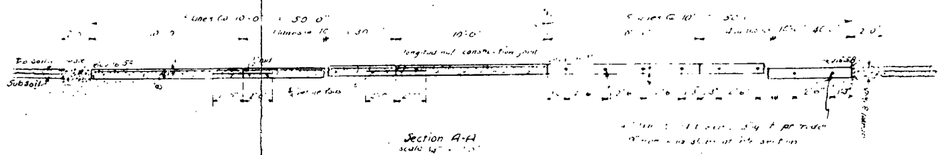
FLATBUSH AVENUE, BOROUGH OF BROOKLYN.

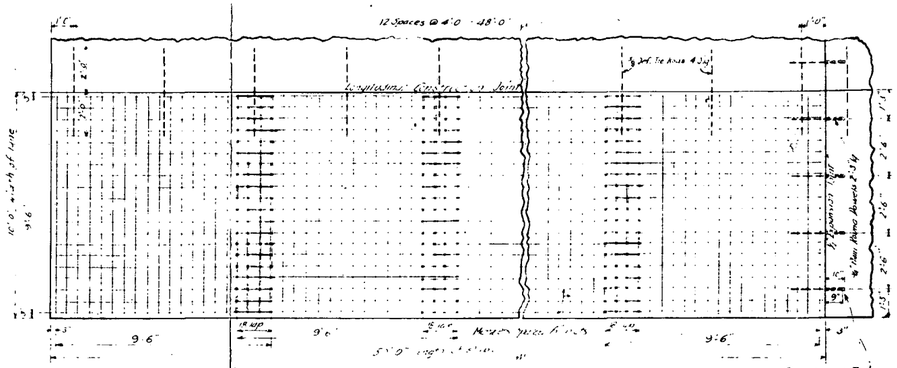
SHEET No. 2 { ITEM II CONCRETE RUNWAYS
ITEM III GRAVEL STRIPS

SUBMITTED BY. ..... DIVISION ENGINEER
APPROVED BY. ..... CONSULTING AERONAUTICAL ENGINEER
APPROVED BY. ..... CHIEF ENGINEER
APPROVED BY. ..... COMMISSIONER
DATE January 31 1929

646/63033 2 of 2







TYPICAL PLAN (STEEL MESH REINFORCEMENT - 10'6" - 100'0")

Area [illegible] to be covered with a layer of [illegible] thick after compaction. Top Soil to be Treated, Fertilized & Seeded in accordance with the special outlines

Area [illegible] to be covered with a layer of [illegible] thick after compaction and as directed by Authority [illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DOCKS
DIVISION OF PORT PLANNING

CONTRACT 1941

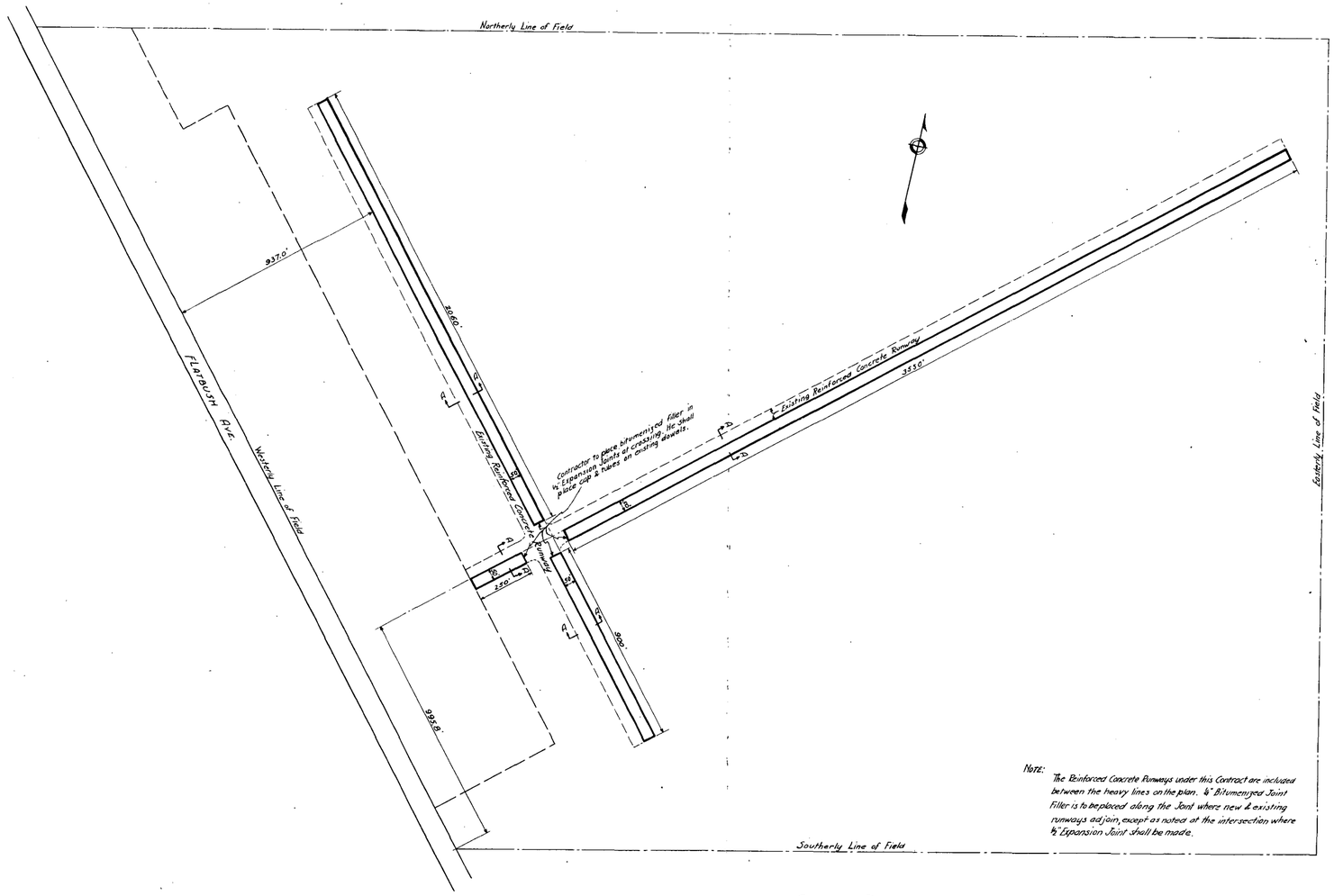
NEW PLAN MODIFYING ORIGINAL PLAN

O. M. Kleinau
Chief Engineer

Approved: Michael Cooney — Accepted: _____
Commissioner of Docks — Contractor

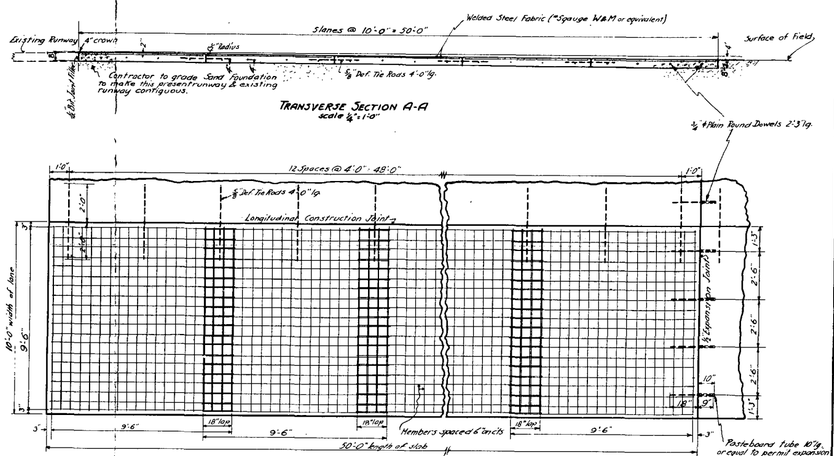
Date: July, 1928.

646/41928



GENERAL PLAN
scale 1"=200'

Note: The Reinforced Concrete Runways under this Contract are included between the heavy lines on the plan. ½" Bituminized Joint Filler is to be placed along the Joint where new & existing runways adjoin, except as noted at the intersection where ½" Expansion Joint shall be made.



THE CITY OF NEW YORK
DEPARTMENT OF DOCKS
DIVISION OF PORT PLANNING

CONTRACT No. 1963

FOR THE WIDENING OF THE

REINFORCED CONCRETE RUNWAYS

AT THE

MUNICIPAL AIRPORT (FLOYD BENNETT FIELD)

FLATBUSH AVENUE, BOROUGH OF BROOKLYN.

SUBMITTED BY. _____ DIVISION ENGINEER.

APPROVED BY. _____ CHIEF ENGINEER.

APPROVED BY. _____ COMMISSIONER.

DATE: Aug. 15, 1929.

Before these portions of the contract were completed, however, a new contract, No. 1963, was let with the Fleming & Sheppard Company, Inc., of Manhattan to widen the runways. This contract stemmed from two factors. First, the Department of Docks originally did not have the necessary funds for one hundred foot wide runways, but the price for the modification was so low the department decided to go ahead with the work.[7] Second, as mentioned in the previous chapter, the city wanted the airport to receive the highest rating from the Department of Commerce and one of the requirements for such a rating was that the runways be one hundred feet wide. Thus, the runway width was doubled.[8]

The fourth section of Contract No. 1941 called for the laying of a four inch layer, 1,563,800 square yards, of clay subsoil over the surface of the flying field. The area involved did not include the ground directly under the runways and taxiways, the apron area, and the sites where the buildings were to be constructed. Once the subsoil was put down the fifth part of the contract was undertaken. A three inch layer, 749,425 square yards, of topsoil was placed on top of the subsoil.[9] It should be noted that the original drawings for this project show that the topsoil was to cover the whole field. But a July 1929 drawing, showing the widening of the runways, shows that topsoil was not to be spread on the southeastern portion of the area.[10] Since a "Supplementary to Contract No. 1941," Contract No. 1979, was later awarded for $170,454.25, and the earliest photographs of the airport show topsoil and grass growing all

---

7. City of New York, Department of Docks, 58th Annual Report, 1929, p. 89.

8. Aviation Branch Drawings, Contract No. 1963, August 15, 1929, Drawing No. 1.

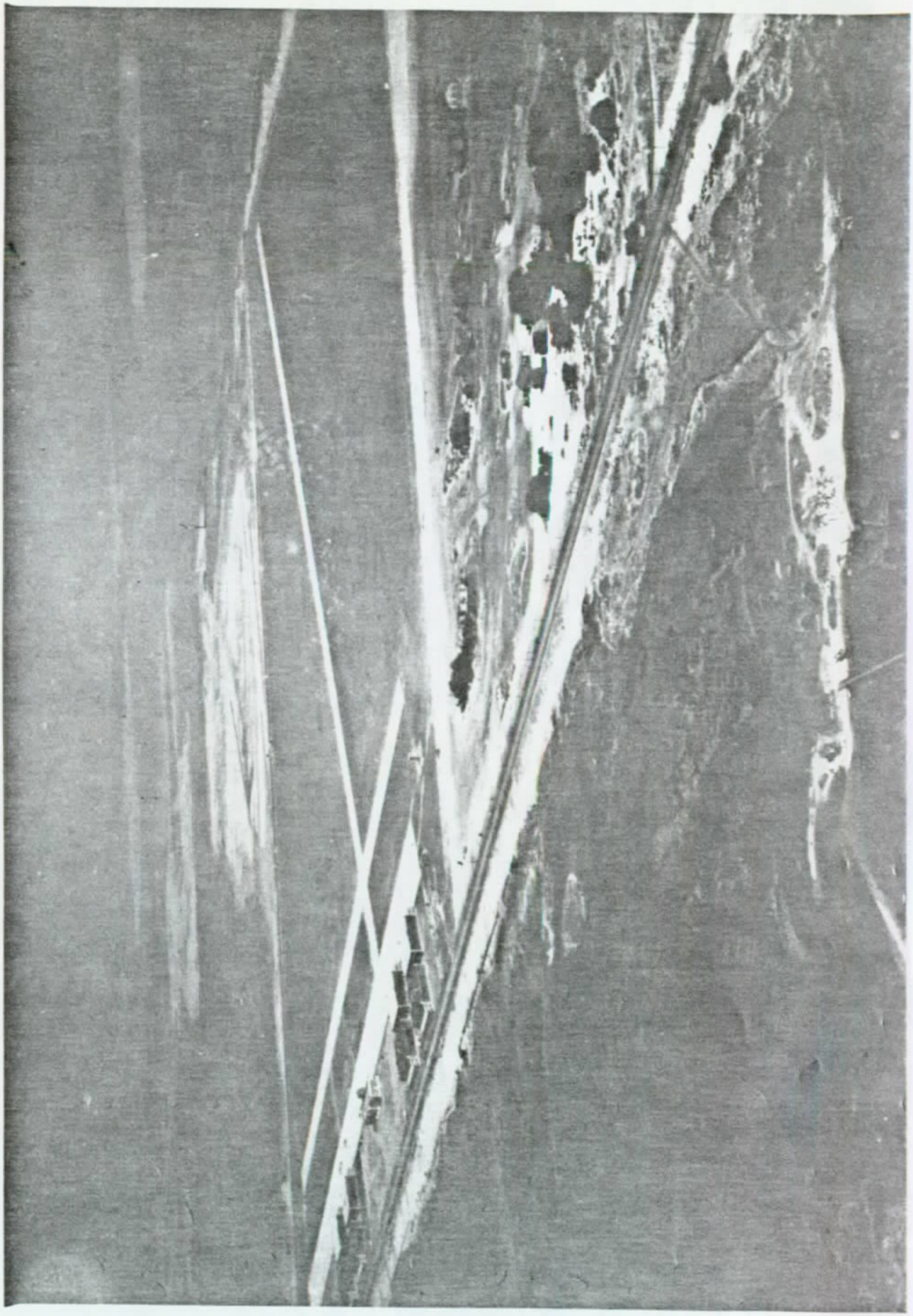
9. Aviation Branch Drawings, Contract No. 1941, Drawing No. 1; and City of New York, Department of Docks, Fifty-eighth Annual Report, 1929, p. 89.

10. Aviation Branch Drawings, Contract No. 1941, "New Plan Modifying Original Plan," July 1929.

Photograph No. 18

September 1931 view of Floyd Bennett Field which was the time the airport was completed.

National Archives, Photograph No. 80-G-1034812.



over it, it is clear that topsoil was placed on the remainder of the field under that contract.[11]

The preparation of the ground at the field was completed under the sixth section of Contract No. 1941. It called for the laying of fertilizer and grass seed over the topsoil.[12]

The final part of Contract No. 1941 detailed the construction of a "Temporary Wooden Platform" west of Flatbush Avenue at Deep Creek Bay. The platform designed in the form of a "T", was used by the city as a pier.[13]

Contract No. 1941, with its two supplementary contracts, was the second major stage of construction at the field. It was nearly completed before work on any of the buildings began.

As the topsoil, subsoil, and runway contract was being completed, the city awarded the first building contract. It was a large one. Contract No. 1967 was awarded to the Woodrest Construction Company, Inc., of New York City for the construction of eight hangars and a concrete apron. Originally, the city planned to build fourteen hangars at Floyd Bennett Field. But the funds were not available for that number, so the contract was awarded for the construction of only eight. The city officials believed that the remaining six hangars would be built at a later time, though they never were.[14] The total sum of Contract No. 1967 was $1,051,000.[15] It consisted of nine separate parts. They were:

---

11. "Contracts Awarded for Work at the Municipal Airport," Box 567, Walker Collection.

12. Creel Memorandum.

13. Aviation Branch Drawings, Contract No. 1941, Drawing No. 1.

14. Department of Docks, Fifty-Eighth Annual Report, 1929, p. 90.

15. "Contracts Awarded for Work at the Municipal Airport," Box 567, Walker Collection.

(1) Hangar foundations
(2) Subsoil of structures
(3) Structure steel framing
(4) Covering for steel framing
(5) Paving
(6) Sliding hangar doors
(7) Hangar floors
(8) Concrete apron and gutter trough
(9) Paving, glazing and finishing

Although the plans for the hangars were completed in late 1929, the actual contract was not let until early 1930. The work took nearly a year and a half and was completed just before the official dedication ceremony in May 1931.

Each hangar was basically the same. The floor space measured 120 by 140 feet. The hangars were built on 125 thirty-five-foot concrete piles. The floors were steel reinforced concrete. The doors had an overhead clearance of twenty-two feet and were made of an aluminum alloy and glass that could be moved by hand. They consisted of twelve partitions that could be moved completely out of the way. The structure had a tar and gravel roof. In addition, each hangar had a 30-by 140-foot lean-to attached to either the east or west side for use as office space. The lean-tos were constructed of the same brick and artificial stone used in the other buildings. Their floorplans varied.[16]

As can be seen from the early photographs of Floyd Bennett Field, the hangars were situated both north and south of the Administration Building in two groups of four. The door openings were on the north and south sides of the structures. Beginning in the southeast and moving east to west to north the hangars were numbered one to eight. As drawing No. 6 shows, the upper facade of each hangar was numbered and decorated with the title "City of New York" and "Floyd Bennett

16. Aviation Branch Drawings, Contract No. 1967, Drawings 3, 5, and 6.

Field," though many of them were later to be labeled with their occupant's name.[17]

The apron that ran in front of the hangars and Administration Building and led to the runways was composed of steel reinforced concrete, like the runways. The taxi area around the hangars themselves, however, was made of asphalt.

A later contract, No. 2032, which totaled $73,000, was awarded in 1931 to the General Electric Company for the construction of airport landing equipment. This included the placing of the lighted initials "NYC" on the roofs of Hangars 2 and 6, and an arrow pointing to due north on the roof of Hangar 4.[18] Such markings were required by the Department of Commerce before an airport could receive an "A1A" rating.

Although by today's standards, the initial eight hangars at Floyd Bennett Field were small, they were more than adequate for the aircraft that utilized the field during the 1930s. Even as the 1930s came to an end, the hangars could handle the DC-2s and DC-3s that dominated the airline industry in the United States. Only some of the larger military aircraft were too large for their door openings.

Next to the hangars, the most important building constructed at Floyd Bennett Field during this first period of construction was the Administration Building. In late 1930 a contract, No. 2000, was awarded to the Longacre Engineering Company at a cost of $249,079.45.[19] The structure, 183 by 62 feet in size and also built on concrete piles, was placed between the two groups of hangars and next to the airport apron. This Administration Building was a two-story brick and artificial stone

---

17. Ibid., Drawing No. 6.

18. Aviation Branch Drawings, Contract No. 1967, Drawing No. 6.

19. Creel Memorandum.

structure with a basement. In addition, a two-story control tower extended above the roof on the field side (east side). It was a handsome building, providing the needed office and administrative space for the airport. City officials anticipated that a large amount of commercial traffic would use the field so the Administration Building was also designed to meet passenger needs.[20]

Though the designated front of the Administration Building faced Flatbush Avenue, the business side faced the airfield. There, passengers or flight crews embarked or disembarked on their flights to different areas of the country or the world. When a passenger arrived at the building he would go up one of two sets of steps to the first floor. Flanking the doorway on the field side were two terraces. One joined a lounge area to the right and the other served as part of the dining area of a restaurant that opened soon after the building was completed. Between the two sets of steps and facing the field was a pilot's control room.

Two floor plan drawings, found among the original construction drawings in the files of the Aviation Branch of the Department of Transportation for the City of New York, show what the first two floors of the Administration Building were to look like when the building was completed in late 1931. When a person walking into the building on the first floor entered a lobby and waiting room area that also contained a clerk's office, information booth, and two sets of stairs leading up to the second floor and down to the basement. In the eastern center of the lobby were two elevators. Two corridors branched off from the lobby area, one running north and the other south. To the right of the north corridor was a baggage check station and a large lounge area that opened onto the terrace facing the field. To the left of the corridor was a telegraph office, a press room, a men's toilet, and a barber shop. Down the southern corridor, on the left, one found the restaurant that seated 124

---

20. Department of Docks, 60th Annual Report, 1931, and Aviation Branch Drawings, Contract No. 2000, Drawings 1-17.

Photograph No. 19

The field side of the Administration Building in the early 1930s.

Smithsonian Institution.

Photograph No. 20

View of the Flatbush Avenue side of the Administration Building at Floyd Bennett Field taken on November 20, 1936.

National Archives, Photograph No. 69-N-7763D.

people inside with room for an additional eighty-four outside on the terrace facing the field. To the right of the southern corridor there was a newstand, a women's restroom, a women's toilet, an office for the Department of Commerce, and an unassigned office. Finally, before leaving one passed a telephone area and a radio room.[21] Outside the door there was a flight of stairs leading down to the parking area.

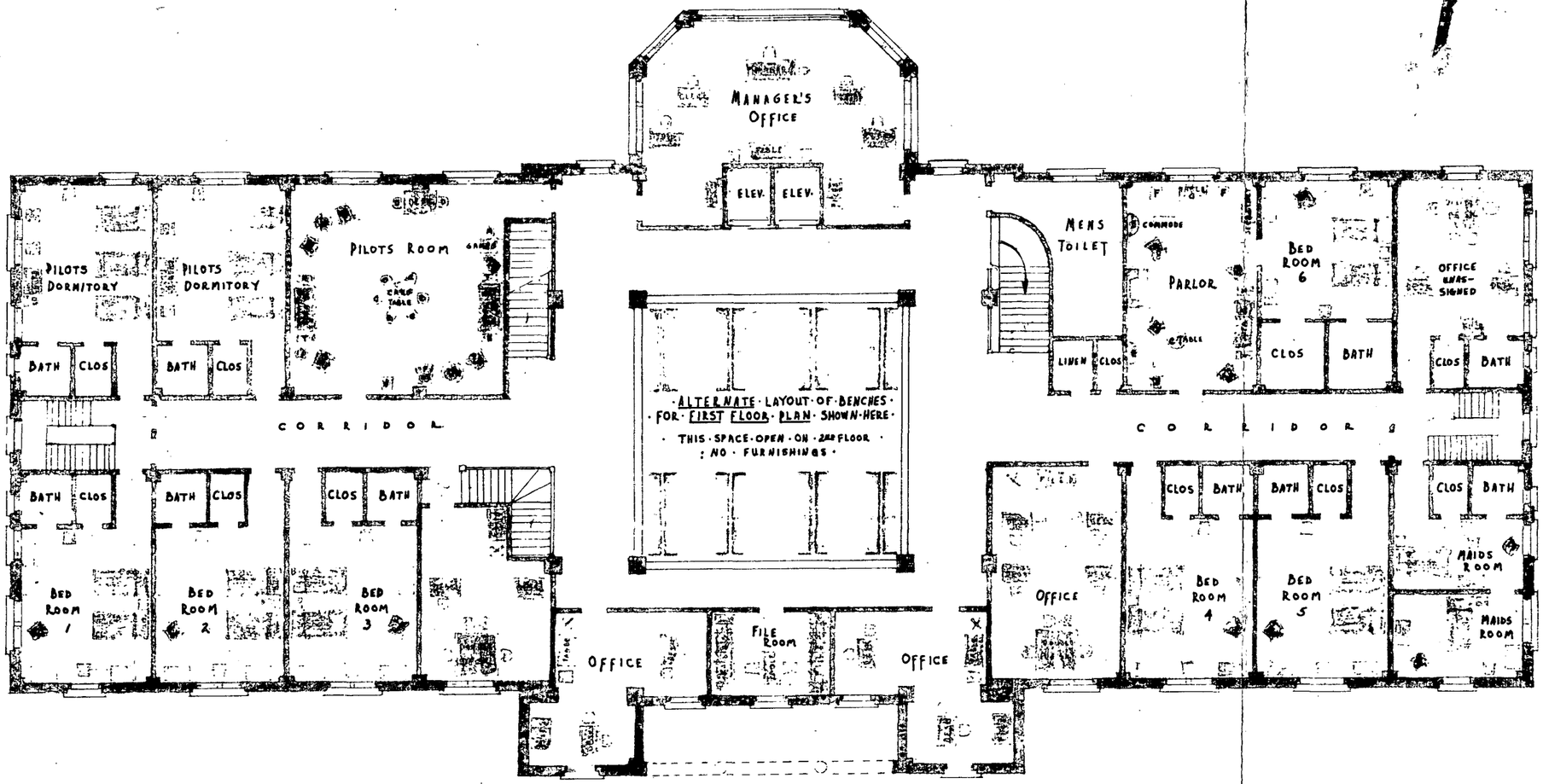
The second floor of the building contained other offices and rooms to care for the needs of the public, officials, and pilots. Above the pilot's control room in the center on the field side was the airport manager's office. In the center of the floor, a balcony surrounded a square well that looked down on the lounge area of the first floor. There was a file room flanked by two offices on the west side of the building in the center. Off the right side of the north corridor on the second floor there was a pilot's room, which was essentially a lounge area, and two dormitories with baths. On the left there were three bedrooms, each with a bath, and another small lounge area. Off the left side of the south corridor on the second floor was a men's toilet, a parlor with a bedroom and bath, and an unassigned office with bath. On the right side there was an office, two bedrooms with baths, and two maids' rooms with a bath.[22]

Three ramps led down to the basement from the east or field side of the building. In the center of the basement was a large unassigned space with a linoleum floor. To the north were office and storage space for the public health officials, the U.S. Customs Service, express and freight baggage, and an additional storeroom. To the south were the restaurant

---

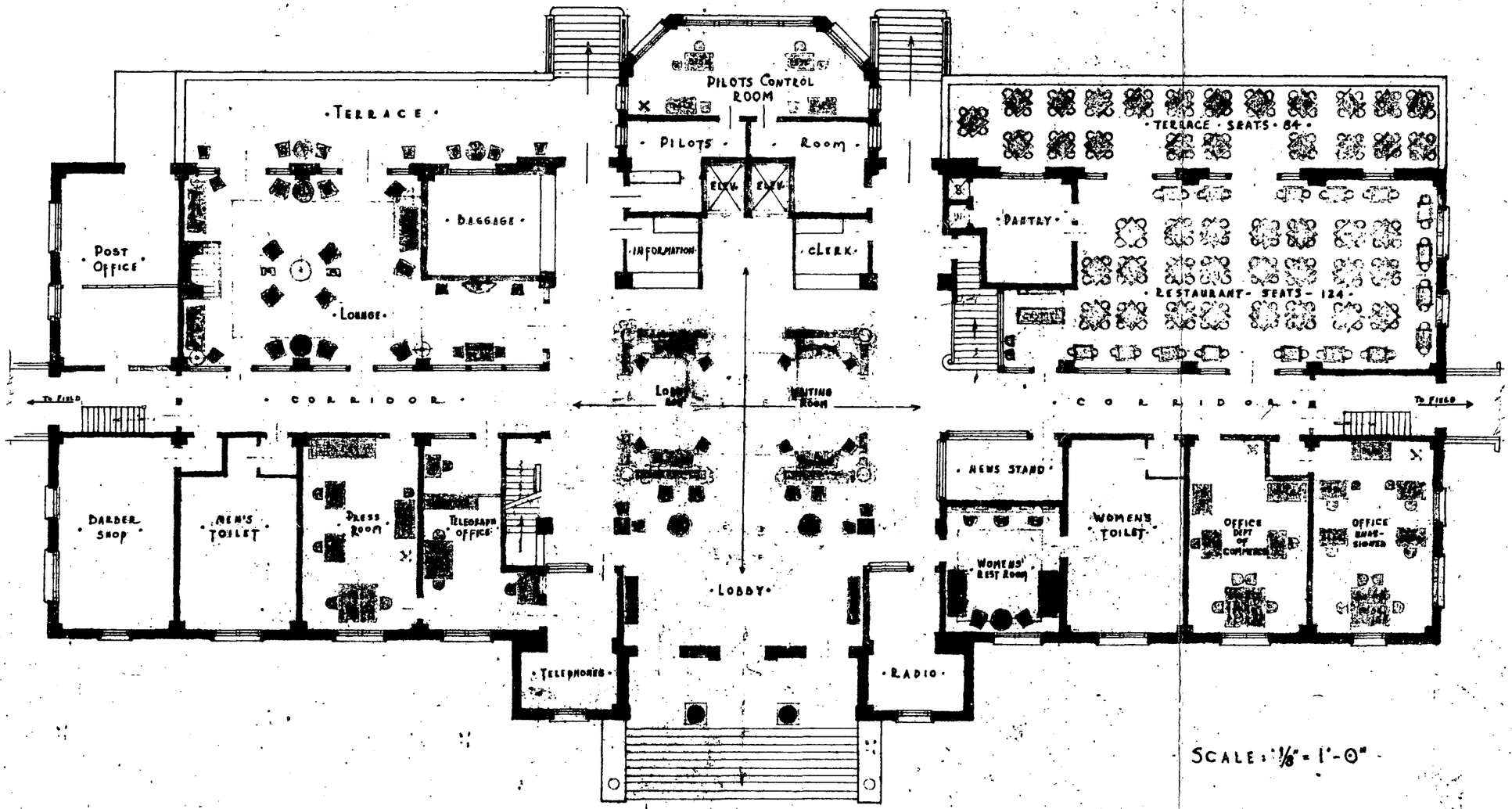
21. Aviation Branch Drawings, "First Floor Plan Showing Arrangement of Furnishings for Municipal Airport Floyd Bennett Field."

22. Aviation Branch Drawings, "Second Floor Plan Showing Arrangement of Furnishings for Municipal Airport Floyd Bennett Field."



SCALE 1/8" = 1'-0"

· SECOND · FLOOR · PLAN · SHOWING · ARRANGEMENT · OF · FURNISHINGS · FOR ·
· MUNICIPAL · AIRPORT · FLOYD · BENNETT · FIELD ·
· BROOKLYN · NEW · YORK ·

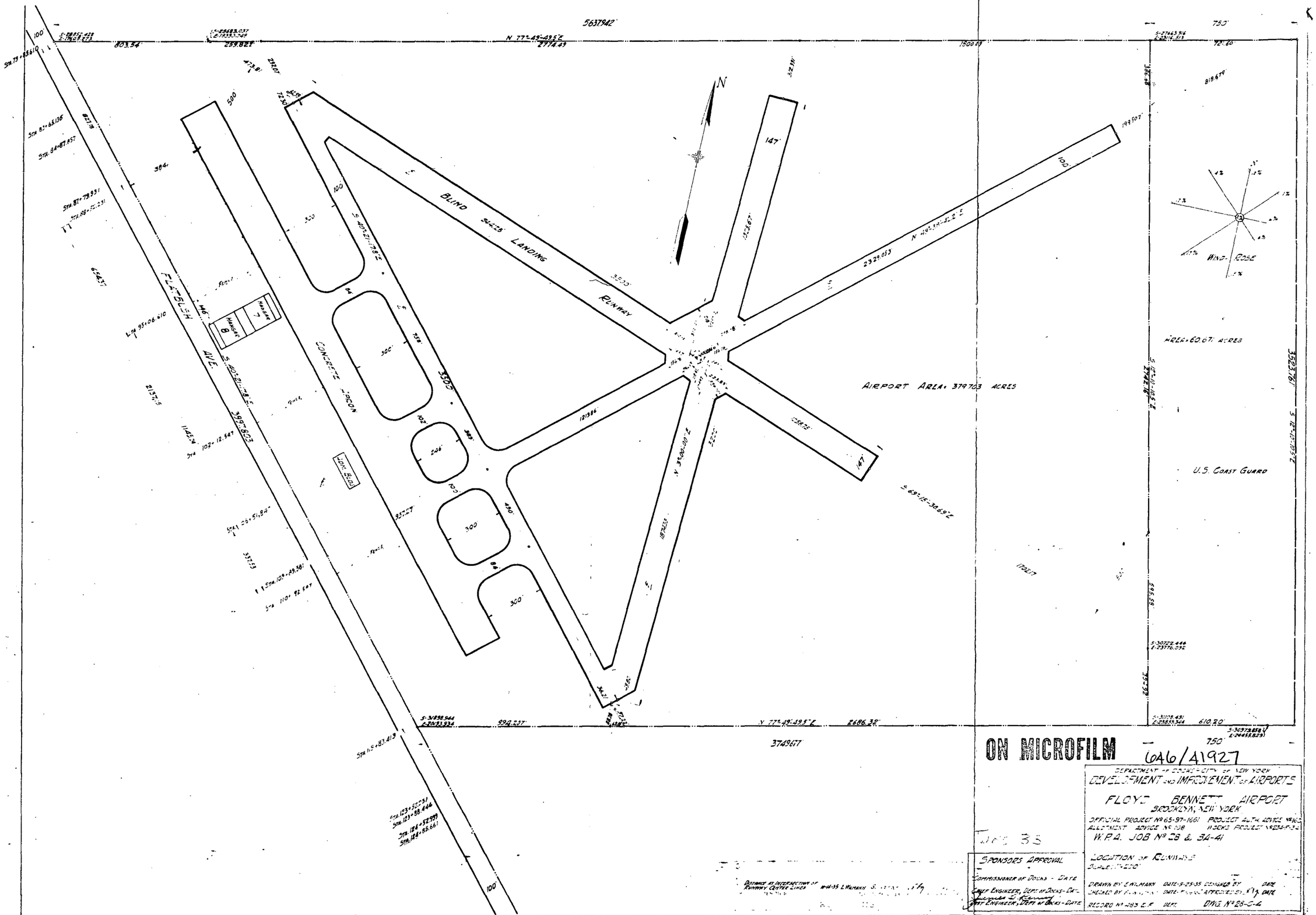


SCALE: 1/8" = 1'-0"

· FIRST · FLOOR · PLAN · SHOWING · ARRANGEMENT · OF · FURNISHINGS · FOR ·
· MUNICIPAL · AIRPORT · FLOYD · BENNETT · FIELD ·
· BROOKLYN · NEW · YORK ·

ON MICROFILM

6046/41933 1082



ON MICROFILM — 6046/A1927

DEPARTMENT OF DOCKS - CITY OF NEW YORK
DEVELOPMENT AND IMPROVEMENT OF AIRPORTS

FLOYD BENNETT AIRPORT
BROOKLYN, NEW YORK

OFFICIAL PROJECT Nº 65-97-166 PROJECT ADV. ADVICE Nº 162
ALLOTMENT ADVICE Nº 108 U.S.C.S. PROJECT Nº 8234-P-3-4
W.P.A. JOB Nº 28 & 3A-41

LOCATION OF RUNWAYS
SCALE: 1"=200'

DRAWN BY E.W.L.MANN DATE 9-25-35 DESIGNED BY DATE
CHECKED BY DATE APPROVED BY DATE
RECORD Nº 383 C.F. DEPT. DWG Nº 28-C-4

Fig. 35

SPONSORS APPROVAL
COMMISSIONER OF DOCKS - DATE
CHIEF ENGINEER, DEPT. OF DOCKS - DATE
CHIEF ENGINEER, DEPT. OF DOCKS - DATE

DISTANCE AT INTERSECTION OF RUNWAY CENTER LINES W-14-35 L.W.L.MANN

kitchen, an employees' locker room, a men's toilet, and office space for the "field force," which must have been the airport security guards.[23]

The Administration Building had two other levels projecting above the second floor and facing the field. The lower level, above the airport manager's office and measuring approximately thirty-two by twenty-two feet, was a Weather Bureau chart room. The highest level contained the control room. The men stationed in it were responsible for coordinating the movements of the aircraft on the field. Their jobs became more complex as more sophisticated radio equipment came into use during the 1930s. The control room was glassed in, and surrounded by a balcony walkway that gave airport officials an excellent view of the field and hangars.[24]

The main roof of the Administration Building was accessible to most people and could be used as a viewing area for special events or general aircraft operations. Along the field side of the roof were attached spotlights for night operations. The beacon tower, which constantly beamed the field's location to night flyers, was located on top of the control tower.

Two other permanent structures were built during this initial construction phase at Floyd Bennett Field. Contract No. 2028, Part A, called for the erection of a sewage disposal system with a twenty-six by twenty-foot pump well that was housed in a metal building on the southern part of the field next to Hangars 1 and 2. It was awarded to Rosoff Brothers, Inc., of Brooklyn and totaled $79,800. Contract No. 2028 called for the construction of a ten by twelve-foot Transformer Vault next to the pump well. It was built of the same brick and artificial stone used in the hangars and Administration Building.[25]

---

23. Ibid., Contract No. 2000, Drawing No. 5.

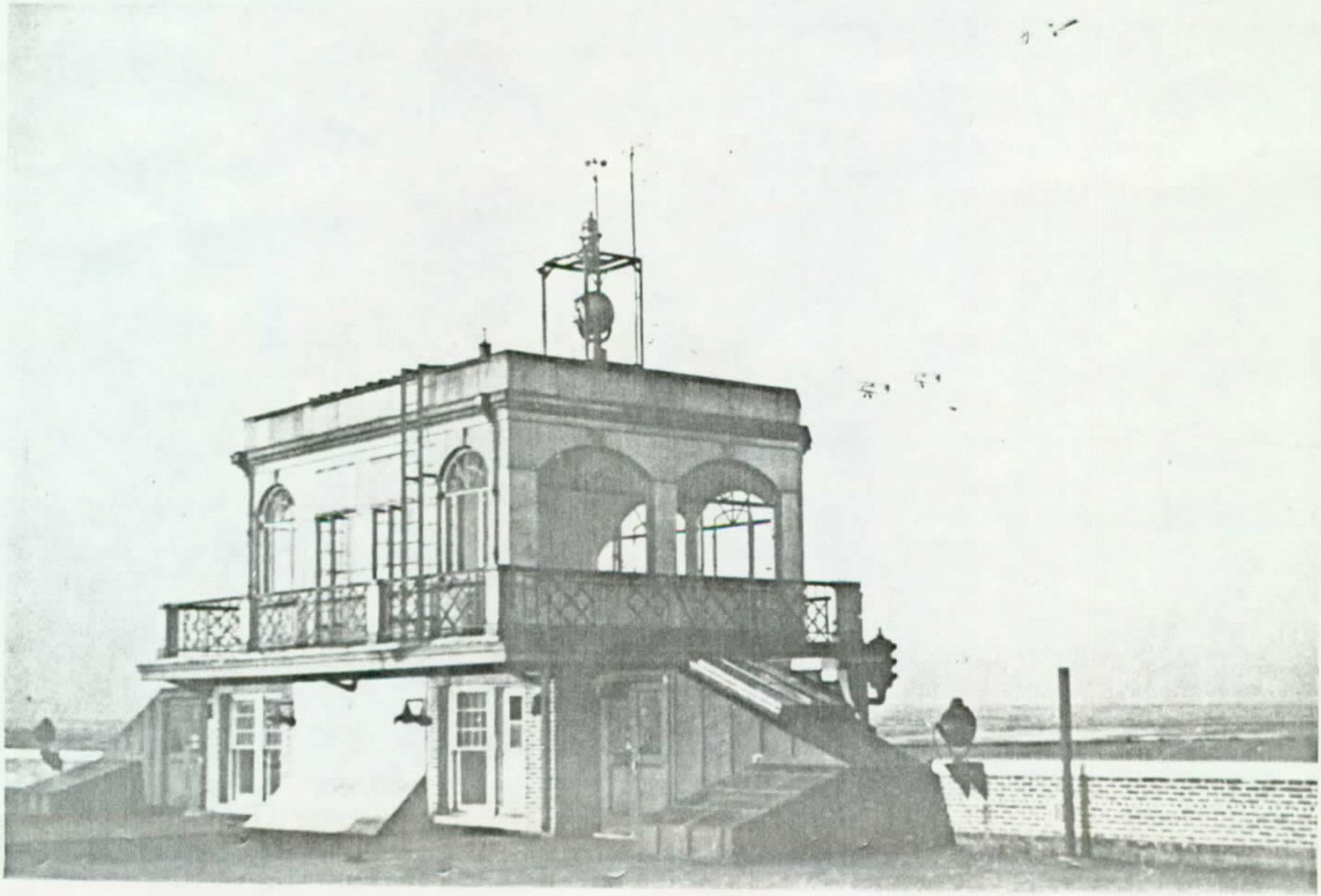
24. Ibid., Contract No. 2000, Drawing No. 8.

25. Aviation Branch Drawings, Contract No. 2028, Drawing No. A4; and Creel Memorandum.

Photograph No. 21

Closeup view of the Control Tower taken from the roof of the Administration Building in the mid-1930s.

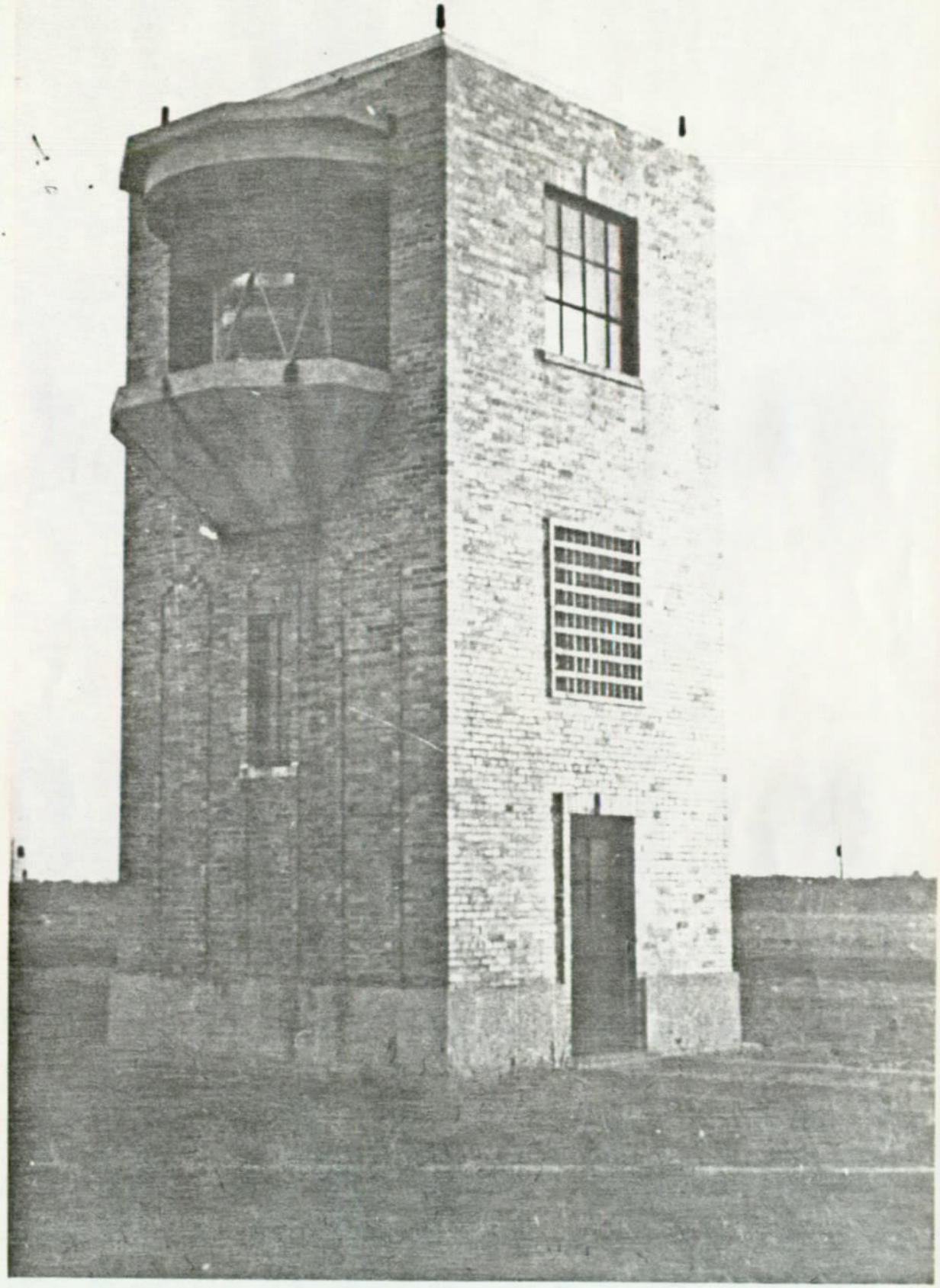
Smithsonian Institution.



Photograph No. 22

Closeup view of one of the two brick spotlight towers that housed the Sperry floodlight system for the field.

Smithsonian Institution.



There was a total of eleven buildings erected at the airport between 1929 and 1932. However, other contracts were let for finishing work. They were:

Contract No. 1978 - For Wood Screen Fencing (as a security fence). Awarded to M. D. Lundin Co. of New York City for $8,865.21.

Contract No. 1997 - For Parking Area. Awarded to Fleming & Sheppard Company, Inc., of Manhattan, for $19,160.00.

Contract No. 1999 - For Seaplane Base (no hangar, just a ramp and waterfront bulkheat). Awarded to Charles F. Vachris, Inc., Brooklyn, for $148,164.

Contract No. 2020 - Part A. (which also included the sewage disposal plant and Transformer Vault). Construction of Offices, Shops and Enclosures, etc., in four lean-tos; construction and erection of two temporary comfort stations. Awarded to Rosoff Brothers, Inc., of Brooklyn, for a total sum of $79,800.

Part B. For plumbing, drainage, water supply, etc., for Administration Building, lean-tos, comfort stations, etc. Awarded to Thomas F. Mulligan of Long Island, for $25,333.

Part C. For electric wiring for fire alarm, light and power, telephone conduits, manholes, light and power for Administration Building, lean-tos, hangars, comfort stations, pumping stations, etc. Awarded to J.P. Morrissey, Inc., of Manhattan, for $99,899.

Part D. For an oil-fired steam heating system, oil-fired hot water supply plant, fuel oil supply system and incidental work for the Administration Building. Awarded to Jacob E. Brown, Inc., of Brooklyn, for $11,328.

Contract No. 2031 - For furnishing and installing at the Municipal Airport a complete landing area floodlight system, including necessary buildings, appurtenances, auxiliaries and all required work incidental thereto. Awarded to the Sperry Gyroscope Company of Brooklyn for $26,356.

Contract No. 2032 - For furnishing and installing at the Municipal Airport airport landing equipment together with all incidental work thereto. Awarded to the General Electric Company of Manhattan, for $73,200.

Contract No. 2038 - For preparation of areas for the parking of motor vehicles, including the furnishing and installation of wire mesh fencing at the Municipal Airport. Awarded to Robert E. Orr Co., Inc., of Manhattan for $51,500.[26]

The Sperry floodlight system was the most up-to-date in existence at that time. Part of it was mounted on the hangars and Administration Building, but the most important part was placed in two brick floodlight houses that were twenty-eight feet tall and fourteen feet square. One was situated at the southern part of the field near the end of Runway 15-33, while the second was placed along the northern boundary fence approximately in the center.[27] With this and the other finishing work completed, the airport was ready for full operation by the beginning of 1932.

Three other items should be mentioned in relation to this first phase of construction at Floyd Bennett Field. In 1932 two additional contracts were awarded for finishing work. The first, No. 2048, provided for the construction of three taxi strips to tie the apron area to Runway 15-33 which paralleled the apron and hangar row. It was awarded to the Thomas McMillan Co., for $18,495, and completed on the 12th of October 1932. The second contract, No. 2053, detailed the construction of sand fences at the airport to control drifting. It was awarded to the Independent Fence Co., for $3,510 and completed on February 2, 1932.[28]

---

26. "Contracts Awarded for Work at the Municipal Airport." May 14, 1931, Box 567, Walker Collection.

27. Aviation Branch Drawings, Contract No. 2031, Drawing 2.

28. Department of Docks, Sixty-first Annual Report, (1932), p. 22.

Photograph No. 23

Aerial view of Floyd Bennett Field September 24, 1932, showing the three new taxi strips that had recently been installed to link the apron with Runway 15-33.

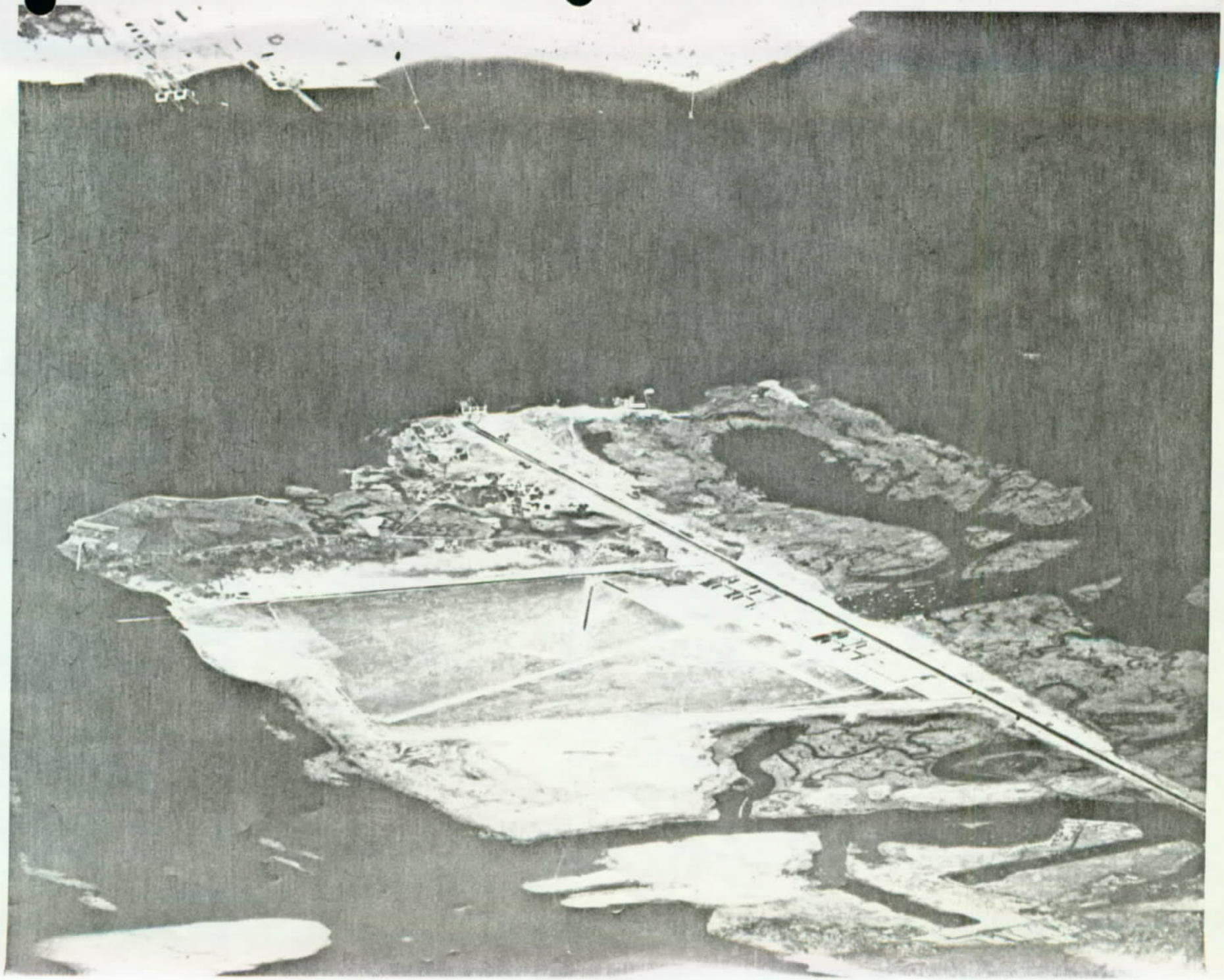
Smithsonian Institution.

120

Photograph No. 24

Aerial view of Floyd Bennett Field taken January 1936 showing the beginning of construction of the two new runways by the WPA. The view looks north across Rockaway Inlet.

Smithsonian Institution.



long and 150 feet wide. In addition, Runway 15-33, which paralleled Flatbush Avenue, was lengthened to 3,500 feet.[31] The concrete apron in front of the hangars and Administration Building was widened by fifty-four feet for a distance of approximately 400 feet. Also, the three taxi strips built during 1932 were widened from thirty to 100 feet. The two new runways greatly expanded the landing facilities of the airport. Though Floyd Bennett Field was designed originally so that aircraft could land into the wind on the grass if necessary, aircraft grew progressively heavier during the 1930s, and it was therefore unsafe for transports to land on the infield. Thus, the construction of two new runways gave pilots four more chances to land directly into the wind.

In addition the WPA carried out two other pieces of construction during the mid-1930s to facilitate the ease of handling passengers and planes. The most important was the construction of a "passenger tunnel" from the basement of the Administration Building to the apron area where the aircraft were parked for unloading. The tunnel was shaped like a "T." The stem was ten feet high and twelve feet wide and ran 124 feet from the Administration Building out under the apron to the aircraft parking area. Then it branched off to the right and left, ten feet wide and tall each way and ran 120 feet. At that point two sets of steps led up to the level of the field.[32] The 1935 report of the Department of Docks stated that:

> The purpose of the loading tunnel is that arriving passengers may disembark from plane, go down one flight of steps to the loading tunnel and go into the Administration Building, where another flight of stairs goes up to the lobby.[33]

---

31. Aviation Branch Drawings, Drawing titled, "Department of Docks, City of New York, Development and Improvement of Airports, Floyd Bennett Field, Location of Runways," WPA Job No. 28 and BA-41.

32. This information came from a document itemizing the original and WPA construction at Floyd Bennett Field, which has no title or cover page. The original is located in the LaGuardia Collection, Box 721. A copy of the document is contained in the Appendix. Hereafter it will be cited as the LaGuardia Document.

33. Department of Docks, Sixty-fourth Annual Report, (1935), pp. 1 and 2.

Photograph No. 25

View of the apron in front of the Administration Building showing the construction by the WPA of the passenger tunnel. Taken about July 15, 1935.

National Archives, Photograph No. 69-N-7708D.

Finally, also during 1932, a wire mesh fence was constructed along the apron and around the parking lots, which, while allowing airport visitors a clear view of everything happening at the field, protected them from moving airplanes and propellers, and allowed the handling of large crowds with less police protection.[29]

The Works Progress Administration Construction, 1934-1938

No new construction was undertaken at Floyd Bennett Field during 1933. Beginning in 1934, the WPA started a complete new phase of construction that lasted through 1938. The WPA was involved in many types of municipal and county construction projects throughout the country in the 1930s. One of its primary jobs was to expand airport facilities in the United States. Therefore, it is not suprising that the WPA built many new facilities and updated others at the New York airport. The total cost of the WPA construction, alterations, and repairs at Floyd Bennett Field was $5,053,146.51. The city of New York's share of the costs totaled $339,411.71, while the federal government spent $4,713,734.80.[30]

Only the major WPA construction work during this five year period will be discussed in detail here. The minor alterations or repairs to the existing buildings such as the Administration Building and the hangars can be found in the detailed list in Appendix A.

The major WPA project completed at Floyd Bennett Field during 1935 was an expansion of the concrete runway, taxiway, and apron system. Two nine-inch reinforced concrete runways were constructed. One, Runway 1-19, ran nearly north to south, and was 3,500 feet long and 150 feet wide. Runway 12-30, running northeast to southwest, was 3,200 feet

---

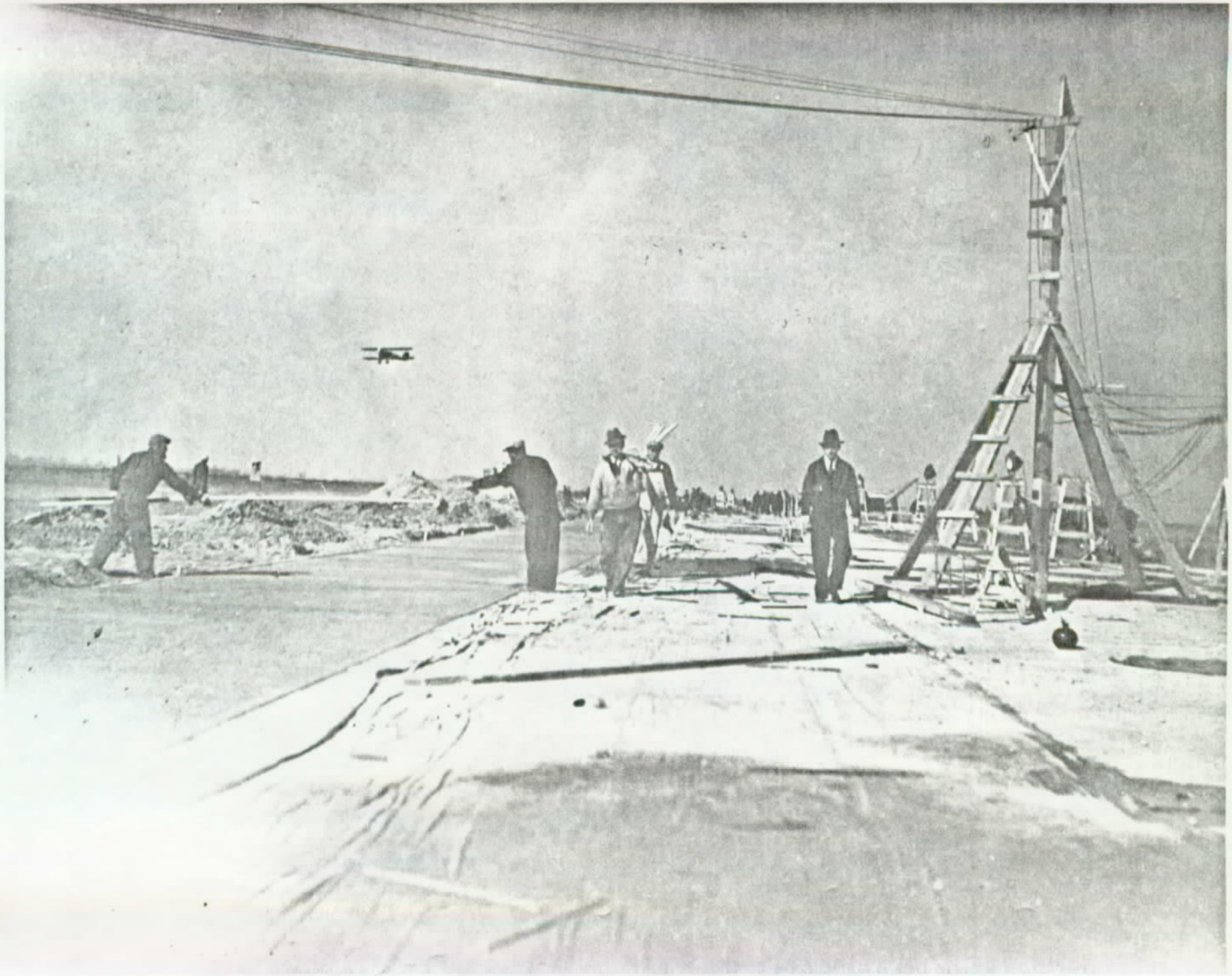
29. Ibid.

30. Creel Memorandum.

Photograph No. 26

View of the WPA expansion of the apron along hangar row at Floyd Bennett Field, taken around October 25, 1935.

WPA photograph in the New York Municipal Archives.



Photograph No. 27

View of the Field House constructed by the WPA at Floyd Bennett Field in 1936, December 23, 1936.

National Archives, Photograph No. 69-N-7734D.


USA
WORK
PROGRAM
WPA

The other alteration was carried out near the tunnel entrances on the apron. Four "turn tables" were installed to facilitate quick arrival and departure of planes by reducing their turning radius.[34]

While these improvements to the flying field were being completed, the WPA was also constructing important new buildings at the airport. In 1934 a boiler room and machine shop was built in the fifty-foot space between Hangars 7 and 8. The total cost of the initial construction was was $26,817. The building, which measured 50 by 140 feet, had one main floor plus a mezzanine and totaled 191,829 square feet of floor space. Two years later, a similar infill building was constructed between Hangars 3 and 4. That project totaled $175,584.[35] Finally in 1936 and 1937, the WPA constructed infill buildings between Hangars 1 and 2 and Hangars 5 and 6. These were both built as machine shops. One cost $151,525 and the second $69,733. All four of these infill buildings had reinforced concrete floors and were built on 20, forty foot concrete piles.[36]

The infill building constructed between Hangars 1 and 2 was part of an extensive building program that the WPA undertook at Floyd Bennett Field for the benefit of the Naval Reserve Aviation Base stationed there. By late 1935, the Navy was anxious to expand the facilities it occupied at the field, which included Hangar 1 and a lean-to. A letter, dated December 9, 1935, from the Chief of the Bureau of Aeronautics Rear Admiral Ernest J. King, who later led the whole Navy during the Second World War, to the chief of naval operations, stated that:

---

34. Ibid.

35. LaGuardia Document, p. 11; and Department of Docks, Sixty-Third Annual Report, p. 1.

36. LaGuardia Document, pp. 10-14.

> The Bureau is greatly interested in the provision of adequate facilities for the Naval Reserve Aviation Base, Floyd Bennett Field, and recommends that the Commandant of the Third Naval District be requested to use every possible effort to have the New York City authorities include the work for the Naval Reserve Aviation Base with other work now in progress at Floyd Bennett Field, as covered by approved Works Progress Administration Project #164 in the amount of $1,625,507.[37]

A year later, a letter from the commanding officer of the Naval Reserve Aviation Base to the chief of the Bureau of Aeronautics, dated December 15, 1936, reported that:

> A separate WPA project sponsored by the City of New York, involving the quarters occupied by this Base is nearing completion. This project involves remodeling the first floor, and the addition of a second floor to the existing lean-to on Hangar No. 1. Also, the construction of a building between the Hangars No. 1 and No. 2 to house a storeroom, plane overhaul shop, machine shop, and dormitory. The part concerning the lean-to is 99% complete and this Base is occupying the offices, etc., in this two story lean-to.
>
> In addition to the above there are other projects scheduled under the WPA funds which, while not intended solely for this Base, will be available for Base use. One of these is a modern doping house to be used by all tenants at the field, and the other is a garage for government and municipal vehicles.
>
> All buildings described above are of brick and steel or cement and steel construction, conforming to the general scheme of architecture of all buildings at this field. A sprinkler system is installed in all spaces.[38]

The lean-to for Hangar No. 1, which was the only two-story lean-to at the field, cost $85,742.[39] It gave the base additional office and storage

---

37. General Correspondence, 1924-1942, Vol. 3, Records of the Bureau of Aeronautics, Record Group 72, N.A.

38. Ibid.

39. LaGuardia Document, p. 2.

Photograph No. 28

View of the apron area in front of the Administration Building at Floyd Bennett Field in August 1935.

New York Municipal Archives.

space, as well as training rooms for the cadets that passed through the preflight school. The Dope House, which was built just south of Hangars 1 and 2 measured 52 by 135 feet. It had a main floor and a mezzanine and cost $116,556.[40] Though there is little data on the garage that the commanding officer of the base mentions, it appears from photographs to have been a single story wood frame structure constructed to the southeast of Hangar 1.

There were other buildings constructed at Floyd Bennett Field during WPA construction program. What was called a field house was built next to the apron just to the north of the Administration Building. It was constructed of the same type brick and artificial stone as the rest of the field's structures and measured thirty-seven by twenty-six feet. There were two 6- by 26-foot "lavatories" on the north and south sides of the building and the twenty-five by twenty-six-foot field house stood in between. The building cost $60,261.[41] A twenty-two by thirty-foot Sprinkler System Pump House of brick and artificial stone for the fire prevention system installed in all of the buildings was put up between Hangar 6 and the Administration Building.[42] It cost $69,376. In the same general area, but nearer Hangar 6, a six by eight-foot brick Gasoline Pump House was constructed. The cost for it and eight underground storage tanks was $31,368.[43] Finally, the WPA built a second Transformer Vault, similar to the one erected by the city south of Hangar 1. The new structure, placed along the apron well north of Hangar 7, was 14 by 22 feet in size, 10.65 feet high, was built of brick, and cost $14,694.[44]

---

40. Ibid., p. 16.

41. LaGuardia Document, p. 15.

42. Ibid., p. 17.

43. Ibid., p. 20.

44. Ibid., p. 19.

The WPA also made other improvements to the field. They included new fencing around the perimeter, landscaping around six buildings, field grading, the construction of both dirt and bituminous roads within the airport area, the one air beacon, sidewalks, concrete sewers, water mains, and the installation of manholes. Also the WPA constructed a seaplane ramp, for $11,655, at the southeast corner of the field on Jamaica Bay.[45]

Finally, during the WPA phase the new Coast Guard Air Station on the eastern side of the airport next to Jamaica Bay was constructed by the Graves Quinn Corporation. The buildings included a 161 by 182 foot hangar which also contained offices and barracks for the base personnel, a sixty-eight by thirty-one-foot garage, a "T" shaped taxiway, a 50 by 260 foot seaplane ramp, and 685 lineal feet of bulkhead running along Jamaica Bay. This facility was completed in 1937.[46]

The buildings that were constructed by the WPA at Floyd Bennett Field during the 1930s, with two exceptions, are there today. The two exceptions are the garage building built south of Hangar 1 and the field house built just north of the Administration Building. The garage building was demolished in 1941 when the Navy built a barracks in the area. The field house was torn down by the Navy in 1964 when a large National Guard hangar was constructed.

A 1940 cost assessment of Floyd Bennett Field compiled by the Navy, when it was considering buying the airport, showed that $10,496,906.64 had been spent on construction there up to that time. The city of New York contributed $3,564,768.33 of that total, mostly during the initial

---

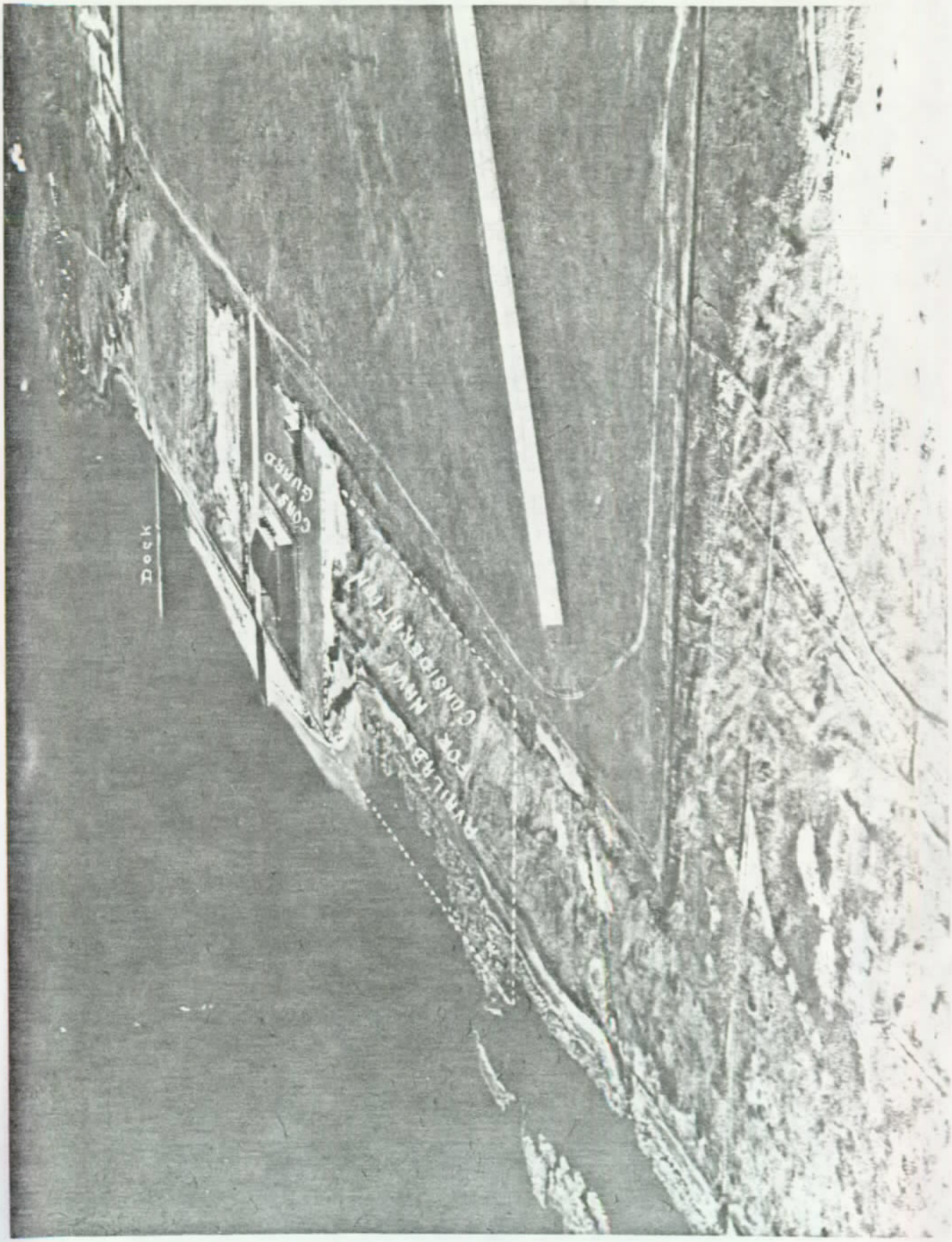
45. Ibid., p. 22; and Brehon Somervell, Administrator of the Works Project Administration for the City of New York, to the Commissioner of Work Projects, Washington, October 9, 1939, WPA State Files, New York City, Records of the Works Progress Administration, Record Group 69, N.A.

46. LaGuardia Document, pp. 1-5, Section II.

Photograph No. 29

Aerial view of the new Coast Guard Air Station constructed by the WPA on the east side of Floyd Bennett Field next to Jamaica Bay. Also seen is the area where the Navy built its Patrol Base.

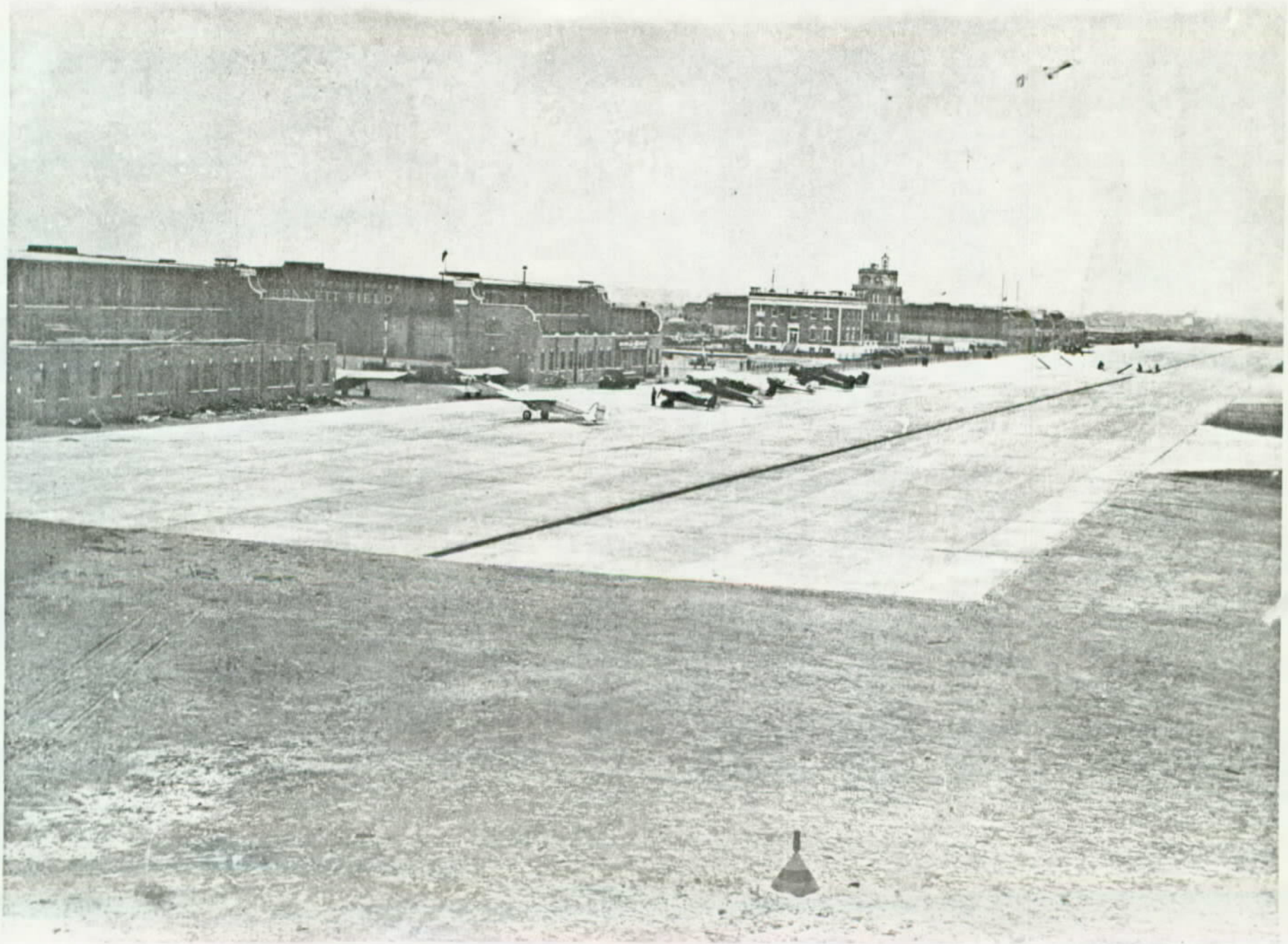
From the files of the U. S. Navy Operational Archives, Naval Historical Center.


Dock
COAST GUARD
NAVY TANK CONSIDERATION

Photograph No. 30

October 25, 1935, view of hangar row at Floyd Bennett Field showing the initial construction of the second floor addition to the lean-to of Hangar 1 by the WPA.

National Archives, Photograph No. 69-N-7721-D.



Photograph No. 31

September 1937, view of the two-story lean-to at Hangar 1 built for the Navy by the WPA.

National Archives, Photograph No. 69-N-8999.


1
ENTRANCE

Photograph No. 32

The construction of the Dope House south of Hangars 1 and 2 by the WPA.

National Archives, Photograph No. 69-N-9000.

Photograph No. 33

Construction of the Sprinkler System Pump House by the WPA, October 1935.

New York Municipal Archives.


6
WACO
SALES
SERVICE
CITY OF NEW YORK
ERICKSON & REMMERT
DEPT OF DOCKS
6
5
CITY OF NEW YORK
FLOYD · BENNETT · FIELD
DEPT OF DOCKS

150'

phase of construction. The federal government contributed $6,932,138.31. Of that figure, $2,218,393.51 was spent on dredging channels in Jamaica Bay near the field, dredging which was incidental to the filling of Barren Island. The WPA spent $4,713,734.80 on its projects between 1934 and 1938. By 1940, the federal government had more funds invested in capital improvements at Floyd Bennett Field than did the city of New York.[47]

World War II Construction

The historical period upon which this report focuses was over when the Navy took over Floyd Bennett Field in 1941 just before the United States entered the Second World War. The structures that have been nominated for the National Register of Historic Places were built during either the initial stage of construction before 1932 or during the WPA phase between 1934 and 1938. Yet, certain of the historical buildings were modified by the Navy during the Second World War. For example, the size and number of the runways were altered. These changes will be dealt with in this section. The extensive new construction that the Navy initiated at Floyd Bennett Field in 1941 and which continued throughout the war years will be dealt with only briefly. The various construction projects will be outlined and the new buildings listed.

Even before the Navy leased the field in June of 1941 it had been busy constructing new facilities for the units stationed there. On the eastern side of the field, across from the civilian hangar row and next to the Coast Guard Air Station, the Navy constructed an on-shore patrol base. This facility housed the Navy squadrons that carried out "neutrality patrols" along the east coast. They searched for German U-boats operating in the Atlantic against British shipping. In early 1940

47. Creel Memorandum.

construction began on a seaplane hangar for this patrol base. Then, in mid-1940, plans were completed for the erection of a Bachelor Officer's Quarters (BOQ) and an enlisted men's barracks and office building.[48] These frame, two-story structures were built in late 1940 just south of the new seaplane hangar. In early 1941, a second seaplane hangar was constructed just north of the first. Therefore, before the Navy took over the whole field and the United States entered the Second World War, the military facilities at Floyd Bennett Field were expanded.

Once the Navy decided to take over all of Floyd Bennett Field to turn it into a major naval air station, it rapidly enlarged the installation so it could accommodate increased personnel and equipment. One of the first projects undertaken in the spring of 1941 was the construction of a barracks and mess hall building to house the officer cadets who were undergoing training. This structure was built immediately south of the Dope Shop next to Flatbush Avenue. It was a two-story wood frame building and shaped like an "H." The first floor of the barracks housed the mess hall, galley, a recreation and instruction room, and an infirmary. The second floor contained the barracks rooms for the cadets. When the city gave the Navy permission to build this barracks it agreed to demolish some frame structures, including the garage built by the WPA.[49]

During 1941-1944 major construction continued at Floyd Bennett Field. The Navy built a marginal wharf along the southern border of the field on Rockaway Inlet. The Navy evicted the remaining citizens of the Barren Island community from this area. Aircraft bound for overseas were loaded on freighters at the wharf. A seaplane parking area with another seaplane ramp was constructed just west of the wharf. Also on

---

48. National Park Service Drawing 646/62390.

49. National Park Service Drawing 646/62194.

Photograph No. 34

Aerial view of Floyd Bennett Field January 17, 1942, six months after the Navy took over the airport.

National Archives, Photograph No. 80-G-354817.

the southern area of the field, the Navy erected recreation buildings, additional officer and enlisted men's barracks, married housing for enlisted and officer personnel, Marine barracks and married housing units, more gasoline pump houses, storage buildings, a boat house, laundry facilities, various training buildings, a public works office and police station, a dispensary, a fire station and garage, numerous maintenance buildings, a torpedo overhaul shop, a power plant, and various smaller structures. New buildings were also put up along the old hangar row on the west side of the field. South of Hangars 1 and 2, and near the 1041 barracks building, another frame barracks building and field house and some smaller structures were erected. Just north of Hangars 7 and 8, two new wood frame hangars were constructed. On the east side of the field, next to the Coast Guard Air Station and the Navy Patrol Base, a large naval air station maintenance complex was established, which included numerous kinds of shops and storehouses. To the north of the runways, ammunition and high explosive magazines were emplaced along with a new radio communications complex. The Radio Transmitter Building, constructed in 1942, was thirt-one by eighty-one feet in size and surrounded by three tall radio antenna towers.[50]

During the Second World War, many of the original 1930s structures at Floyd Bennett Field were modified. Certainly the most visible changes were made to the runways. Due to the needs of the military aircraft that used the airfield during the war, the runway system, as modified by the WPA in 1935, had to be altered extensively. In March 1942 plans were approved for the lengthening and widening of every runway at the field except one. The exception was Runway 6-24, which ran perpendicular to Flatbush Avenue. That runway ran directly towards the Navy Patrol Base hangars on the eastern side of the field and the old hangar row and the Administration Building on the west side of the field. Because of the

---

50. National Park Service Drawings 646/62254 and 646/62017. These show a plan of the field in 1945 and also drawings of the Radio Transmitter Building.

building obstructions at each end, the Navy decided to stop using it as an active runway and turned it into a taxiway. Instead, a new Runway 6-24, with no obstructions at either end, was constructed at the extreme north end of the airfield. It was 5,000 feet long and 300 feet wide and had a macadam surface. The other runways that existed before the Navy took over the field were modified. Each was widened to 300 feet by the addition of concrete sections on each side. Each received a macadam extension which increased their length to 5,000 feet. There was one exception however. Runway 15-33, which paralleled the old hangar row, was lengthened to only 4,500 feet because of the limited space. Additional taxiways were also constructed. A long macadam taxiway was put in between the southern end of Runway 15-33 and the seaplane parking area at the extreme southern end of the field near the marginal wharf. A short taxiway was put in to connect the northern apron along hangar row with the western end of the new Runway 6-24. Another taxiway was constructed to connect the southern ends of Runways 15-33 and 12-30. Finally, two sets of taxiways were constructed to link the patrol base complex with Runways 6-24 and 12-30. All of these greatly expanded the landing capabilities of the Naval Air Station.[51]

The Navy installed a sophisticated new lighting system to aid night and poor visibility landing at Floyd Bennett Field. The state of the art of runway lighting had improved significantly since the mid-1930s, and the Navy, mindful of aircraft safety, installed improved lighting throughout the area. Approach lights were placed at the end of each runway, and a lengthened approach light system was installed at the end of Runway 30. Also new radio approach systems were installed for the field making it much easier for pilots to land during poor visibility conditions.[52]

---

51. National Park Service Drawing 646/62037 "General Plan of Runways," March 23, 1942; National Archives Photograph No. 80-G-291508, December 17, 1944.

52. National Park Service Drawing 646/62017, "Field Lighting Runways and Building Obstruction Lights Locations," April 16, 1945.

Photograph No. 35

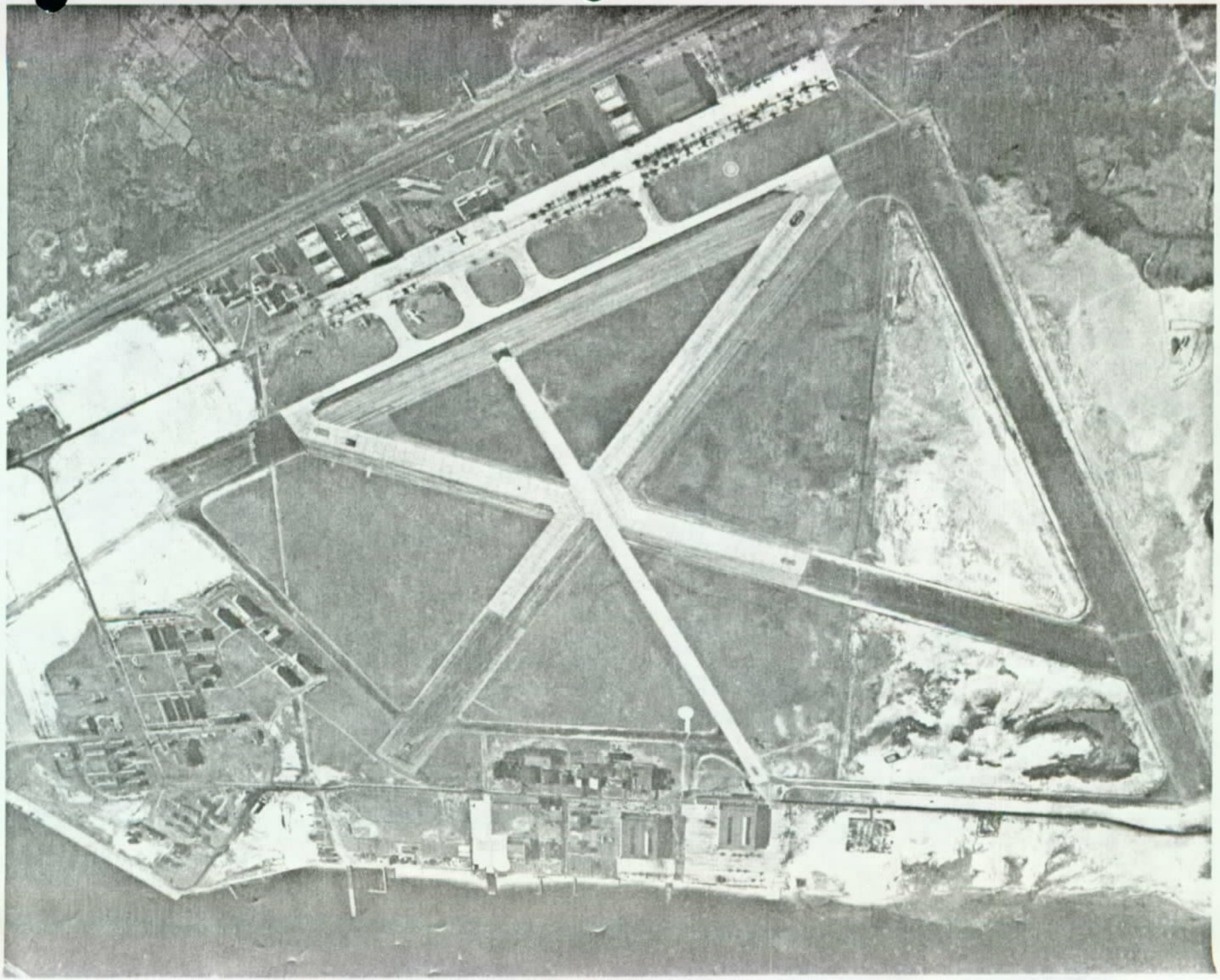
View of the southwest side of the Administration Building taken during World War II and showing the remodeled Control Tower.

From the files of the Jamaica Bay Unit of Gateway National Recreation Area.

Photograph No. 36

Aerial view taken December 17, 1944, showing the extensive additions to Floyd Bennett Field by the Navy.

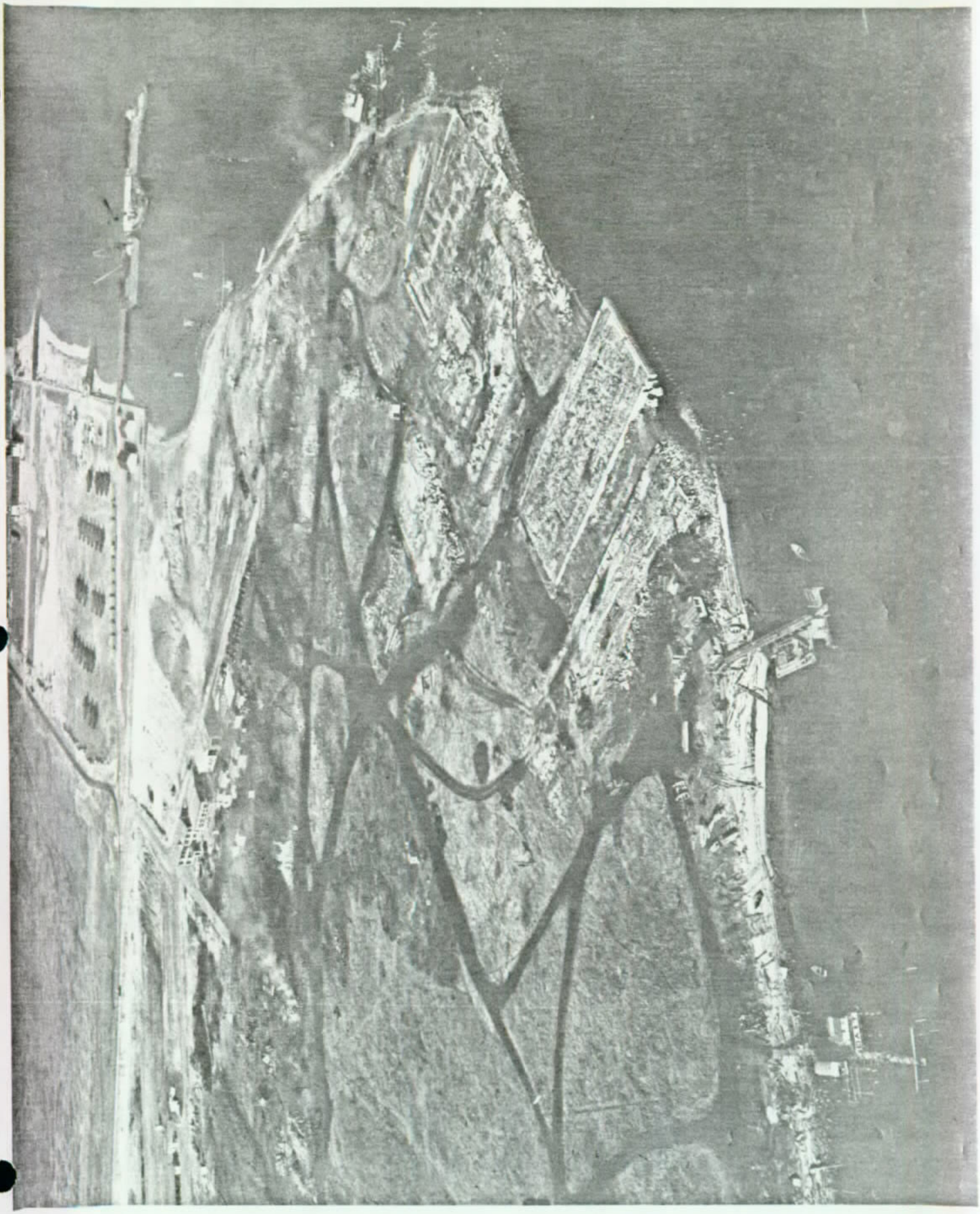
National Archives, Photograph No. 80-G-291508.



Photograph No. 37

View of the southeastern tip of Barren Island showing the foundations of the old glue factory and garbage incinerator, the area where the Navy built its marginal wharf.

National Archives, Photograph No. 80-G-354815.



Of the original buildings constructed at Floyd Bennett Field, the Administration Building was the structure most extensively modified by the Navy. Though few walls were knocked down, the building was completely remodeled on the inside and slightly modified on the outside. A floor-by-floor listing shows the extent of the modifications on the interior.

In the central part of the basement, a Naval Air Transport Service (NATS) waiting room was installed along with a NATS office, Red Cross coffee shop, and boiler room. Down the north corridor one found a very large post office as well as two electric rooms and an armory. Down the southern corridor were located another electrical room and cafeteria.[53]

The first floor of the Administration Building was also altered. The seating facilities in the lobby were removed and it was left empty. In the center on the field side, the NATS had another office with an information booth fronting on the lobby. Down the northern corridor were the aerology (weather) operations room, an office for a secretary and the operations officer, the flight control room, a locker room for the flight crew, a room for the telephone switchboard, and a restroom for the telephone operators. Down the southern corridor were two disbursing offices, a waiting room, a men's restroom, and office space for the Naval Air Station staff. Finally, there were two small offices flanking the doorway leading out of the Flatbush Avenue side of the building.[54]

Though very little was done to change the structure of the second floor of the Administration Building, the use of the individual rooms changed after the Navy took the field over. In the center of the floor, the open well to the first floor remained. On the field side in the center under the control tower, the commanding officer of the Naval Air Station had his

---

53. National Park Service Drawing 646/62033-1.

54. Ibid., Drawing 646/62033-2.

office. Across the open well were the public relations office, the legal office, and the base personnel office. Down the northern corridor were offices for the officer of the day, senior duty officer, officers' records, stenographers, women officers, a duplicating room, and the central file office. Down the southern corridor were offices for the executive officer, insurance, personnel, and demobilization. The baths in many of the second floor rooms were retained.[55]

The weather bureau, which occupied the room directly under the control tower remained where it was. The control tower was modified considerably. New electronic equipment was installed, including radar when it was introduced later in the war, radio equipment, and other types of communications equipment. Also, the windows of the control tower were changed and the old design was replaced by more modern glass and steel which allowed greater visibility.[56]

Finally, one other important modification was made to the Administration Building in 1943. A sixty- by seventy-three-foot single story wood frame extension was added to the building. The structure was clearly designed to provide additional office space for the Naval Air Station staff. It had a flat roof and was connected to the Administration Building by a narrow ten-foot wide corridor that led to the first floor. The corridor also contained a stairway to the basement. A floor plan of the extension shows that it had eleven separate rooms. They included a toilet, a clerical files and correspondance room, an engineering and material storage room, an office for the communications officer, a coding room, an office for a communications watch officer, a routing and current message files room, a room for supplies and message files, a telephone equipment

---

55. National Park Service Drawing 646/62033-3.

56. See various photographs of the control tower in the files of the Jamaica Bay Unit of Gateway National Recreation Area.

room, a teletype room, and a room for radio central. The building was obviously constructed to provide space for communications facilities.[57]

There were few other major alterations made to the other original or WPA structures at Floyd Bennett Field during the war. Little, outside of repair and maintenance work, was done to the hangars, their lean-tos, or the infill buildings. Three of the other structures were slightly modified later on, but probably in the post-war period. A brick wing was attached to the electrical vault built by the WPA north of hangar row. It measured approximately twelve by twenty-six feet. Also a lean-to was attached to the southern side of the Dope Shop, and a concrete lean-to was attached to the southern side of the Sprinkler Pump House. These changes in the structures can be seen today.

The Post-World War II Construction at Floyd Bennett Field

When the Second World War ended in 1945, the New York Naval Air Station was redesignated a naval air reserve training station. Because of this reduced role, there was little new construction undertaken at Floyd Bennett Field in the immediate post-war years. Not until the United States began to mobilize its armed forces for the Cold War and the Korean War broke out in 1950 did the field see significant new construction.

Nevertheless, some construction was carried out at the field right after World War II. A contract was let in 1946 for the installation of a new instrument approach system that cost $102,000. It was designed to improve poor visibility landing capabilities. Also in 1946, $62,000 was spent on a new radio compass location station, which also improved instrument landing capabilities at the field. Further funds were spent in

57. National Park Service Drawing 646/62034, "Extension to Administration Building."

1946 for ground control approach equipment and a taxiway linking the parking apron to the southeast end of Runway 15-33.[58]

Once the Korean War began and the Cold War heated up, the Navy had a greater need for Floyd Bennett Field. The airport was altered so that it could adequately handle the new and more sophisticated aircraft that the Navy acquired in the late 1940s and early 1950s. This required new facilities. In July 1951 the Bureau of Docks announced that the Navy was ready to award a contract for $3,490,626 to the Albert A. Lutz Co., of New York City, for expansion of the Naval Air Station. This work, which was carried out in 1951 and 1952, included the addition of 1,000 feet to Runway 6-24, the construction of a new parking area, two new radio towers, new lean-tos for the hangars that belonged to the original Navy Patrol Base on the eastern side of the field, a new barracks and mess hall, a public works garage, and four maintenance buildings. In addition, the main entrance gate to the field was relocated, the fire alarm and sprinkler systems in the buildings were repaired, new lights were installed near the hangars, and a jet fuel storage tank was built.[59] Under a separate contract, in 1957, a new airport beacon tower was put up near the Gasoline and Sprinkler Pump Houses between Hangar 6 and the Administration Building.[60]

Except for standard maintenance and repair work, the construction at Floyd Bennett Field during this period had little to do with the original structures built during the 1930s. In many instances the buildings went unused, since the Navy centered its activities at the field in the late

---

58. This information came from an untitled list of post-war construction at Floyd Bennett Field that is located in the files of the Naval Facilities Engineering Command, Port Hueneme.

59. Department of Defense Press Release, May 24, 1951; and a Bureau of Docks Press Release, June 12, 1951, Naval Facilities Engineering Command Files, Port Hueneme.

60. National Park Service Drawing 646/62425.

1940s away from the original hangar row. Nevertheless, the New York City Police Department maintained its air patrol unit in Hangar 3, and the New York Air National Guard occupied several of the hangars north of the Administration Building.

The Air National Guard activities led to the one major project that dealt with the original buildings. In 1964, they constructed a new hangar between Hangar 5 and the Administration Building. The hangar, which cost $1,700,000, was erected between March 1964 and March 1965. It included 27,000 square feet of unobstructed floor space in its main repair area. Its front was 300 feet long and had thirty-foot high sliding doors.[61] To make space for this structure, the Field House constructed by the WPA in the 1930s was demolished.

Two of the other original buildings at Floyd Bennett Field were also demolished in the post-war years. The two brick towers that housed the Sperry floodlights used originally for night landings, were torn down in the late 1940s.

---

61. Article in The Leveler, a Naval Facilities Engineering Command news publication, December 1964, p. 4, Naval Facilities Engineering Command Files, Port Hueneme.

RECOMMENDATIONS

The author believes that the source material documenting the history of Floyd Bennett Field has been exhausted. All possible depositories that hold records about the airport have been searched. The only set of important documents relevant to the subject that were not found to be available or complete were the WPA files. They were not located in either the National Archives in Washington, D.C. or its branch in Bayonne, New Jersey, nor were they found in the City of New York Municipal Archives. Nevertheless, enough data on the WPA program at Floyd Bennett Field in the 1930s was uncovered to provide a clear picture of that construction. Though the available Navy records are also incomplete, they are not nearly as important as the WPA files, and sufficient Navy records were found to provide an overview of the construction at the field during the Second World War and the post-war period. Therefore, it is very doubtful that any significant documentary sources remain to be uncovered and further research would be fruitless.

As for the interpretive use of the historic structures at Floyd Bennett Field, it must be determined what emphasis should be placed on the airport's history. Since it would not make sense and would cost too much to restore the interior and exterior of each historic building to its 1930s appearance, partial restoration appears to be the answer. It would take much less effort to restore the outward appearance of the old hangar row to what it looked like when Wiley Post was making his historic flights. Few alterations were made to the exteriors of the old buildings through the years. Thus little would be required to restore their 1935 appearance. The only structure on the original hangar row that intrudes on the field's appearance during the 1930s is the blue Air National Guard Hangar put up in 1964 between the Administration Building and Hangar 5. Its removal, if practical, is recommended. Therefore, if the Air National Guard Hangar were demolished and the original buildings stabilized the hangar row would appear much as it did during the historic period.

The interior space of the Administration Building, the hangars, the lean-tos, and the infill buildings can readily be adapted for recreation purposes which would not require the alteration of their exterior appearance. Or the park can use some of them as maintenance buildings. The Administration Building would be ideal for use as the park headquarters building.

The author makes one recommendation for the interpretation of the history of Floyd Bennett Field. One of the original hangars should be set up as an interpretive museum which highlights the significant events that occurred at the airport during the 1930s and during the Second World War. It should present information and memorabilia on the flights of Wiley Post, Amelia Earhardt, Roscoe Turner, Howard Hughes, and other famous aviators that used Floyd Bennett Field. It should also describe the various Navy activities at the field during the Second World War. One section of the museum should provide information about Floyd Bennett. The portrait of the naval aviator that hung in the lobby of the Administration Building can be displayed, if located, along with the Congressional Medal of Honor that Bennett was awarded for his flight with Byrd across the North Pole in 1926, if it can be acquired. There are other items that could be displayed if they were also located, such as the airport register, which contains the signatures of all of the pilots that used the field in the 1930s and the memorial tablet installed on the apron in 1935, after Wiley Post's death, commemorating his solo around-the-world flight. Finally, the museum could display one or two aircrafts that typify the kinds of planes that were involved in the famous flights of the 1930s. It may be possible to secure restored aircraft of that vintage from the Smithsonian Institution. Floyd Bennett Field's history is significant enough to warrant such a small museum in one of the original hangars. It would easily provide interpretive information for visitors unfamiliar with the airport's rather unique history.

APPENDIX A

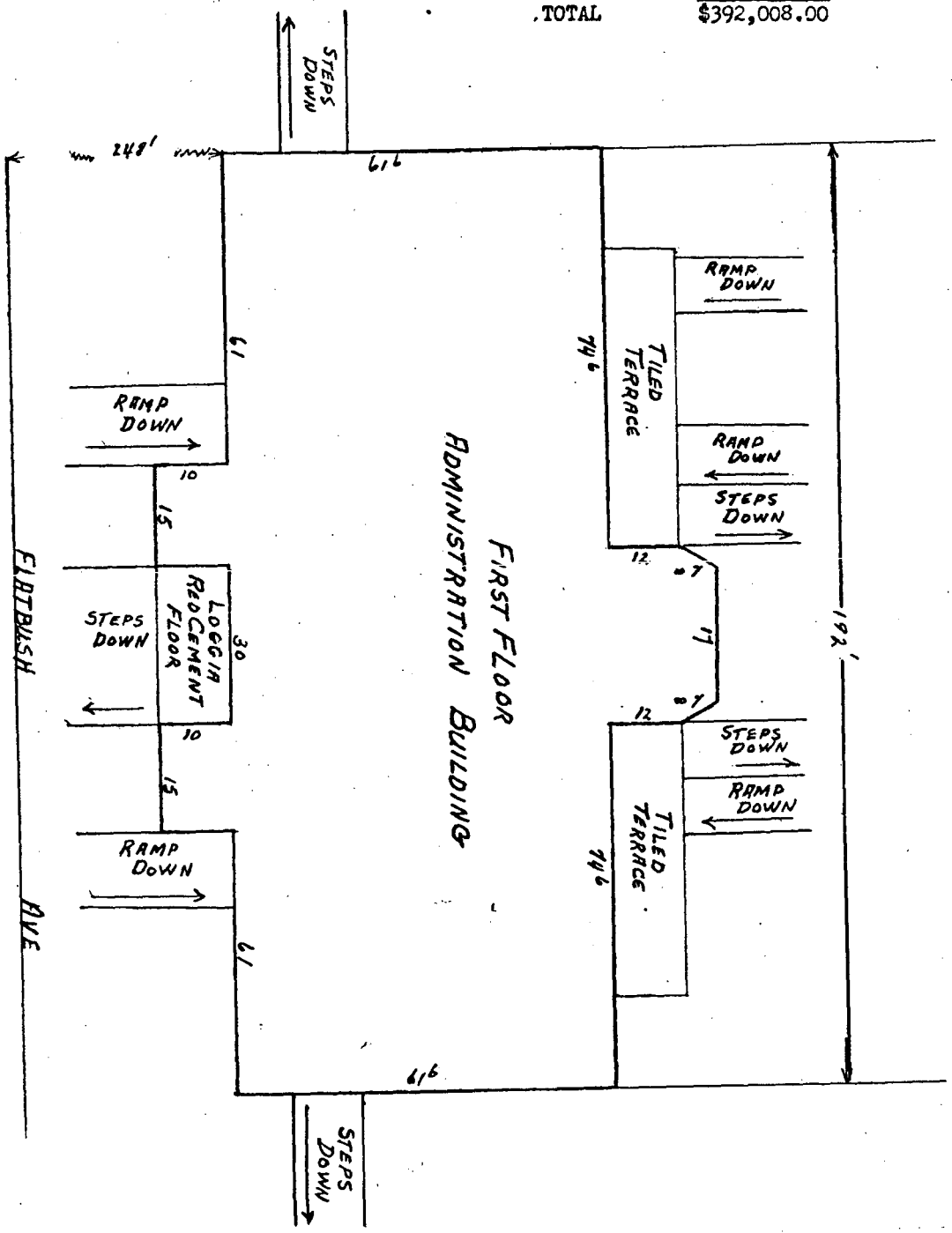
THE LaGUARDIA DOCUMENT

WPA CONSTRUCTION AT FLOYD BENNETT FIELD

B R O O K L Y N, N. Y. C.

I N D E X.

N.Y.C.	Contract #2000	274,488.00
#12 W.P.A.	Weather Proofing	19,005.00
#17 W.P.A.	Ticket & Doctors off. Restaur.	40,873.00
W.P.A.	Public address system	1,985.00
#60 W.P.A.	Alt. in Control Room	2,513.00
#65 W.P.A.	Alt. on Elev ator Shafts	33,064.00
#84 W.P.A.	Decorations	5,385.00
W.P.A.	Storm Doors & Sash	8,046.00
#66 W.P.A.	Radio	25.00
# 5 W.P.A.	Transmitter & Receiver	6,624.00
	TOTAL	$392,008.00



Brick & Granite Walls - Concrete Footings - Sash & Trim: partly Marble
Floors: 4" reinf. Concr. Slabs, Linoleum covered - Roof: red Tile over 4" concr. Slab.
Framing: Steel - Interior: Plaster, Marble. Fabricoid. Im. Caen stone.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost
Cellar	62.17 X 17.33	1,077	11	1,077	11,847	
"	74.17 X 166.67	12,362	11	12,362	135,982	
"	17 X 8	136	11	136	1,496	
"	8 X 7.5	60	11	60	660	
"	60 X 10	600	11	600	6,600	
	TOTAL	14,235				See
Elev. Pit	78 X 6	47	2.5	Cube only	118	reverse
"	78 X 6	47	2.5	"	118	side
	Total Basement			14,235	156,821	for
1st. Floor	61.5 X 182	11,193	13.5	11,193	151,106	detailed
"	20 X 34	680	13.5	680	9,180	expend.
"	20 X 1	20	13.5	20	270	Totals
"	30 X 2	60	13.5	60	810	below
"	10 X 15	150	13.5	150	2,025	
"	10 X 15	150	13.5	150	2,025	
		12,253		12,253	165,416	
Deduct	7.5 X 8	60		60	810	
Total 1st Floor		12,193		12,193	164,616	
2nd. Floor	Total	12,193	11.5	12,193	140,220	
Deduct	32 X 32	1,024	11.5	1,024	11,776	
Total 2nd Floor		11,169	11.5	11,169	128,444	

Remarks

Interior: Continued.
Stairs, Railings, Bronz White Marble Treads.
Basement Floor: 4" Reinf. Concr. Slab. Granolythic Finish.
Partitions & Doors: Partly obscured Glass & polished Plate Glass.
Aluminum Trim.
Observation Tower: Aluminum Sash & Railing.
Exterior Railings: Bronze.
Terraces: Front 8' X 30' red Tile. Rear 12' X 58' & 12' X 65' red Tile.
Ramps: 2 st 13' X 20'. 3 at 10' X 20'
Stairs at ends: Steel.
Trim & Doors etc: Kalamein galv. Steel.

"	20 X 1	[illegible]	[illegible]			
"	30 X 2	60	13.5	60	810	below
"	10 X 15	150	13.5	150	2,025	
"	10 X 15	150	13.5	150	2,025	
		12,253		12,253	165,416	
Deduct	7.5 X 8	60		60	810	
Total 1st Floor		12,193		12,193	164,616	
2nd. Floor	Total	12,193	11.5	12,193	140,220	
Deduct	32 X 32	1,024	11.5	1,024	11,776	
Total 2nd Floor		11,169	11.5	11,169	128,444	
Weather Buro	27 X 33	891	11.5	891	10,247	
Deduct	7.5 X 8	60	11.5	60	690	
Total Weather Rm.		831	11.5	831	9,557	
Control Rm.	26 X 23	598	11.5	598	6,877	
Deduct	4 X 4	16	11.5	16	184	
Total Control Rm.		582	11.5	582	6,693	
Stair Bulkhd.	5.5 X 10.83	59	9.5	Cube only	561	
"	10 X 8	80	9.5	"	760	
"	5.5 X 10.83	59	9.5	"	561	
"	10 X 8	80	9.5	"	760	
Elev. House	12 X 7.75	93	9.5	"	884	
		Total Bulkheads			3,526	
Totals entire Building				39,010	469,657	$392,008

Note: Above total area includes Basement.

Railing.

Exterior Railings:

Bronze.

Terraces: Front 8' X 3(

red Tile. Rear 12' X 5

& 12' X 65' red Tile.

Ramps: 2 st 13' X 20'.

3 at 10' X 20'

Stairs at ends: Steel.

Trim & Doors etc:

Kalamein galv. Steel.

Wooden Piles: 94 piece

1' in dia., 35' long.

Concr. Piles: 244 piec

14" dia., 35' long.

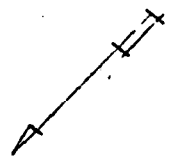
See reverse side for 1st Floor plan.

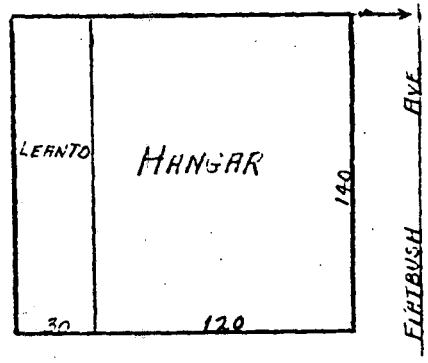
FLOYD BENNETT AIRPORT

HANGAR & LEANTO #1.

Hangar: Walls: 12" Brick. Floors: 1'-0"Concr. Footings: Reinf. Concr. 5' sq. Piles: 102. Concr. 14" X 35', driven 40'-0"depth Framing: Open steel Trusses. Sash: Steel. Fixed. Doors: Aluminum Alloy. Sliding. Roof: Composition. Copper Gutters.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
							Leanto: Walls: 12" Face Brick & Cast Stone. Framing: Steel. Floors: Reinf. Concr. Footings; Reinf. Concr. Piles: Conc. 14" X 35' -0". driven to 40' depth, 23 Pieces. Sash: Steel. Roof: Composition. Copper Gutters etc.
Hangar	120 X 140	16,800	35.52	16,800	596.736		
Leanto 1st Fl.	30 X 140	4,200	17.71	4,200	74,382		
" 2nd "	30 X 140	4,200	11.75	4,200	49,350		
Totals Hangar & Leanto #1.				25,200	720,468		



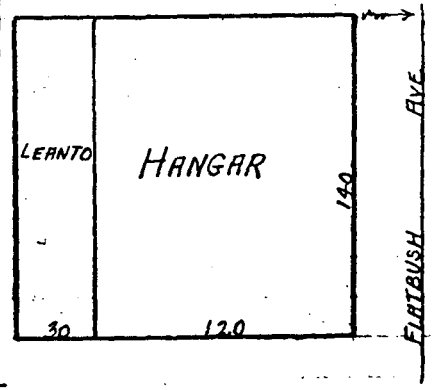


Hangar #1.

N..C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumb. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Monorails	300.00

Roof: Composition.
Copper Gutters etc.

Hangar	120 X 140	16,800	35.52	16,800	596.736	
Leanto 1st Fl.	30 X 140	4,200	17.71	4,200	74,382	
" 2nd "	30 X 140	4,200	11.75	4,200	49,350	
Totals Hangar & Leanto #1.				25,200	720,468	



Hangar #1.

N..C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumb. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Monorails	300.00
W.P.A. Heating System	9,595.00
Hangar # 1	$201,291.40

Leanto #1.

N.Y.C. Drawing Plans	44.00
W.P.A. Construction of Leanto	83,491.00
W.P.A. Miscellaneous Work	1,907.00
W.P.A. Monorail	300.00
Leanto #1.	$85,742.00

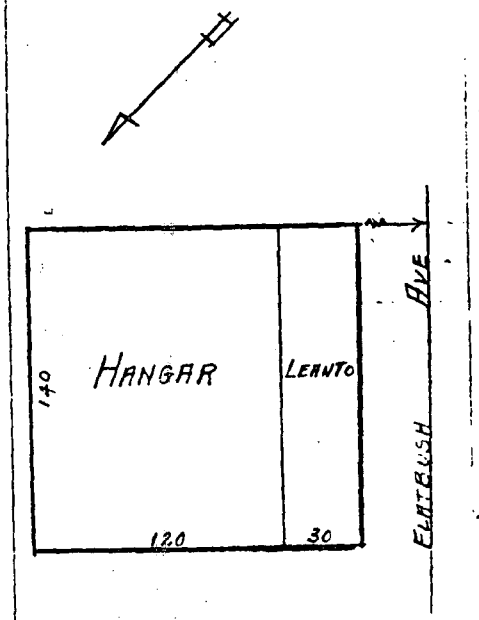
See above Contr. #1967

Total Cost Hangar & Leanto #1. $287,033.40

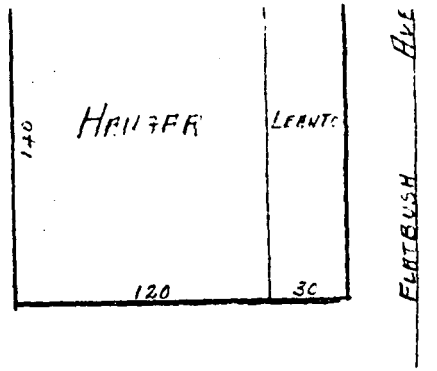
FLOYD BENNETT AIRPORT.
HANGAR & LEANTO #2.

For Details of Construction see Hangar & Leanto #1. Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596,736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
	Total Hangar & Leanto #2			21,000	669,018		
			Hangar #2.				
	N.Y.C. Contract #1967 for		Hangar & Leanto			141,301.40	
	Wiring-Fixts-Heating-Plumbing.		N.Y.C. 2028,2054,2058 & 2061			29,605.00	
			W.P.A.	Fire Lines		300.00	
			W.P.A.	Painting Doors		1,680.00	
			W.P.A.	Sprinklers		17,835.00	
			W.P.A.	Drainage		675.00	
			W.P.A.	Monorails		300.00	
			W.P.A.	Heating System		9,595.00	
			Hangar #2.			$201,291.40	
			Leanto #2.				
			N.Y.C.	Drawing Plans		44.00	
			W.P.A.	Alteration Construction		36,466.00	
			WP. A.	Repairs to Roof		441.00	
			Leanto #2.			$36,951.00	See above Contr. #1967



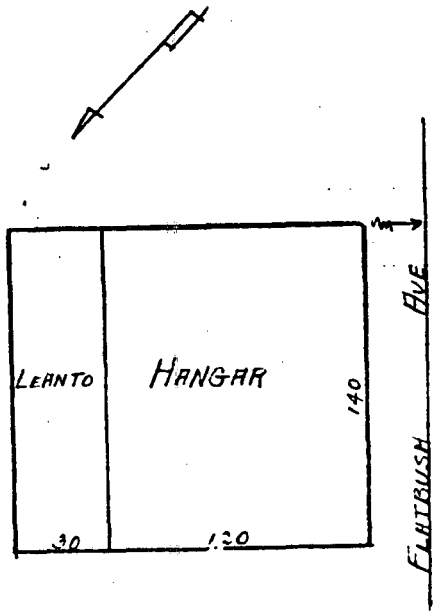
	Hangar	#2.		
N.Y.C. Contract #1967 for	Hangar	& Leanto	141,301.40	
Wiring-Fixts-Heating-Plumbing.	N.Y.C.	2028,2054,2058 & 2061	29,605.00	
	W.P.A.	Fire Lines	300.00	
	W.P.A.	Painting Doors	1,680.00	
	W.P.A.	Sprinklers	17,835.00	
	W.P.A.	Drainage	675.00	
	W.P.A.	Monorails	300.00	
	W.P.A.	Heating System	9,595.00	
	Hangar	#2.	$201,291.40	
	Leanto	#2.		
	N.Y.C.	Drawing Plans	44.00	
	W.P.A.	Alteration Construction	36,466.00	
	WP. A.	Repairs to Roof	441.00	
	Leanto	#2.	$36,951.00	See above Contr. #1967
Total Cost Hangar & Leanto #2.			$238,242.40	



FLOYD BENNETT AIRPORT.
HANGAR & LEANTO #3.

For Details of Construction see Hangar & Leanto #1. Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596.736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
Total Hangar & Leanto #3				21,000	669,018		



Hangar #3.

N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	9,595.00
Hangar #3.	$200,991.40

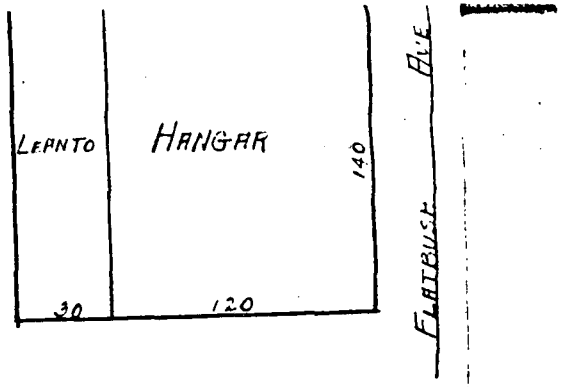
Leanto #3.

N.Y.C. Drawing Plans	44.00
W.P.A. Repairs to Roof	441.00
Leanto #3.	$485.00

See above Contr. #1967

Hangar #3.

N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	9,595.00
Hangar #3.	$200,991.40



Leanto #3.

N.Y.C. Drawing Plans	44.00
W.P.A. Repairs to Roof	441.00
Leanto #3.	$485.00

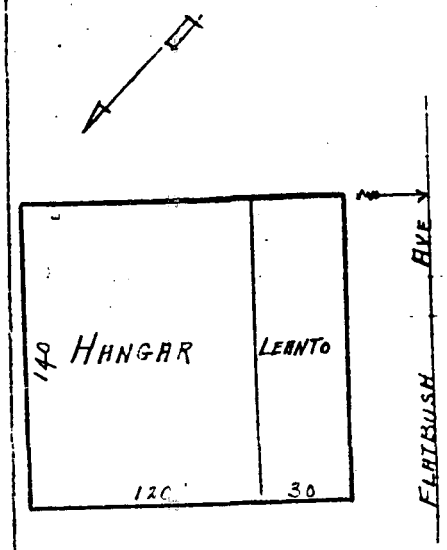
See above Contr. #1967

Total Cost Hangar & Leanto #3. $201,476.40

FLOYD BENNETT AIRPORT.
HANGAR & LEANTO #4.

'For Details of Construction see Hangar & Leanto #1 Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596,736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
	Total Hangar & Leanto #4.			21,000	669,018		
	Hangar #4.						
	N.Y.C. Contract #1967 for Hangar & Leanto					141,301.40	
	Wiring-Fixts.-Heating-Plumbing. N.Y.C. 2028,2054,2058,&2061					20,605.00	
	W.P.A. Fire Lines					300.00	
	W.P.A. Painting Doors					1,680.00	
	W.P.A. Sprinklers					17,835.00	
	W.P.A. Drainage					675.00	
	W.P.A. Heating System					9,595.00	
	W.P.A. Alteration to Hangar					11,044.00	
	W.P.A. Painting Interior					3,573.00	
	Hangar #4.					$215,608.40	
	Leanto #4.						
	N.Y.C. Drawing Plans					44.00	



Hangar #4.

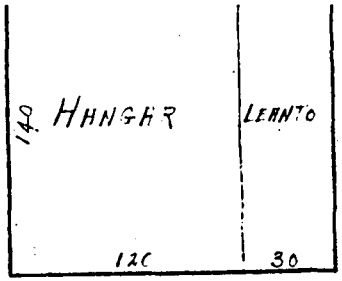
N.Y.C. Contract #1967 for Hangar & Leanto		141,301.40
Wiring-Fixts.-Heating-Plumbing. N.Y.C. 2028,2054,2058,&2061		20,605.00
W.P.A.	Fire Lines	300.00
W.P.A.	Painting Doors	1,680.00
W.P.A.	Sprinklers	17,835.00
W.P.A.	Drainage	675.00
W.P.A.	Heating System	9,595.00
W.P.A.	Alteration to Hangar	11,044.00
W.P.A.	Painting Interior	3,573.00
Hangar #4.		$215,608.40

Leanto #4.

N.Y.C.	Drawing Plans	44.00
W.P.A.	Repairs to Roof	441.00
Leanto #4.		$485.00

See above Contr. #1967.

Total Cost Hangar & Leanto #4. $216,093.40

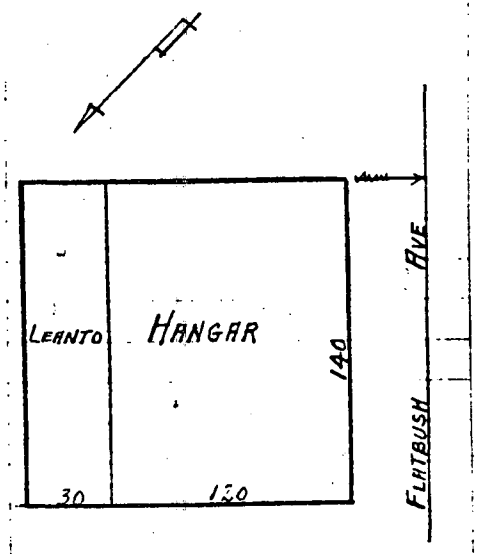


FLATBUSH

HANGAR & LEANTO #5.

For Details of Con struction see Hangar & Leanto #1. Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596,736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
	Total Hangar & Leanto #5.			21,000	669,018		



Hangar #5.

N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
Hangar #5.	$194,227.40

Leanto #5.

N.Y.C. Drawing Plans	44.00
W.P.A. Repairs to Roof	441.00
Leanto #5.	$485.00

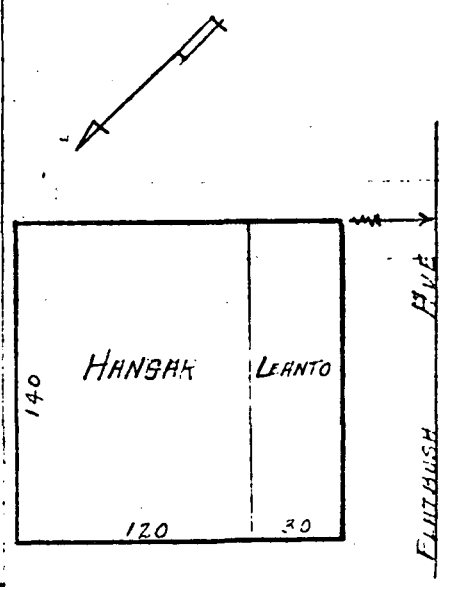
See above Contr. #1967

Total Cost Hangar & Leanto #5. $194,712.40

FLOYD BENNETT FIELD.
HANGAR & LEANTO #6.

For Details of Construction see Hangar & Leanto #1. Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596,736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
	Total Hangar & Leanto #6.			21,000	669,018		



Hangar #6.

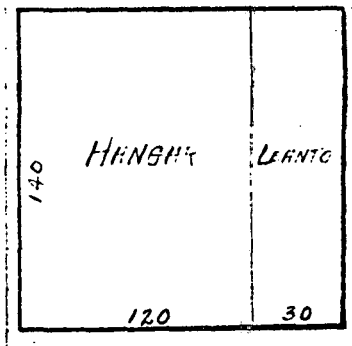
N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
Hangar #6.	$194,227.40

Leanto #6.

N.Y.C. Drawing Plans	44.00
W.P.A. Repairs to Roof	441.00

Hangar #6.

N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing. N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
Hangar #6.	$194,227.40



Leanto #6.

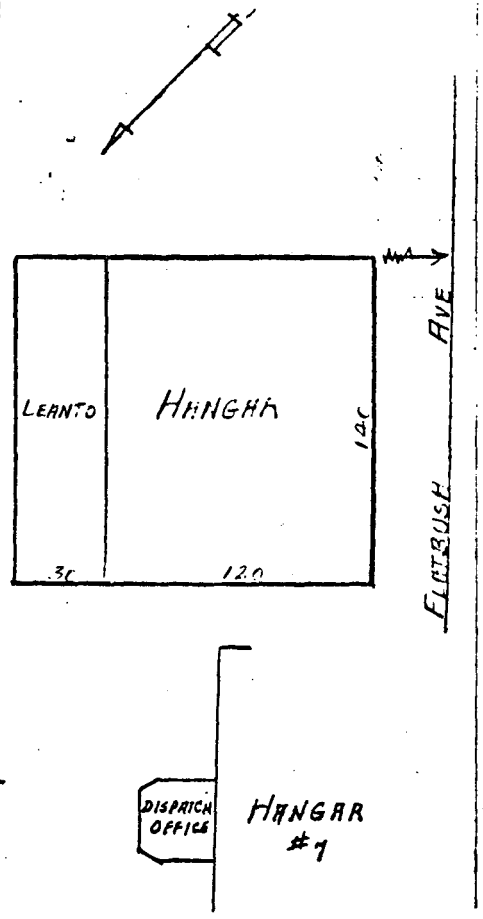
N.Y.C. Drawing Plans	44.00	
W.P.A. Repairs to Roof	441.00	
Leanto #6.	$485.00	See Above Contr. #1967

Total Cost Hangar & Leanto #6. $194,712.40

FLOYD BENNETT AIRPORT.
HANGAR & LEANTO #7.

For Details of Construction see Hangar & Leanto #1. Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596,736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
Dispatch Off.	10 X 15.38	154	13.29	154	2,047		
"	11.94 X 4.17	50	13.29	50	665		
	Total Hangar & Leanto #7.			21,204	671,730		



Hangar #7.

N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
W.P.A. Finished Floors	2,123.00
Hangar #7.	$196,350.40

Leanto #7.

Hangar #7.

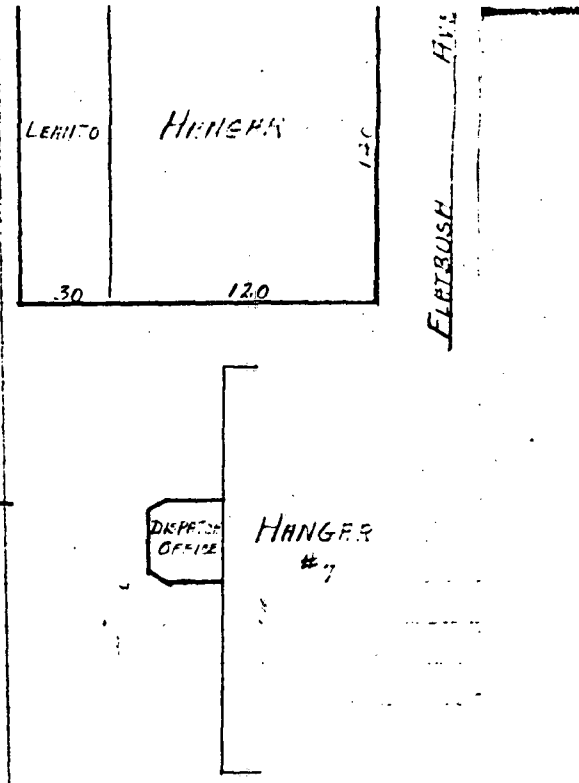
N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
W.P.A. Finished Floors	2,123.00
Hangar #7.	$196.350.40

Leanto #7.

N.Y.C. Drawing Plans	44.00
W.P.A. Repairs to Roof	441.00
W.P.A. Repairs	241.00
W.P.A. Alteration	9,977.00
Leanto #7.	$10,703.00

See above Contr. #1967

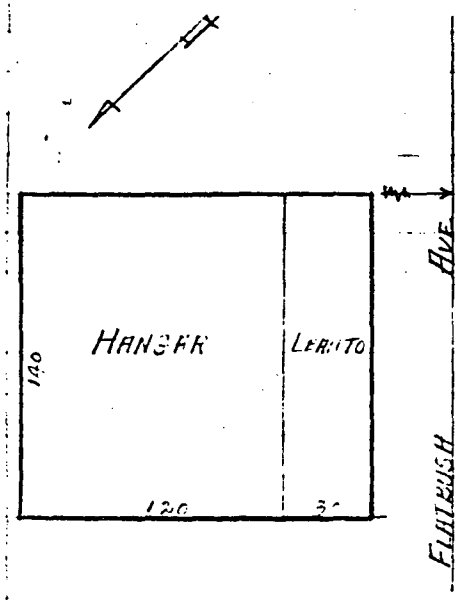
Total Cost Hangar & Leanto #7.	$207,053.40



FLOYD BENNETT AIRPORT.
HANGAR & LEANTO #8.

For Details of Construction see Hangar & Leanto #1. Sheet 2.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubuc Ft.	Cost	Remarks
Hangar	120 X 140	16,800	35.52	16,800	596,736		
Leanto	30 X 140	4,200	17.21	4,200	72,282		
	Total Hangar & Leanto #8.			21,000	669,018		



Hangar #8.

N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
W.P.A. Finished Floors	2,123.00
W.P.A. Monorail	1,702.00
Hangar #8	$198,052.40

Leanto #8.

Hangar #8.

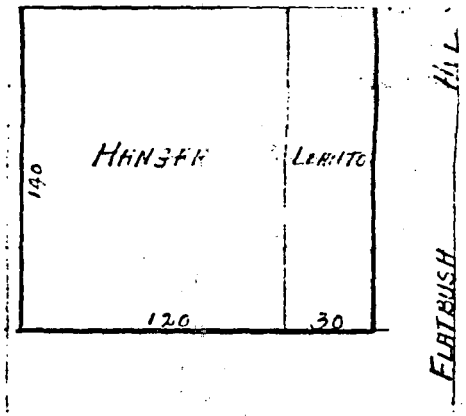
N.Y.C. Contract #1967 for Hangar & Leanto	141,301.40
Wiring-Fixts-Heating-Plumbing N.Y.C. 2028,2054,2058 & 2061	29,605.00
W.P.A. Fire Lines	300.00
W.P.A. Painting Doors	1,680.00
W.P.A. Sprinklers	17,835.00
W.P.A. Drainage	675.00
W.P.A. Heating System	2,831.00
W.P.A. Finished Floors	2,123.00
W.P.A. Monorail	1,702.00
Hangar #8	$198,052.40

Leanto #8.

N.Y.C. Drawing Plans	44.00
W.P.A. Repairs to Roof	441.00
W.P.A. Repairs	241.00
Leanto #8.	$726.00

See above Contr. #1967

Total Cost Hangar & Leanto #8.	$198,778.40

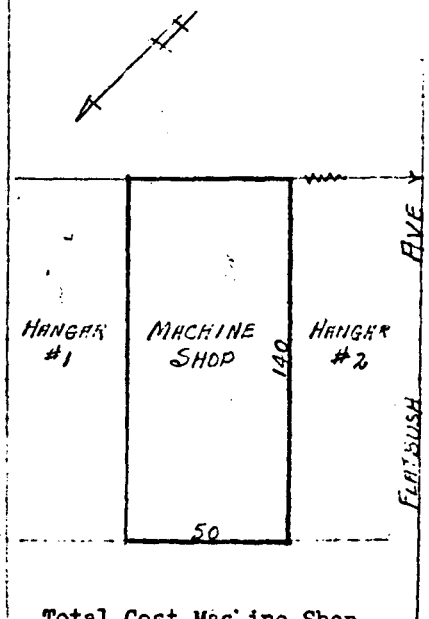


FLOYD BENNETT AIRPORT.

MACHINE SHOP BETWEEN HANGARS 1 & 2.

Walls:12" Face Brick & Cast Stone. Framing: steel. Floors: Reinf. Concrete. Piles: 20 pieces, 14"X35'-0", driven to 40'-0" depth
Sash: Steel. Roof: Composition. Copper Gutters, etc.

Identification	Dimension	Area	Ht.	Sq. ft.	Cubic Ft.	Cost	Remarks
1st Floor							
Mach. Shop &							
Dormitory	50 X 43.25	2,163	30.94	2,163	66,923		
"	50 X 40	2,000	30.94	2,000	61,880		
"	50 X 66.75	3,338	19.5	3,338	65,091		
Mezzanine	50 X 43.25	2,163		2,163	Area only		
"	50 X 40	2,000		2,000	"		
Total Machine Shop Between Hangars 1 & 2.				11,664	193,894		
W.P.A. Project #65-97-1661 Job 14						$151,525.00	Total Cost Machine Shop Between Hangars 1 & 2.

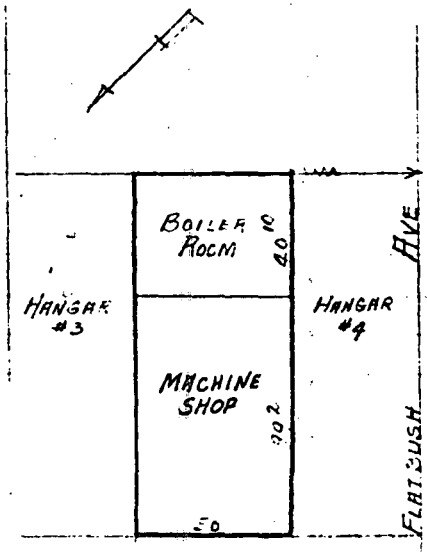


FLOYD BENNETT AIRPORT.

BOILER ROOM & MACHINE SHOP BETWEEN HANGARS 3 & 4.

For Details of Construction see Machine Shop Between Hangars 1 & 2. Sheet 10.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Boiler Room	50 X 40.83	2,042	24.5	2,042	50,029		
Smoke Stack	6.71 X 6.71	45	25.5	Cube only	1,148		
Machine Shop	50 X 99.17	4,959	23.25	4,959	115,297		
" Roof	50 X 19	950	1.5	Cube only	1,425		
" Mezzanine	50 X 19.5	975		975	Area only		
Totals Machine Shop etc. Between Hangers 3 & 4.				7,976	167,899		



Boiler Room W.P.A. Project 234 F. Job 35	90,706.00
Machine Shop W.P.A. Project 234 F. Job 39	84,878.00
	$175,584.00

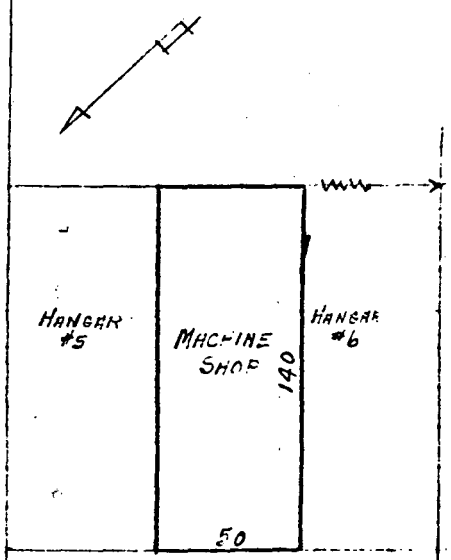
Total Cost of Boiler Room & Machine Shop Between Hangars 3 & 4.

FLOYD BENNETT AIRPORT.

MACHINE SHOP BETWEEN HANGARS 5 & 6.

For Details of Construction see Machine Shop Between Hangars 1 & a. Sheet 10

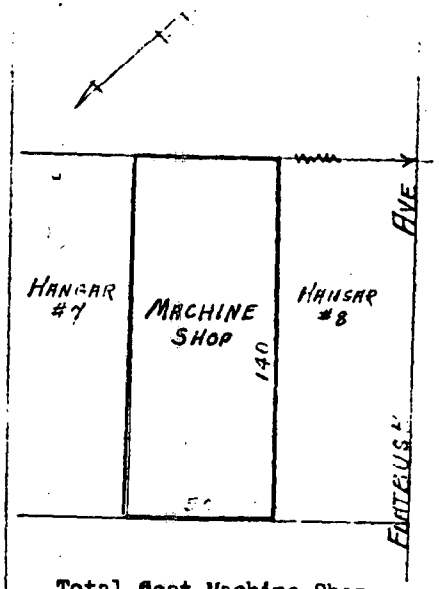
Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Machine Shop	50 X 140	7,000	23.5	7,000	164,500		
" - Roof	50 X 20.5	1,025	2.25	Cube only	2,306		
Totals Machine Shop Between Hangars 5 & 6				7,000	166,806		
W.P. Project #65-97-1661, Job 29.						$69,733.00	Total Cost Machine Shop Between Hangars 5 & 6.



FLOYD BENNETT AIRPORT.
MACHINE SHOP BETWEEN HANGARS 7 & 8.

For Details of Construction see Machine Shop Between Hangars 1 & 2. Sheet 10

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
1st Floor	50 X 41	2,050	29.25	2,050	59,963		
"	50 X 99	4,950	26.5	4,950	131,175		
Mezzanine	50 X 41	2,050		2,050	Area only		
Smoke Stack	6.56 X 6.56	43	16.08	Cube only	691		
Totals Machine Shop between Hangars 7 & 8				9,050	191,829		
W.P.A. Project #65-97-1661 Job #3						$26,817.00	

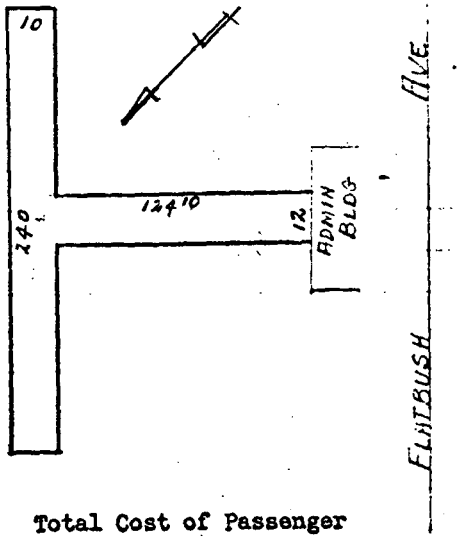


Total Cost Machine Shop Between Hangars 7 & 8.

FLOYD BENNETT AIRPORT
PASSENGER TUNNEL

Floor: Reinf. Concr. Linoleum Cov. **Walls & Roof:** Reinf. Concr. **Walls:** Tile Finish.

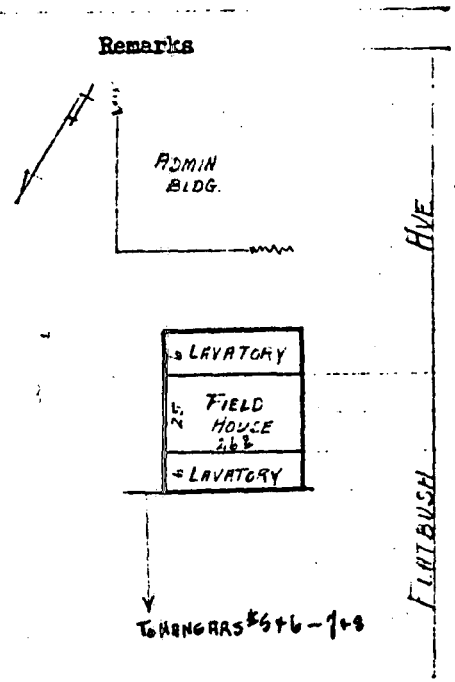
Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Main Tunnel	124.83 X 12	1,498	10	1,498	14,980		
Cross Sections	240 X 10	2,400	10	2,400	24,000		
Totals Passenger Tunnel				3,898	38,980		
	W.P.A. 65-97-1661 Job 26					$83,270.00	Total Cost of Passenger Tunnel.



FLO1 BENNETT AIRPOTT
FIELD HOUSE

Walls: Brick & Art. Stone. Interior Finish: Plaster, Tile Floor.
Footings: Reinf. Concr. 4" Floor Slabs. Sash etc: Steel.
Roof: Composition. Concession Stand & 2 Lavatories.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Cellar	27.48 X 27.12	745	8.5	745	6,333		
Oil Tank Encl.	7.25 X 10.62	77	9.5	Cube only	732		
1st Floor	26.67 X 25	667	12	667	8,004		
"	6 X 26.67	160	12	160	1,920		
"	26.67 X 6	160	12	160	1,920		
Smoke Stack	3.08 X 3.67	11	5.5	Cube only	61		
Totals Field House				1,732	18,970		



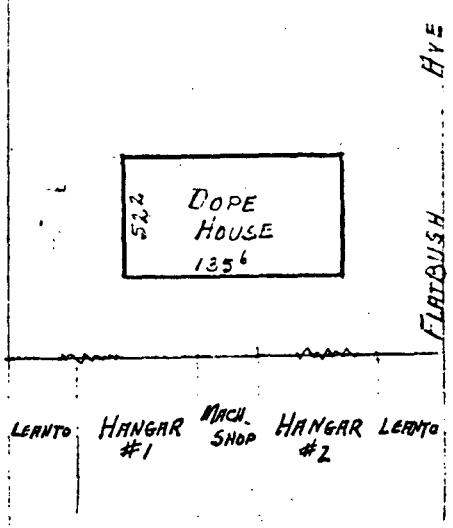
W.P.A. 65-97-1661. Job 55 — $60,261.00 — Total Cost of Field House.

FLOYD BENNETT FIELD

DOPE HOUSE

Walls: Brick & Art. Stone. Framing: Steel. Sash: Steel.
Doors: Overhead Rolling, Floor: Reinf. Concr. Footings: Reinf. Concr.

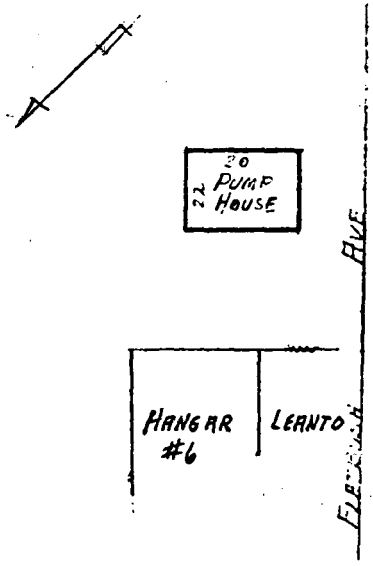
Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
1st Floor	135.5 X 52.17	7,069	21.75	7,069	153,751		
Roof	19.5 X 118	2,301	3.25	Cube only	7,478		
Mezzanine	15.33 X 49.33	756		756	Area only		
Totals Dope House				7,825	161,229		
	W.P.A. 65-97-1661. Job #56					$116,556.00	Total Cost of Dope House



FLOYD BENNETT AIRPORT
SPRINKLER PUMP HOUSE

Walls: Brick & artificial Stone. Roof: Copper on reinf. Concr. Slab.
Floor: 1'-0" thick reinforced Concrete

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
1st Floor	30 X 22	660	10.5	660	6,930		
Sloped Roof	30 X 22	660	2.12	Cube only	1,399		
	Total Sprinkler Pump House			660	8,329		
W.P.A. Project 65-97-1661. Job						$69,376.00	Total Cost of Sprinkler Pump House

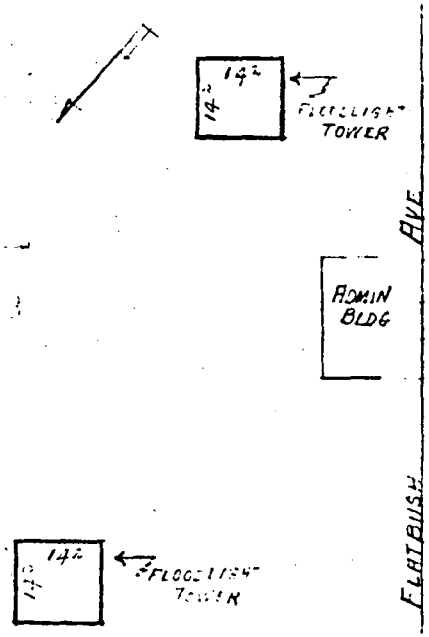


FLOYD BENNETT AIRPORT

2 FLOOD LIGHT TOWERS

Walls: Brick. Partitions: T. C. Blocks. Sash: Steel. Wire Glass.
Cast Stone sills & coping. 4" reinf. Concr. Slab.

Indentification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
North							
1st Floor	14.17 X 14.17	201	18	201	3,618		
Loft	14 X 14	196	10.5	196	2,058		
South							
1st Floor	14.17 X 14.17	201	18	201	3,618		
Loft	14 X 14	196	10.5	196	2,058		
Total 2 Flood Light Towers				794	11,352		
N.Y.C. Contract 2031						$27,252.37	Total Cost of 2 Flood light towers.



FLOYD BENNETT AIRPORT
2 TRANSFORMER HOUSES

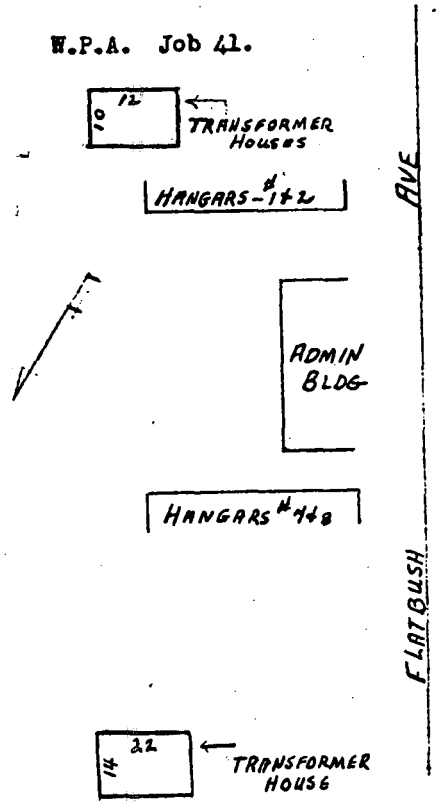
Construction same as Flood Light Towers Sheet 18

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
South East Vault	12 X 10	120	9	120	1,080		N.Y.C. #2028 A.
North East Vault	22 X 14	308	10.65	308	3,280		W.P.A. Job 41.
Total 2 Transf. Houses				428	4,360		

NOTES:

South East Vault cost distributed in Wiring etc. cost for 8 Hangars

North East Vault by W.P.A. Total Cost $14,694.00



FLOYD BENNETT AIRPORT

GASOLINE PUMP HOUSINGS & TANKS

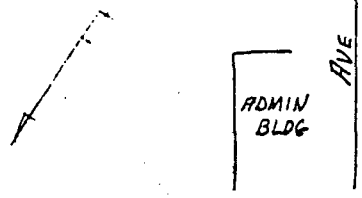
ALSO SEWER PUMP WELL

Construction same as 2 Flood Light Towers. Sheet 18

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Gasoline Storage north of Hangar 8.	6 X 8	48	12	48	576	)	
" Tank Encl. Underground	17.17 X 25.04	380	7	Cube only	2,660	)	2 Tanks at 4,500 gals. ea. 2 " " 10,000 " "
" "	18.13 X 29.73	539	10.06	"	5,422	)	
Gas Pump House near Hanger 6	7.83 X 9.83	77	8.5	77	655	)	4 Tanks at 5,000 gals. ea.
Underground	29 X 27.5	798	7.5	Cube only	5,985	)	
Pump Well South	22.5 X 28.5	641	17.5	641	11,218		N.Y.C. #2028 A.
"	22.5 X 28.5	641	5	Cube only	3,205		
	Totals			766	29,721		

NOTE:

Pump Well Cost included in cost of 8 Hangars.

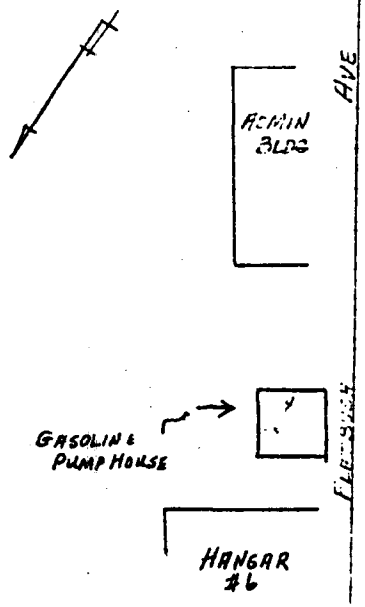


Gas Pump House near Hanger 6	7.83 X 9.83	77	8.5	77	655	4 Tanks at 5,000 gals. ea.
Underground	29 X 27.5	798	7.5	Cube only	5,985	
Pump Well South	22.5 X 28.5	641	17.5	641	11,218	N.Y.C. #2028 A.
"	22.5 X 28.5	641	5	Cube only	3,205	
	Totals			766	29,721	

NOTE:

Pump Well Cost included in cost of 8 Hangars.

N.Y.C. Contract	$ 283.59
W.P.A.	$31,368.00
Total Cost of Gas Storage	$31,651.59

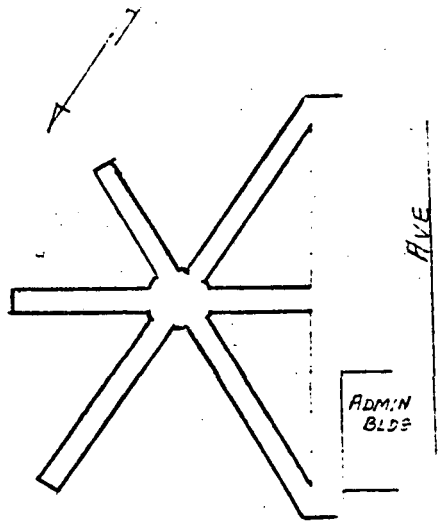


FLOYD BENNETT AIRPORT

RUNWAYS

Construction: 9" reinforced Concrete on sand. No piles.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
North-South				1,294,900			
N. E. S. W.				1,287,866			
N. W. Blind Landing			2	2,582,766			
				1,291,383			
N. W. S. E. Parallet to Apron				348,200			
Apron				799,600			
Taxi Strips				127,200			
Total				2,566,383 sq.ft.			
2,566,383 sq.ft. div. by 9"				285,153 1/3 sq. yds.			

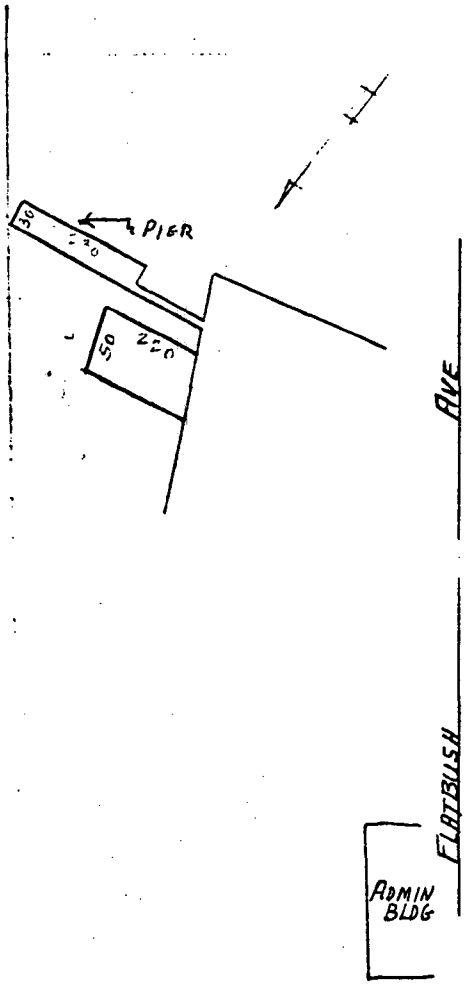


	N.Y.C.	#1935	83,789.98
	N.Y.C. Contract	#1963	107,554.94
Taxi Strips	" "	#2048	22,470.47
	W.P.A. Widening Taxi Strips		20,056.00
	" Widening N.-S. Runway		95,742.00
Total Runways			$329,613.39

FLOYD BENNETT AIRPORT
SEAPLANE RAMP & PIER

Construction: All creosoted Lumber, Various Sizes. **Piles:** Various Sizes

	SIZE	AREA	COST
Ramp	50 X 220	11,000 sq. ft. Decking	
Pier	30 X 230	6,900 sq. ft. Decking	
Ramp to Pier	580 X 10	5,800 sq. ft. Decking	
Seaplane Hangars. N. Y. C.			9,499.60
Seaplane Base N. Y. C. #1999			175,423.35
Repairs to Sheet Piling #2065			1,903.76
W.P.A. Seaplane Ramp etc.			11,655.00
W.P.A. Shelter			289.00
Total Cost Ramp, Pier Etc.			$198,770.71



FLOYD BENNETT AIRPORT
GRADING & LANDSCAPING, ETC.

Subsoil 4" - Topsoil 3". Topsoil treated, fertilized & seeded.

		COST	REMARKS
Filling & Grading N. Y. C.	#1917	685,041.19	
Top Soil Treatment	#1941	773,515.41	
Top Soil	#1979	172,827.93	
Rerolling Taxi Strips	#2090	416.46	
Add. Fertilizing etc.	#1941	6,488.60	
Add. Top Soil	#1979	6,488.60	
Speed Cause		47.29	
Screen Fencing	#1978	10,615.90	
Enclosure for parking Autos	#1997	19,947.20	
Fencing	#2038	52,480.59	
Removable Fencing	#2053	3,700.05	
Building Fence		2,563.11	
W.P.A. Field Grading & Seeding		511,093.00	
W.P.A. North Parking Area		113,407.00	
W.P.A. Drainage		212,697.00	
W.P.A. Grading West of Hangars		7,320.00	
W.P.A. Road on North & East Boundery		15,702.00	
W.P.A. Covering Sand Areas		38,136.00	
W.P.A. Landscaping Adm. Bldg.		158,101.00	
W.P.A. " Field House		5,619.00	
W.P.A. Storm Manholes		4,082.00	
W.P.A. Rebuilding Terraces Amd. Bldg.		12,056.00	
TOTAL Cost Grading & Landscaping		$2,812,254.33	

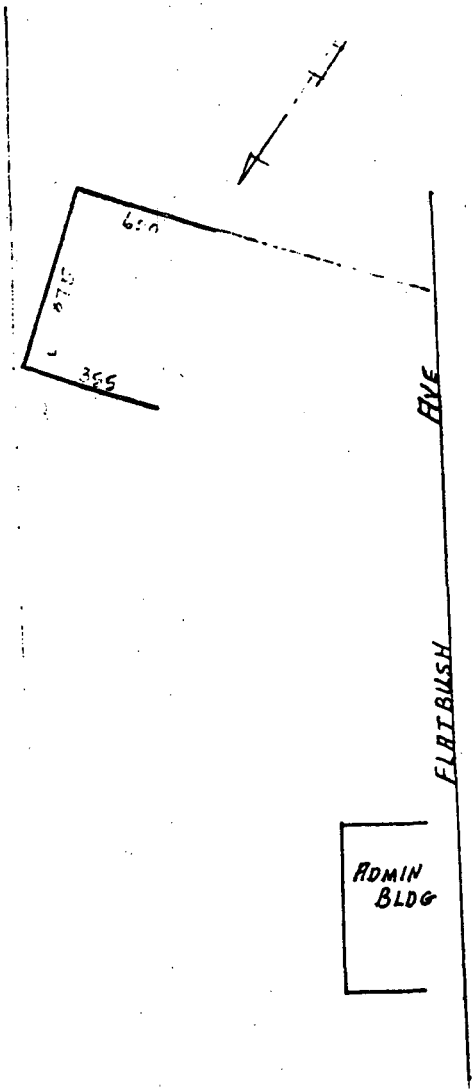
FLOYD BENNETT AIRPORT
BULKHEADS

North Side	355'
South Side	650'
East Side	875'
Total Lineal Feet	1,880'

Corrugated Sheet Piling - 22' - 1" length

Depth sunk into sand varies.

Cost merged with Contract 1999, Seaplane Ramp & Pier. Sheet 22.



FLOYD BENNETT AIRPORT
RECAPITULATION & TOTALS

IDENTIFICATION	TOTAL AREA	TOTAL CUBE	TOTAL COST	REMARKS
1. Administration Building	39,010	469,657	392,008.00	
2. Hangar & Leanto #1.	25,200	720,468	287,033.40	
3. Hangar & Leanto #2.	21,000	669,018	238,242.40	
4. Hangar & Leanto #3.	21,000	669,018	201,476.40	
5. Hangar & Leanto #4.	21,000	669,018	216,093.40	
6. Hangar & Leanto #5	21,000	669,018	194,712.40	
7. Hangar & Leanto #6	21,000	669,018	194,712.40	
8. Hangar & Leanto #7.	21,204	671,730	207,053.40	
9. Hangar & Leanto #8.	21,000	669,018	198,778.40	
10 Machine Shop betw. Hangars 1 & 2	11,664	193,894	151,525.00	
11 Boiler Rm. & Mach. Shop betw. H. 3 & 4	7,976	167,899	175,584.00	
12 Machine Shop betw. Hangars 5 & 6	7,000	166,806	69,733.00	
13 Machine Shop betw. Hangars 7 & 8	9,050	191,829	26,817.00	
14 Passenger Tunnel	3,898	38,980	83,270.00	
15 Field House	1,732	18,970	60,261.00	
16 Dope House	7,825	161,229	116,556.00	
17 Sprinkler Pump House	660	8,329	69,376.00	
18 2 Flood Light Towers	794	11,352	27,252.37	
19 2 Fransformer Houses	428	4,360	14,694.00	
20 Gasoline Pump Housings & Tanks	766	29,721	31,651.59	
21 Runways	See Sheet 21		329,613.39	
22 Seaplane Ramp & Pier	See Sheet 22		198,770.71	
23 Grading & Landscaping	See Sheet 23		2,812,254.33	
24 Bulkheads	See Sheet 24		Cost inct. on Sheet 22	
General Charges & Misc. Items N.Y.C.			166,771.09	

10 Machine Shop betw. Hangars 1 & 2		11,664	193,894	151,525.00
11 Boiler Rm. & Mech. Shop betw. H. 3 & 4		7,976	167,899	175,584.00
12 Machine Shop betw. Hangars 5 & 6		7,000	166,806	69,733.00
13 Machine Shop betw. Hangars 7 & 8		9,050	191,829	26,817.00
14 Passenger Tunnel		3,898	38,980	83,270.00
15 Field House		1,732	18,970	60,261.00
16 Dope House		7,825	161,229	116,556.00
17 Sprinkler Pump House		660	8,329	69,376.00
18 2 Flood Light Towers		794	11,352	27,252.37
19 2 Fransformer Houses		428	4,360	14,694.00
20 Gasoline Pump Housings & Tanks		766	29,721	31,651.59
21 Runways		See Sheet 21		329,613.39
22 Seaplane Ramp & Pier		See Sheet 22		198,770.71
23 Grading & Landscaping		See Sheet 23		2,812,254.33
24 Bulkheads		See Sheet 24		Cost inct. on Sheet 22
General Charges & Misc. Items	N.Y.C.			166,771.09
" " " "	W.P.A.			100,807.00
Total Area of all enclosed Bldgs.		285,653		
Total Cube of all enclosed Bldgs.			7,055,231	
Total Cost of all Improvements.				$7,266,508.79

Total Area of entire Airport
incl. all Buildings, Runways,
etc. Ramps & Piers not incld. 16,571,191 sq. ft.

FLOYD BENNETT AIRPORT

COAST GUARD STATION

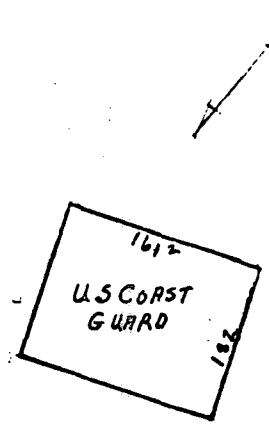
BROOKLYN N. Y. C.

INDEX

COAST GUARD STATION
HANGAR-OFFICES-BARRACKS

Walls: Reinf. Concr. Rubbed Finish. Piles: 580 pieces. 30' X 14"
Sash: Metal Doors etc: Wood Roof: Composition. Foundation: Reinf. Concr.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
1st Floor	161.17 X 182	29,333	11.08	29,333	325,010		
2nd Floor	182 X 40	7,280	12.5	7,280	91,000		
Hangar Roof	121.17 X 121.67	14,743	23.5	Cube only	346,461		
Smoke Stack	8 X 6	48	25	"	1,200		
		TOTALS		36,613	763,671		



W.P.A. 12" & 8" Water Supply $25,153.00

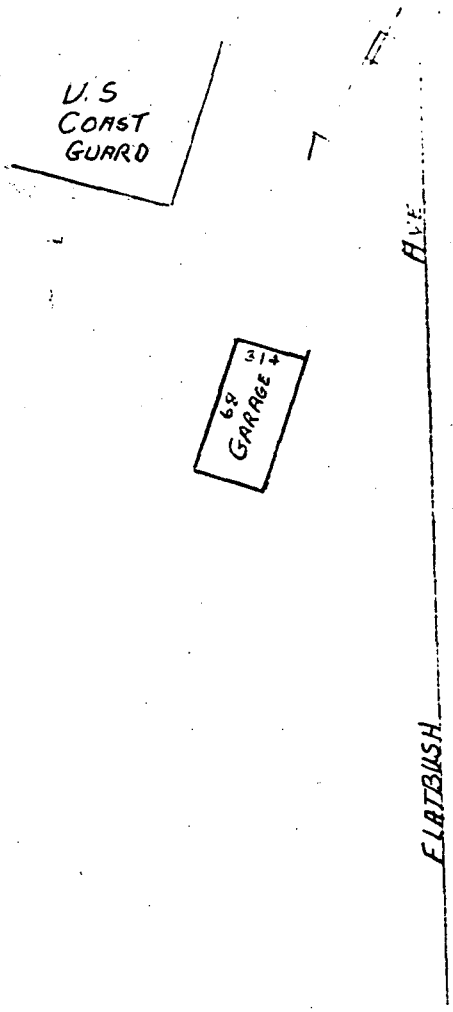
No other costs available

COAST GUARD STATION
GARAGE

CONSTRUCTION: Same as Hangar Bldg. no Piles.

Identification	Dimension	Area	Ht.	Sq. Ft.	Cubic Ft.	Cost	Remarks
Garage	68 X 31.33	2,130	14.08	2,130	29,990		
	TOTALS			2,130	29,990		

No costs available

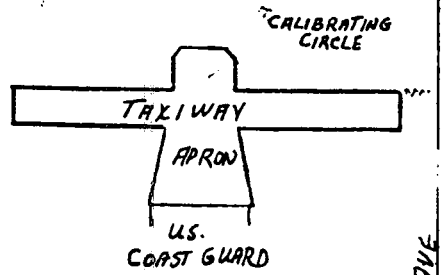


COAST GUARD STATION
RUNWAYS

Construction: Same as Runways on Floyd Bennett Airport

IDENTIFICATION	SIZE	AREA		SQUARE FT.
Apron	112 X 125	14,000	Area only	14,000
Taxi Way	750 X 40	30,000	" "	30,000
Calibrating Circle	100 X 80	8,000	" "	8,000
	TOTAL			52,000 Sq.Ft.

Costs not available



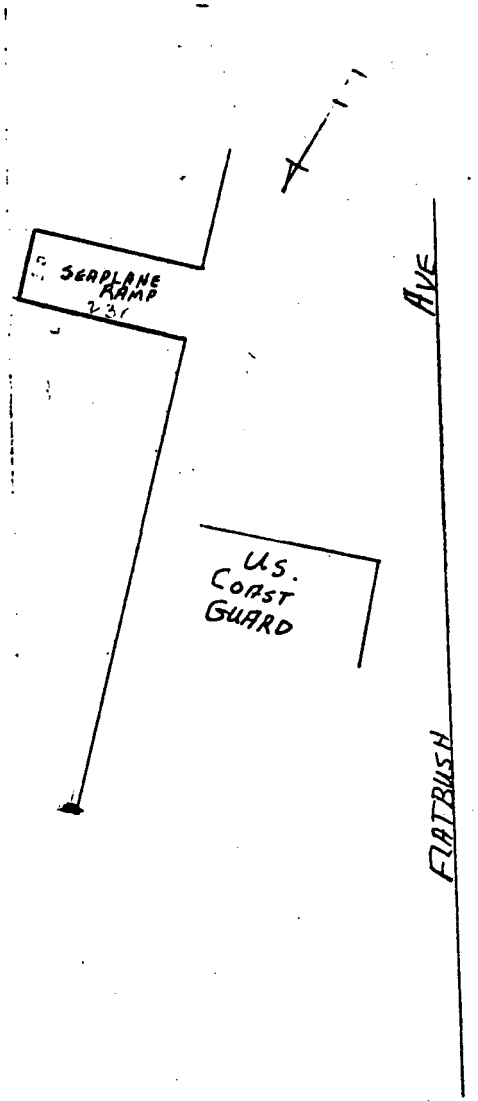
FLATBUSH AVE

COAST GUARD STATION
SEAPLANE RAMP

Construction: Creosoted Piles & Lumber. Various Sizes.

	SIZE	AREA
Ramp	260.08 X 50	18.004
TOTAL		18.004 sq.ft.

Costs not available

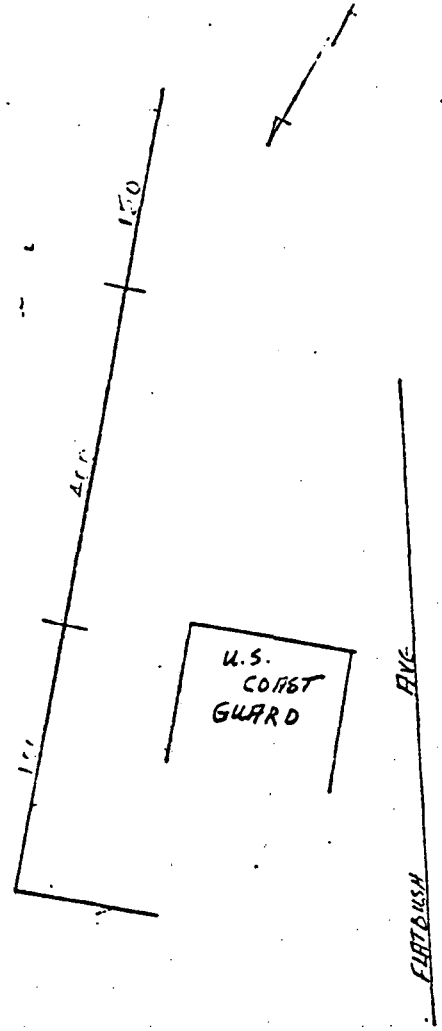


COAST GUARD STATION
BULKHEAD

Description: see below

Corrugated Sheel Piling	150	Lineal Feet.	22'-1" Length
Concrete Wall	400	" "	8'-6" Depth. 18" Cap. 14" Base.
Reinf. Steel Concr. Wall Piles	135	" "	16'-Length X 8" sq. 18" Cap.
TOTAL	685	Lineal Feet	

Costs not available



Page 89 Contract awarded to General Electric for construction of airport landing equipment, 1931.

Contract awarded to Longacre Engineering Company for Administration Building, late 1930.

Page 101 Contract awarded to M. D. Lundin Company for wood screen fencing, 1929.

Contract awarded to Fleming and Sheppard Company, Inc. for parking area, 1929 to 1932.

Contract awarded to Charles F. Vachris, Inc. for seaplane base, 1929 to 1932.

Contract awarded to Rosoff Brothers, Inc. for sewer disposal plant and transformer vault, 1929 to 1932.

Page 104 Contract awarded to J. P. Morrissey, Inc. for electric wiring, 1929 to 1932.

Contract awarded to Jacob E. Brown, Inc. for oil-fired system heating system, hot water supply, and fuel oil supply system, 1929 to 1932.

Contract awarded to Sperry Gyroscope Company for furnishing and installing landing area floodlight system, 1929 to 1932.

Contract awarded to General Electric for furnishing and installing landing equipment, 1929 to 1932.

Contract awarded to Robert E. Orr Company, Inc. for preparation of areas for parking and furnishing and installing wire mesh fencing, 1929 to 1932.

Page 109 Contract awarded to Thomas McMillian Company for construction of three taxi strips, 1932.

Contract awarded to Independent Fence Company for construction of sand fences, 1932.

Wire mesh fence construction along apron and around parking lots, 1932.

Pages 110, 111 WPA expanded Floyd Bennett Field, 1934 to 1938.

Page 111 WPA expanded concrete runways, taxiways, and apron system, 1935.

APPENDIX B
CONSTRUCTION CHRONOLOGY

FLOYD BENNETT FIELD

Page 5	Newark Municipal Airport started, 1927.
Page 8	Secondary site, Barren Island, at Jamaica Bay selected, 1927.
Page 13	Contract awarded to R. A. Perry for construction of Floyd Bennett Field, May 1928.
Page 17	Contract awarded for Administration Building and for eight aircraft hangars, January 1928.
Page 22	City decided on name "Floyd Bennett Field," October 1928.
Page 51	Contract awarded for a hangar and barracks building, seaplane ramp, and other facilities, February 1937.
Page 52	WPA added more runways, smaller buildings, and landscaping - mid-1930s.
Page 55	New seaplane facility constructed, early 1940.
	Navy asked to build barracks for 100 aviation students, late 1940.
Page 58	Field closed to commercial traffic, May 26, 1941.
Page 59	Navy purchased the field from New York City, February 18, 1942.
	Runways extended, a new seaplane hangar built, and several smaller buildings, summer 1941.
Pages 77, 81, 86	Contract awarded to John L. Walsh for landscaping and new runways, summer 1929.
Page 72	Naval Air Station decommissioned, mid-1971.
Page 81	Contract let to Fleming and Sheppard Company, Inc. for widening of runways, July 1929.
Page 87	Contract awarded to Woodrest Construction Company for construction of eight hangars, late 1929.

Page 114	WPA constructed "Passenger Tunnel," 1935.
	WPA constructed a boiler room and machine shop, 1934.
Page 117	WPA constructed infill buildings between Hangars 1 and 2 and Hangars 5 and 6, 1936.
Page 123	WPA built a Field House, Sprinkler System Pump House, and Gasoline Pump House and eight underground tanks, 1936.
Pages 123, 124	WPA installed new fencing, landscaping, roads, air beacon, sidewalks, sewers, water mains, manholes, and seaplane ramp, 1936.
Page 124	WPA constructed Coast Guard Air Station, 1936.
Page 126	Navy built a barracks and National Guard hangar, 1941.
Page 135	Navy constructed an On-Shore Patrol Base, June 1941.
Page 138	Erection of Bachelor Officer's quarters and enlisted men's barracks, and office buildings, mid-1940.
	A second seaplane hangar was constructed, early 1941.
Page 138	Construction of barracks and mess hall building, 1941.
	Navy built a marginal wharf, a seaplane parking area, and seaplane ramp, 1941-1944.
Page 139	Navy erected recreational buildings, additional offices and enlisted men's married housing, and various other structures, 1941-1944.
Page 147	Navy installed a new lighting system, mid-1930.
	Alterations to Administration Building by the Navy, 1943.
Page 149	Single story wooden frame extension added to Administration Building, 1943.
	Other major alterations to original structures, 1943.
Page 150	Installation of new instrument approach system, 1946.
	New Radio Compass Location Station, ground control approach equipment, and a taxiway, 1946.
Pages 150, 151	Contract awarded to Albert A. Lutz Company for expansion of the Naval Air Station, July 1951.
Page 151	New beacon tower, 1957.
	Constructed a new hangar, 1964.

BIBLIOGRAPHY

Because Floyd Bennett Field was owned by both the City of New York and the United States Government, the documentary sources dealing with it are found in numerous places throughout the country. The records are quite extensive. Nevertheless, the extant documentary material has been located and reviewed. They provide the basis for this report. At the same time, a review of secondary literature has provided important and useful information about private, commercial, and military aviation in the United States from the 1920s to the 1940s. Consequently, the following report was drawn from both primary data on Floyd Bennett Field and secondary data on the general subject of aviation.

In New York City, the author reviewed the records now in the possession of Gateway National Recreation Area. They contain useful newspaper clippings and photographs detailing various events or developments that occurred at Floyd Bennett Field. Also surveyed were the Floyd Bennett Field records now in the possession of the Municipal Archives of the City of New York. The James J. Walker and Fiorello H. LaGuardia Collections contain vital data on the decision to build Floyd Bennett Field, the construction period, the dedication, the airmail controversy with Newark, New Jersey, and the sale of the field to the Navy in 1942. Though these records did contain a few blueprints, little that was found was useful. Also in New York City, the author explored the records of the Marine and Aviation section of the Department of Transportation, formerly the Department of Docks. They contain few significant written documents. However, most of the original construction drawings for the airport were uncovered there and they are of interest to the historian and especially valuable to the architects on this project. Finally, the holdings in the local history sections of the New York Public Library, the Brooklyn Public Library, the Long Island Historical Society, and the Kingsborough Historical Society, were surveyed for any important data on the history of Floyd Bennett Field.

A search was conducted for United States government records dealing with the Navy's presence at Floyd Bennett Field, the Newark airmail controversy, and the Works Progress Administration (WPA) construction program. The National Archives in Washington, D.C., provided important records on the Navy's purchase of the field and military operations there, plus some useful aerial photographs depicting the development of the field through the years. The Smithsonian Institution's Air and Space Museum also supplied valuable historic photographs of the field. A search through the National Archives and Records Service Branch in Bayonne, New Jersey, turned up records dealing with not only the Navy's involvement at Floyd Bennett Field, but also the WPA construction program. Finally, valuable records documenting the Navy construction at the field from the 1940s to the 1960s were located at the Naval Facilities Engineering Command, Port Hueneme, California. A search at the former Headquarters Third Naval District, Brooklyn Navy Yard, the Fourth Naval District Headquarters in Philadelphia, and the Philadelphia Branch of the National Archives and Records Service failed to turn up any important or useful material.

The author reviewed numerous secondary sources dealing with Floyd Bennett, Floyd Bennett Field, aviation in the New York City area, and aviation in general. Clearly, the best account of Floyd Bennett's life is found in Floyd Bennett, a biography written by his wife Cora Bennett. Two useful works on aviation in general and one specific aspect of the industry are C.R. Roseberry's The Challenging Skies: The Colorful Story of Aviation's Most Exciting Years, 1919-1939 and R.E.G. Davies' A History of the World's Airlines. Chelsea Fraser's Famous American Flyers, Lt. Col. Gene Gurney's A Chronology of World Aviation; Preston R. Bassett's Long Island: Cradle of Aviation, Douglas Corrigan's That's My Story, and Clarence D. Chamberlin's Record Flights and Give 'Em Hell provide specific data on the famous flights that occurred at Floyd Bennett Field in the 1930s. Finally, various New York newspapers and periodicals supplied further information on events that took place at the airport during the years.

PRIMARY SOURCES

Manuscript Materials

Bayonne, New Jersey. The National Archives and Records Service. Third Naval District Records. Record Group No. 181. Boxes 187-202.

This collection of documents provided information on the Navy's presence at Floyd Bennett Field in the 1930s and 1940s.

Brooklyn, New York. Gateway National Recreation Area. Records of the Jamaica Bay Unit and the General Park Files.

These records contain useful newspaper information plus photographs documenting the history of Floyd Bennett Field.

_____. Kingsborough Community College Library. Kingsborough Historical Society.

Contains a valuable photograph collection.

_____. The Long Island Historical Society.

_____. Brooklyn Public Library. The Local History Collection.

These records provided background material on the Flatbush and Barren Island regions of Brooklyn.

New York City. City of New York Department of Transportation. Records of the Branch of Marine and Aviation. Construction Drawings for the Municipal Airport, Floyd Bennett Field.

After an extensive search of the various archives of the City of New York, the original construction drawings for Floyd Bennett Field were located here. They are vital to this report because of the data they provide about the construction during the late 1920s and 1930s.

_____. City of New York Municipal Archives. The James J. Walker Collection. Boxes No. 566, 567, and 568.

These papers contain important documents dealing with the decision to build Floyd Bennett Field, the selection of the Barren Island site, the actual construction, and the dedication ceremonies.

_____. _____. The Fiorello H. LaGuardia Collection. Boxes No. 721 and 722.

This material documents the controversy with Newark, New Jersey over the airmail traffic during the early 1930s, and also covers the preliminary negotiations for and the sale of Floyd Bennett Field to the Navy in 1942.

_____. City of New York Municipal Reference Library.

This collection contains vast newspaper files that were useful for background information on Floyd Bennett Field's history while owned by the city and the Navy.

Port Hueneme, California. Records of the Naval Facilities Engineering Command.

These records contain important material documenting the various Navy construction programs carried out at Floyd Bennett Field from the 1930s to the 1960s.

Washington, D.C. National Archives and Records Service. United States Coast Guard Correspondance, 1936-1941, and Third Naval District, World War II Narrative Histories. Record Group No. 26.

A solid source of information about the Coast Guard operations at Floyd Bennett Field during the 1930s and 1940s.

_____. Works Progress Administration State Files. New York City. Airports. Record Group No. 69.

These records contain a little information about the WPA construction at Floyd Bennett Field in the 1930s.

_____. Records of the Navy Bureau of Aeronautics. General and Confidential Correspondance, 1941-1942. Record Group No. 72.

These records hold valuable material about not only the Navy presence at Floyd Bennett Field during the 1930s and 1940s, but also the WPA construction during the mid-1930s.

_____. General Records of the Department of the Navy. Office of the Secretary. General Correspondance, 1926-1940. Record Group No. 80.

These records provide data about the Naval Reserve Aviation Base at Floyd Bennett Field during the 1930s, the Navy's purchase of the airport from New York City, and the WPA program.

Memoirs

Chamberlin, Clarence D. Record Flights. Philadelphia: Dorrance and Company, 1928.

This provides background information on the man who was most responsible for the selection of the Barren Island site for Floyd Bennett Field.

Chamberlain, Clarence D. Give 'Em Hell. New York: Beechwood Press, 1942.

Corrigan, Douglas. That's My Story. New York: New York: E.P. Dutton and Co., Inc., 1938.

"Wrong Way's" own story.

Hoover, Herbert. The Memoirs of Herbert Hoover. 3 Vols. New York: Macmillan Co., 1951.

SECONDARY SOURCES

Books

Bassett, Preston R. Long Island: Cradle of Aviation. Amityville, N.Y.: Long Island Forum, 1950.

Material on the historic flights out of Floyd Bennett Field in the 1930s.

Bennett, Cora L. Floyd Bennett. New York: William Farquhar Payson, 1932.

The only work on the life of Floyd Bennett.

Davies, R.E.G. A History of the World's Airlines. London: Oxford University Press, 1964.

Valuable for information on the early history of commercial aviation in the United States.

Federal Writers Project. New York City Guide, 1939. New York: Random House, 1939.

Fraser, Chelsea. Famous American Flyers. New York: Thomas Y. Crowell Company, 1942.

Contains interesting background information about Lindbergh, Amelia Earhardt, Frank M. Hawks, Wiley Post, Howard Hughes, James H. Doolittle, and Douglas Corrigan, all of whom made famous flights out of Floyd Bennett Field.

Gurney, Lt. Col. Gene. A Chronology of World Aviation. New York: Franklin Watts, Inc., 1965.

Contains information about many record flights in or out of Floyd Bennett Field.

Kaufman, Herbert. Gotham in the Air Age. New York: Harcourt, Brace and Company, Inc., 1952.

An interesting study of the early history of aviation in the New York City area, Floyd Bennett Field, and particularly the airmail controversy with Newark, New Jersey.

Lewis-Dale, H. Angley. Aviation and the Aerodrome. Philadelphia: J.B. Lippencott Company, 1932.

Roseberry, C.R. The Challenging Skies: The Colorful Story of Aviation's Most Exciting Years, 1919-1939. Garden City, New York: Doubleday & Company, Inc., 1966.

A good source of background information on many aspects of aviation in its early years.

Newspapers and Periodicals

Aero Digest.

The Aerotrade News.

Airports.

The Brooklyn Eagle.

A good source about local history.

The National Aeronautic Magazine.

The New York Daily News.

The New York Times.

An important source for information on what was happening in the New York area during the period Floyd Bennett Field was a commercial airfield.

National Park Service Reports.

U.S., Department of the Interior. General History of the Jamaica Bay, Breezy Point, and Staten Island Units, Gateway National Recreation Area. A report prepared for the National Park Service by Tony P. Wrenn. Denver: National Park Service, 1975.

ARCHEOLOGICAL DATA SECTION

By
Dana C. Linck

AKNOWLEDGEMENTS

Historian Porter Blakemore on the Mid-Atlantic/North Atlantic Team, Denver Service Center (DSC) allowed unlimited access to his files. Historical Architects Susan Simpson and Barry Sulam, also of the Mid-Atlantic/North Atlantic Team, both provided assistance as the work progressed. A former resident of the Barren Island community, Mr. Timothy Finn, supplied important information about Barren Island and Floyd Bennett Field in its early years.

PREFACE

Most of what follows develops a plan of action based upon the high degree of stability in landform and structures defined within the proposed historic district of Floyd Bennett Field. Recommendations proposed herein stem from a nearly total lack of data concerning specific sites of an early vintage. Subsurface testing was not conducted, since no development was immediately anticipated which would warrant site-specific examination. Further historical research should be conducted to collect valuable information about the area's developmental history in the eighteenth and nineteenth centuries.

THE HISTORIC STRUCTURES

In the Historical Data Section of this report, two major construction phases are defined for structures which are extant and included in the nomination for the National Register. During the first of these periods, between 1928 and 1932, the eight hangars and lean-tos, the Administration Building (No. 1), a sewage pump house (No. 30), an electrical vault (No. 57), and two floodlight towers were erected (Fig. 2). To date, only the two floodlight towers have been demolished (Fig. 1).

The second construction phase occurred between 1934 and 1938 when the Works Progress Administration (WPA) added many new structures and expanded the runway and taxiway system. Among other buildings that went up during these years were the transformer building (No. 120), a field house, a sprinkler system pump house (No. 29), a gas pump station (No. 176), the hangar infill structures (connecting pairs of hangars to create four two-bay hangars out of the original eight), a garage, and a dope house (No. 26). The Air National Guard Hangar, constructed in 1964, sits over the location of the former field house. The only other building from the WPA phase of construction which is now missing is the garage, formerly located just south of Hangar 3 where the Navy constructed a barracks in 1941 (Fig. 2).

Evidence of the foundations of both floodlight towers may still be intact, though the results of an earlier survey (Roberts 1978:108-136) do not support this. Most likely there is little or nothing left of the field house where the Air National Guard Hangar now is, but more evidence of the WPA period garage, which now is under a frame barracks, probably remains. Due to the structures above the two historic buildings, archeological fieldwork cannot be undertaken without affecting the structural integrity of the more recent buildings. A brief field survey employing contemporary maps could establish whether or not anything remains of the floodlight towers.

The remaining historic buildings have had no major renovations nor wings removed which would bring them into serious archeological consideration. An exception to this is an annex on the west end of Building No. 1, which was removed after the area was acquired by the National Park Service (NPS). Constructed in 1943, it is of no historical significance and is also of no archeological interest. Architectural investigations of the standing structures would be more effective than archeological excavation in recovering data regarding structural history. Similarly, study of the associated non-structural features at the field, such as stages of repair and extensions to the runway, taxiway, and apron systems, could be conducted in consultation with a civil engineer, without archeological disturbance of the fabric. Apparently much of the original surfacing is

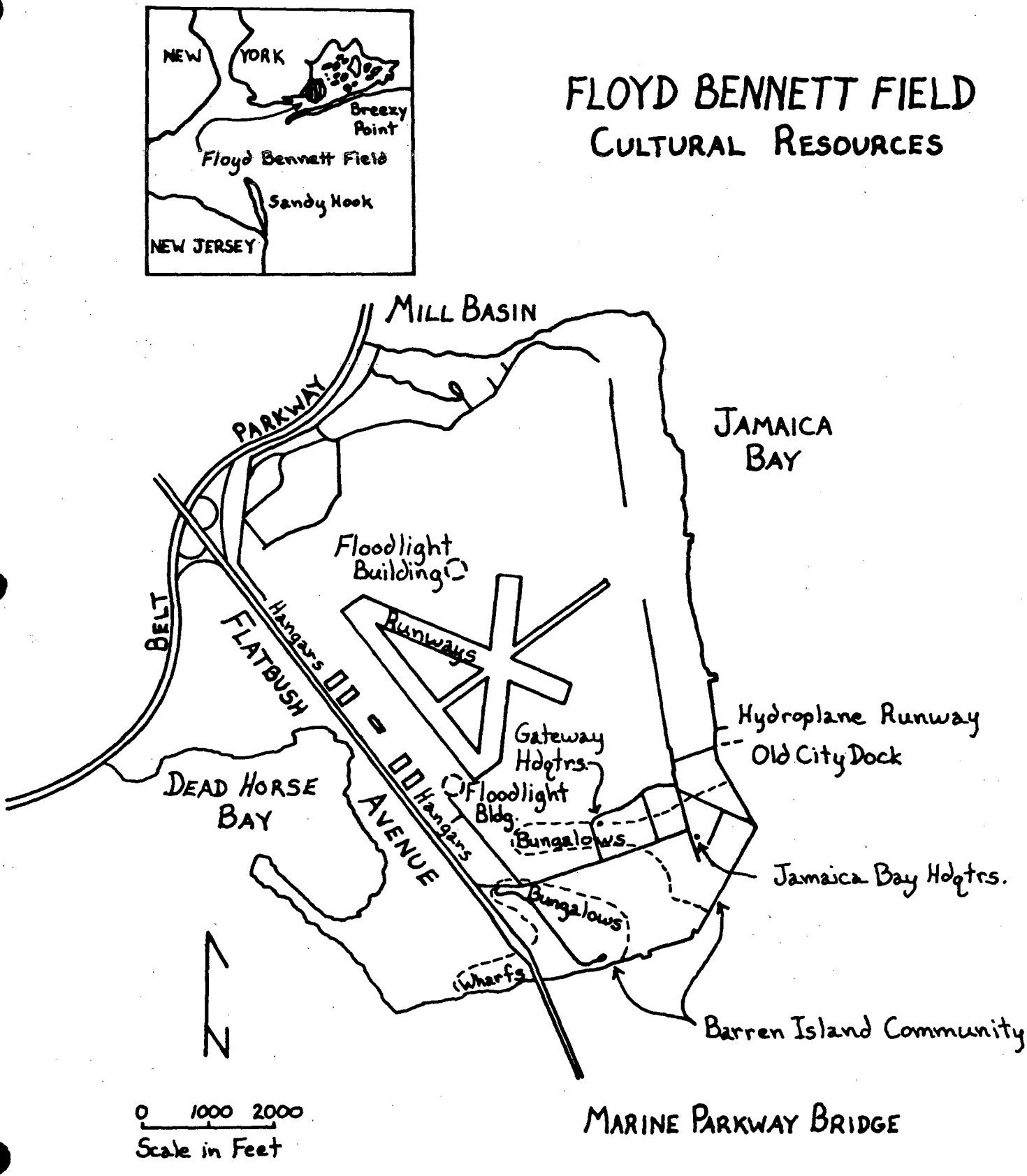

NEW
YORK
Breezy Point
Floyd Bennett Field
Sandy Hook
NEW JERSEY
FLOYD BENNETT FIELD
CULTURAL RESOURCES
MILL BASIN
PARKWAY
JAMAICA BAY
Floodlight Building
BELT
FLATBUSH
Hangars 00 - 00
Runways
Hydroplane Runway
Old City Dock
Gateway Hdqtrs.
Floodlight Bldg.
DEAD HORSE BAY
AVENUE
Hangars
Bungalows
Jamaica Bay Hdqtrs.
Bungalows
Wharfs
Barren Island Community
N
0 1000 2000
Scale in Feet
MARINE PARKWAY BRIDGE

Fig. 1

FLOYD BENNETT FIELD
Historic Structures

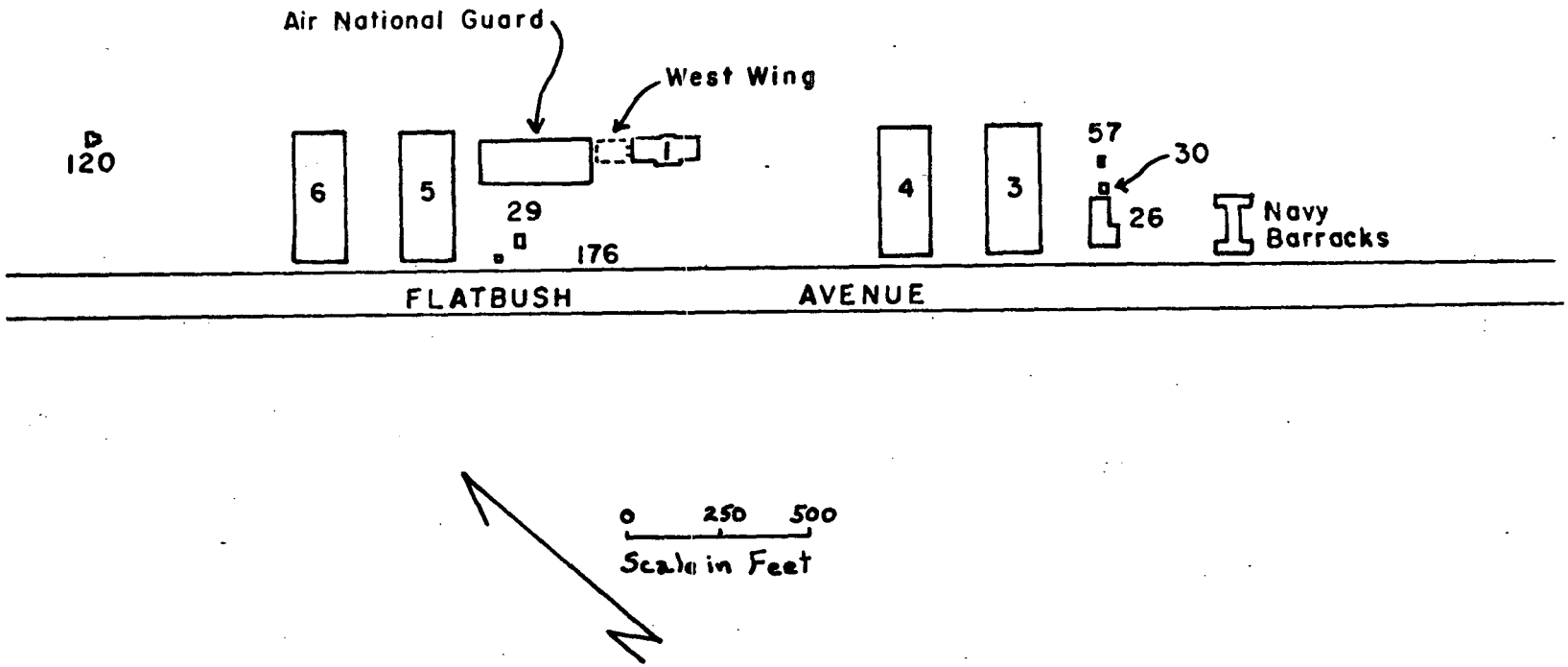


Fig. 2

still evident, without extensive covering. Determining former hedge and fence locations, if not under more recent runway extensions, should be a relatively simple procedure, for these are clearly depicted on some drawings and photographs (see Historical Data Section, Photographs Nos. 3, 13, 19, 23, and 31 National Archives 1936)

Rehabilitation and restoration of the historic buildings at Floyd Bennett Field apparently will not involve extensive foundation work or similar projects requiring excavation. The only recommended repair work that will require any earth moving concerns the foundation of Building No. 29, the fire pump house. It has one sunken corner which has resulted in brick separation above. Correction of the problem would require re-excavation, shoring-up, and repouring of the foundation (see Architectural Data Section, Volume II of this report.) In order to obtain a record of the soil strata as well as potential archeological resources, an archeologist must be present when this work is conducted. Other recommendations include such actions as repointing and clearing of vegetation from about the building foundations, none of which poses a threat to archeological interests.

FIELD DEVELOPMENT

The past or future extent of damages to cultural resources which may have been present in the area of the field prior to its development, is largely dependent upon how deep the landfill in the area is. Contract records from the late 1920s and early 1930s (City of New York 1928, 1929, and 1930) reveal that the average depth of landfill dredged specifically for the airport was, following thin layers of added subsoil and topsoil, over 9 feet thick. Two facts enter to confuse the issue. One is that earlier dredging activities in Jamaica Bay have resulted in a presently undetermined amount of fill being dumped on and near Barren Island. The other problems is that much of the filled area for Floyd Bennett Field was originally low marshland or shallow bays, the former depths and elevations and specific locations of which are still uncertain.

One map of the area prior to the conception of Floyd Bennett Field (U. S. Congress 1915) shows some of the dredged channels, bays, and marshlands as well as the general location of the early dredging spoils. By juxtaposing data from a later map which shows the early layout of Floyd Bennett Field (U. S. Coastal and Geodetic Survey n.d.) some important facts are revealed. Only the extreme eastern end of the original field appears to have any fill by 1915. Porter Blakemore, however, feels that continued filling of the area occurred between 1915 and the dredging projects in 1928. This is supported by photographs (see photographs Nos. 3, 23, and 24, Historical Data Section, this report) which depict a single body of land where Floyd Bennett Field was placed, rather than a number of separate hassocks and marshes. Apparently almost the entirety of Barren Island and vicinity had previously been filled to a level of five or more feet above the low tide mark. In the Floyd Bennett Field Historic District the elevation averages about 15 feet above mean low tide (Lockwood, Barlett and Kessler, Inc. 1974), the same elevation stated for the field in 1933 (Airport Directory Company 1933:162). By extrapolating from maps (U. S. Coastal and Geodetic Survey n.d.) and based on consultation with David Avrin, Park Ranger at the Jamaica Bay Unit (1979), the former hassocks are estimated to be within 6 to 10 feet of the present ground surface.

BUILDING AND UTILITY EXCAVATION

Foundations for the Administration Building and the hangars involved a continuous perimeter footing which reached a depth of 4 feet below grade. At regular intervals concrete piles were driven another 35 feet deeper. Building No. 30 contains a concrete pit about 20 feet deep which is supported on wood piles driven about 15 feet. The remaining historic buildings on the field had foundations which would not have penetrated beyond a depth of 4 feet and which lacked the pilings (Architectural Data Section, Vol. II of this report). Given the depth of fill upon which the buildings rest it is unlikely that construction of the historic building foundations would have reached the original ground surface. Support

pilings driven below the hangars, Administration Building, Building No. 30, and the pit within Building No. 30 would have gone through any previous ground surface. Previous utility lines may also have been placed at a depth sufficient to reach the original ground surface. Due to the needs for gravity flow, the sewer lines would have attained the greatest depth. These lines were shallower away from the hangars, since they drained toward the hangars where a lift station pumped the effluent out again, away from the historic district. The sewer lines were deepest (ca. 10 feet) near Hangars 3 and 4, although at manhole locations a depth of almost 14.5 feet was reached. Other utility lines were either in shallow trenches or followed the same trench as the sewer line and, therefore, are not expected to have had any further impacts. It must be noted that this information is incomplete, since 25 sheets of secret data, withheld by Naval authority (U. S. Department of the Navy 1935) were not available for examination.

POTENTIAL SITES

Within the Floyd Bennett Field Historic District no precise locations are known for any historic/archeological sites of a vintage earlier than that of the field itself. Colonial sites are all apparently situated beyond the boundary of the Jamaica Bay Unit. Equendito, the only known Colonial Period Indian site, is thought to be located somewhere near the park headquarters (Building No. 69) and is thereby outside the proposed historic district (Roberts 1978:111).

While no specific sites are known, many are likely to exist under the field's landfill. These would be from activities that leave few traces, such as harvest activities and associated temporary camps. Repeated use of a locality during hunting, fishing, and shellfish collecting excursions would tend to produce more visible traces over time. Many such activities taken alone, for example, harvesting of the salt hay (Fletcher and Kintz n.d.:35), which may have been practiced in the Colonial Period, may not have left sufficient evidence for recognition.

IMPACTS TO CULTURAL RESOURCES

Earlier sites stand a greater chance of having been disturbed by later activities. The growth and erosion sequence of the hassocks and bars place strict limitations upon when and where sites can have been produced and still be in existence. Attention to local geology and sea level changes should help to clarify these limits and possibilities. Subsequent cultural activities can also have obliterated evidence of earlier occupations or may have affected erosion rates in specific localities.

Another factor to consider is how modern society has produced changes in environmental conditions that may have serious effects upon the quality of an existing site. Acid rains (McCaffrey 1979) have probably resulted in significantly increased rates of artifact corrosion and decay of organic remains. Oils, acids, and other direct pollutants have also contaminated organic remains, so that dating by means of Carbon 14 is unreliable (Linck n.d.).

Those sites of a vintage earlier than Floyd Bennett Field were possibly disturbed by the dredging apparatus used to fill in the marshes and bays around Barren Island. Soil lenses containing traces of earlier occupations have probably been compacted, which would have resulted in physical destruction of fragile artifacts, made traces of the site more difficult to recognize, and altered soil moisture and acidity which could increse the rate of artifact decay.

On the other hand, landfill has also probably acted as a protective blanket from twentieth century industrial activities. Most foundation and utility trenches for the field are not likely to have penetrated to the former ground surface. The deep pilings, pump well, and sewer trench are the only features which would have extended deep enough to affect remains deposited prior to construction of the field.

It is important to note that much of the Hangar Row area where these impacts may have occurred is apparently built over one of the former

marsh channels (Photographs Nos. 3, 33, and 34, Historical Data Section;U. S. Coastal and Geodetic Survey 1933 and 1934; U. S. Geological Survey 1900). Hence, most of the deeper excavations were within recent landfill and/or channel deposits where the only possible impacts would be to sunken vessels (Fletcher and Kintz, n.d.:16; Vetter and Salwen 1974:17), or to deep sites established prior to sea level stabilization about 6,000 years ago (Fairbridge 1977:90-91).

THE ROLE OF ARCHEOLOGY

As most of the historically significant buildings within the Historic District of Floyd Bennett Field are still standing, little of structural import is likely to be revealed through archeology. This is possible in the search for demolished buildings previously discussed. The type of information which may usually be gained through archeology would be revealed through an analysis of thin artifact scatter and other evidence of activity areas about the field. This, while still a possibility, is largely obviated at Floyd Bennett Field by a number of factors.

Much of the prime historical significance of the field is developed about the buildings, yet these are generally encircled by cement. Where soil is present to act as a catch for artifacts, the probability of enough artifact scatter to have collected to be sufficient for interpretation is severely lessened by the twentieth century practice of dumping trash elsewhere. This would be especially applicable in the case of a municipal airport striving to gain and maintain an "A1A" rating (City of New York 1928). Inspection of the unvegetated areas around the various buildings tends to support this: Little if anything is evident in most areas and these traces most likely came after the field was operated by the municipality.

Certain areas of the field may have served secondary and/or illegal functions which were not recorded for posterity. Traces of such activities (for example, prohibition era drinking, temporary quarters for pilots) may be revealed through close attention to the entire field's artifact record.

RECOMMENDATIONS

The history of landfilling, the stability of the historic buildings and landing strips, and the present lack of plans for extensive excavation in Floyd Bennett Field combine to suggest little need for extensive archeological fieldwork at this time. For the single case of foundation stabilization at Building No. 29, it is recommended that an archeologist be present when the trench is opened. If any further plans involving excavation are developed anywhere within the historic district, testing, or monitoring should be performed. Careful monitoring of any excavation will help establish the sequence and depths of landfill across the field. This information may be valuable in later years as new projects are designed and potential impacts to cultural resources must be defined.

A documentary search into the early history of the area and the development and use of Floyd Bennett Field should be continued. While most or all of the historically significant events at the field have been recognized (Historical Data Section) they may not have been fully developed. More attention given to less "significant" data may add a new dimension of historic significance to Floyd Bennett Field.

Associated with the above recommendations is the need to conduct a search for individuals who were involved with the airport's early developments. This author has been in contact with Timothy Finn, who has an intimate knowledge of the Barren Island community and its environs during the 1930s. He has provided valuable information concerning landform, vegetation, and various other aspects of the community and the airport. He has also provided the names and addresses of other persons who may be valuable informants. One is a former stunt flyer and pilot who had a packed earth airstrip on Barren Island prior the the development of Floyd Bennett Field, and who also used the field after it was completed. The other is a woman born on Barren Island and possibly from one of the first families to have lived in the community (Finn 1979).

My final recommendation is that concerted effects be made to initiate a study beyond the particulars of the Historic District of Floyd Bennett Field, to which this report is limited. The field was not an isolated entity but existed with other communities, some of which were at its doorstep. Of particular interest is the Barren Island community now beneath the late extensions of the airport facilities and, therefore, within the responsibility of the NPS to study and protect as necessary. An historican should conduct further research in oral and written sources to record the physical and social history of Barren Island.

REFERENCES CITED

Avrin, David
1979 Personal communcation.

Airport Directory Company
1933 Established landing fields of the United States. Location (?)

Blakemore, Porter
1979 Personal communication.

City of New York, Department of Docks
1928 57th Annual Report

1929 58th Annual Report

1930 59th Annual Report

Fairbridge, Rhodes W.
1977 Late Quaternary environments in northeastern coastal North America. In: Amerinds and Their Paleoenvironments in Northeastern North America, edited by W. S. Newman and Bert Salwen. Annals of the New York Academy of Sciences, Vol. 228. New York.

Finn, Timothy
1979 Personal communication.

Fletcher, Loraine and Ellen R. Kintz
n.d. Fire Island project, documentary research, preliminary report No. 1, Project No. 78-19. Manuscript report. National Park Service, Denver Service Center.

Linck, Dana C.
n.d. Cultural Resources Section, Environmental Assessment of NPR-A. National Park Service, Alaska Area Office, Anchorage.

Lockwood, Bartlett and Kessler, Inc.
1974 Gateway National Recreation Area, Jamaica Bay Unit. Drawing No. 646/41006. National Park Service, Denver Service Center.

McCaffrey, Patrick
1979 The Deadly Snow. The Sunday News Magazine, April 18. New York.

National Archives
1936 Municipal Airport No. 1, Floyd Bennett Field, Brooklyn, New York. Photograph No. 69 AN-NY-11, July 28.

Roberts, Dan
1978 A cultural resources inventory of the Gateway National Recreation Area, New York and New Jersey. John Milner and Associates. Contract No. CX-2000-7-0010, National Park Service, Denver Service Center.

U. S. Congress, House
1915 Jamaica Bay New York, recommended revision of project of 1910. Report on Re-examination of Jamaica Bay, Document No. 554, 64th Congress.

U. S. Coastal and Geodetic Survey
n.d. Jamaica Bay (Western Part). Air Photo Compilation No. T-5094, from trace phtographs dated 1933 and 1934. On file, Library, New York District Office, Corps of Engineers.

U. S. Department of the Navy, Bureau of Yards and Docks
1935 Master Shore Station, development plan, U. S. Naval Air Station, Floyd Bennett Field New York. Professional Services Accession No. IU-424/1, Gateway National Recreation Area, New York.

U. S. Geological Survey
1900 Brooklyn Quadrangle, 15' topographic series.

Vetter, John F. and Bert Salwen
1974 Report on an Archeological Reconnaissance of Fire Island, Suffolk County, New York. Manuscript report. National Park Service, Denver Service Center.

Wrenn, Tony P.
1975 General History of the Jamaica Bay, Breezy Point and Staten Island Units, Gateway National Recreation Area, New York, New York. Contract No. PX-1600-5-0353, National Park Service, North Atlantic Regional Office, Boston.

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Publication services were provided by the graphics staff of the Denver Service Center. NPS 1767