
FINAL

**Building 104
Contracts and Pricing**

**Historic American Buildings Survey
Level I**

**2701 North Harbor Drive,
San Diego, California 92101**

Prepared for

**San Diego Unified Port District (SDUPD)
San Diego County Regional Airport Authority**

April 2010

CH2MHILL

HISTORIC AMERICAN BUILDINGS SURVEY
RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT
BUILDING 104 - ENGINEERING BUILDING

Location:	2701 North Harbor Drive, San Diego, CA 92101, USA
Present Owner/Occupant:	San Diego County Regional Airport Authority
Present Use:	Vacant
Significance:	<p>Building 104 is located within the boundaries of the Ryan Aeronautical Company Historic District, a 46-acre complex containing 17 contributing resources and 30 non-contributing resources. The district is eligible on the local and national levels for the National Register of Historic Places (NRHP) under Criteria A, B, and C and is eligible for the California Register of Historical Resources (CRHR) under Criteria 1, 2 and 3. The historic district is eligible under NRHP Criterion A (CRHR 1) for its association with the contribution of aircraft manufacturers at Lindbergh Field to World War II defense production. It is also eligible for its association with Cold War research, development projects, and defense manufacturing. Under Criterion NRHP B (CRHR 2) the district is eligible for its association with aviation pioneer T. Claude Ryan and his aircraft aerospace manufacturing businesses. Ryan Aeronautical Company, under Mr. Ryan’s leadership, made significant contributions to national defense production during World War II, as well as important developments in aerospace research and development in the 1950s and 1960s. The historic district is eligible under NRHP Criterion C (CRHR 3) for its representation of industrial architecture associated with the 1930s and World War II. The district embodies the distinctive architectural characteristics of aircraft manufacturing buildings of the period in Southern California. The building and structures in the district illustrate the design fabrication concepts common to aircraft manufacturing plants from the 1930s to the 1960s. During this period, the aerospace industry played a dominant role in the economy of the region (URS Corporation, 2008).</p> <p>Building 104, an administrative building, is a contributing resource to the Ryan Aeronautical Company Historic District under NRHP Criterion C/CRHR Criterion 3 because of its distinctive architectural characteristics of a type, period, and method of construction for industrial/administrative use.</p>

Historian: Megan Venno

PART I. HISTORICAL INFORMATION

A. Physical History:

- 1. Date of erection: 1943
- 2. Architect: Unknown

- 3. Original and subsequent owners: Ryan Aeronautical Company signed a 50-year lease in 1939. Ryan Aeronautical Company sold to Teledyne Inc. in 1969, and the combined company became Teledyne-Ryan Aeronautical Company (TDY Industries). TDY Industries merged with Allegheny Ludlum Corporation in 1996, and Northrop Grumman Corporation acquired TDY Industries from Allegheny in 1999. Presently, the property is leased by the San Diego County Regional Airport and is under the Jurisdiction of the San Diego Unified Port District.
- 4. Original plans and construction: Building 104 is a 10,034-square-foot, two-story, rectangular building measuring approximately 75 feet by 80 feet. The building has a flat roof. Fenestration consists of a row of evenly spaced, rectangular, steel-framed multi-paneled awning windows along the second floor. The windows are irregularly placed along the first floor. Building 104 has double-entry doors on the first floor and a single-entry personnel door on the second floor of the west (primary) elevation. Double-entry doors are also located on the second floor of the east elevation.
- 5. Alterations and additions: Building 104 has had no major alternations.

D. Historical Context:

1. San Diego’s Aviation History:

During the first three decades of the 20th century, the aviation industry was established in San Diego and it became a focal point of San Diego’s activities and reputation. In 1912, the Army founded an air base and the first year-round military aviation school at Rockwell Field on Naval Air Station North Island, San Diego (Macaulay, 1928; Moore, 1960). The creation of the military air bases helped establish aviation in the region during the industry’s pioneering years. In 1928, the Army and Navy had invested \$5,500,000 in the air bases at North Island (Macaulay, 1928). The high profile attained by aviation in the local community during these years resulted in an awareness of the potential future of the industry by the inhabitants of the region. San Diego became the first U.S. city to establish a Municipal Board of Air Control in 1926, and was also the first to issue a complete set of air ordinances (Macaulay, 1928).

In 1922, T. Claude Ryan, an aviation pioneer who began his career as an Army pilot, left the Army and moved to San Diego, where he began giving airplane rides and flying instructions. He soon established the Ryan Flying Company at the Dutch Flats Airfield in San Diego, which later became Ryan Airport. Dutch Flats Airfield was located at present-day Barnett Avenue and Midway Drive, off the current San Diego airport site and not within the current historic district boundaries. In the 1920s, Ryan Airport was the focal point for Ryan’s expanding aeronautical enterprises (flying school, flying service, and an airplane manufacturing company). In the late 1920s, the use of the airport expanded as civil aviation came of age with other companies using Ryan’s field to operate air services. With the help of T. Claude Ryan, civilian aviation flourished in San Diego County during these decades.

In the mid-1920s, the Chamber of Commerce promoted San Diego as the “Air Capital of the West.” The development of what is now Lindbergh Field would be the central effort in this campaign. The committee realized that in order to maintain a leadership role in aviation, San Diego must have an adequate municipal airport. They wanted the location of the airport to be a place that would combine facilities for the operation of land and seaplanes, and be as near to the city of San Diego as possible. They selected an area at the north end of San Diego Bay on City-owned tideland; however, this area did not contain enough area to meet government

requirements. Negotiations were made with the United States Navy to provide portions of the Marine Corps-owned tidelands for the airport expansion (URS Corporation, 2009).

Ryan was instrumental in the development of Lindbergh Field, San Diego’s nascent municipal airport, which was established in 1928. In 1929, 4,755 planes and over 20,000 passengers arrived or departed from the Dutch Flats Airfield (Leiser, 2000). Within a few years, the majority of these activities would move to Lindbergh Field. In 1939, Ryan established a manufacturing site on airport grounds, which is the location of the historic district.

2. Ryan Aeronautical Company:

T. Claude Ryan was born in Parsons, Kansas in 1898, but moved with his family to Orange, California in 1912. Ryan began a lifelong relationship with the aviation industry when, around the age of 19, he enrolled at the American School of Aviation in Los Angeles. In 1919, Ryan began studying mechanical engineering at Oregon State College. While in school, he applied to the Army for aviation cadet training and was accepted, but left the Army by January 1922 in hopes of flying as a civilian (National Aviation Hall of Fame, 2009). Ryan moved to San Diego to establish the Ryan Flying Company. The Ryan Flying Company changed its name to Ryan Airlines, Inc. when it was reorganized in 1924 to begin operating the first year-round, scheduled airline service in the United States from Dutch Flats (URS Corporation, 2009). Around the same time, in the mid-1920s, Ryan entered the aircraft manufacturing business with partner Frank Mahoney and created the Ryan M-1 Monoplane, which became one of the best-known air mail carriers in the country. A modified Ryan Monoplane became the *Spirit of St. Louis*, the plane Charles Lindbergh flew from New York to Paris in May 1927 on the first solo flight across the Atlantic Ocean. Ryan sold the company to Mahoney in 1926 and established the Ryan Aeronautical Corporation for the sale and manufacture of aircraft engines. The company changed its name to the Ryan Aeronautical Company in 1934.

Ryan Aeronautical Company signed a 50-year lease, starting in 1939, on land at the southeastern edge of Lindbergh Field along North Harbor Drive. Three buildings from the site of the previous company were relocated to this new location. The Ryan plant was one of several aircraft manufacturers located at Lindbergh Field that contributed to the nation’s war effort in the 1940s. At peak wartime production, the Ryan plant had 8,500 employees and annual production exceeded \$55 million. Following the war, workforce was reduced to 1,200 and annual production to \$8 million (URS Corporation, 2009).

The Korean conflict provided the Ryan Aeronautical Company the opportunity to work with electronics for aerospace applications. The role in aerospace electronics led to the development of a variety of aircraft navigation and positioning equipment, including helicopter hovering devices, altimeters, and remote sensors (URS Corporation, 2009).

In 1947, the United States Navy awarded Ryan a contract to research the feasibility of reaction controls for jet aircraft. With jet engines and reaction controls handled by remote control, a Ryan vertical test rig lifted itself off the ground for the first time in 1950. In 1953, the Air Force awarded Ryan a contract to design and build two manned vertical takeoff jet research planes and 2 years later, the Ryan X-13 Vertijet was constructed. In the 1960s, Ryan continued target drone and electronic systems production and vertical takeoff and landing research (URS Corporation, 2009).

In 1969, the company was sold for \$128 million to Teledyne Inc. and became known as Teledyne-Ryan Aeronautical Company (TDY Industries). T. Claude Ryan remained with the company as chairman until his death in 1982. In 1996, TDY Industries merged with Allegheny Ludlum Corporation, and then later became a subsidiary of that company. In 1999, Northrop Grumman Corporation acquired TDY Industries from Allegheny and relocated the plant to a site in Ranch Bernardo, California, leaving the former plant site vacant. The site continues to be mostly vacant, with only a small portion of Building 100 used for administrative offices and several other buildings used for storage.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

- 1. Architectural Character: Building 104 is an industrial building with little ornamentation. It is characterized by the stucco exterior, flat roof, evenly spaced window bays, and decorative horizontal banding. The building remains reflective of a vernacular administrative building located at an industrial facility during its period of significance (URS Corporation, 2009).
- 2. Condition of Building Material: Building 104 is in poor condition.

B. Description of Exterior:

- 1. Overall Dimensions: Building 104 is two stories, 10,034 square feet, and measures approximately 75 feet by 80 feet.
- 2. Foundations: Building 104 is built on a concrete slab with raised concrete foundation.
- 3. Walls: Building 104 has wood walls covered with lath and plaster cladding.
- 4. Structural System: Building 104 is steel- and wood-framed with a lath and stucco plaster exterior cladding.
- 5. Openings:
 - a. Doorways: Building 104 has double-entry doors on the first floor of the west elevation and double-entry doors on the second floor of the east elevation. There is also a single-entry personnel door on the second floor of the west elevation, accessible by an exterior flight of stairs, and a single-entry personnel door on the first floor of the east elevation.
 - b. Windows: The windows on Building 104 are rectangular steel-framed multi-paneled awning style. They are situated in an evenly spaced horizontal row along the second floor, and are irregularly placed along the first floor. The windows are on all elevations except the east elevation.
- 6. Roof: The flat roof of Building 104 consists of three multi-ply built-up roofs over a wood deck. There is a white reflective coating covering the surface.

C. Description of Interior:

Floor Plans: Building 104 is a two-story rectangular building. The first floor is an open plan with partitions dividing the space into two large rooms. The second floor is also open, with a series of

low cubicle walls throughout the space. The interior walls of Building 104 are metal channel and masonite-type panel partitions. The building is connected to Building 102 at its northwest end.

D. Site:

Historic Landscape Design: None

PART III. SOURCES OF INFORMATION

A. Early Views: From the Teledyne-Ryan Archives

B. Interviews: N/A

C. Bibliography

1. Primary and Unpublished Sources:

San Diego County Regional Airport Authority (SDCRAA). 2005. Teledyne Ryan Facility Study. January 1.

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2. Secondary and Published Sources:

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Moomjian, Scott A. and Wendy L. Tinsley. 2001. *Historic Survey Report of the Former Teledyne-Ryan Aeronautical Complex, 2701 North Harbor Drive, San Diego, California, 92101*. Prepared by Office of Maria Burke Lia, Attorney at Law, 427 C Street, Suite 416, San Diego, CA 92101. Prepared for Jones Lang La Salle, 2701 North Harbor Drive, Building 100, San Diego, California 92101. Copy on file with the San Diego Regional Airport Authority.

Moore, Floyd Roscoe. 1960. San Diego Airport Development. Thesis, Political Science, San Diego State College, San Diego, CA.

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San Diego Unified Port District. 1971. *San Diego Unified District Annual Report: 1970-71*. Carl Reupsch Collection, San Diego Historical Society, San Diego, CA.

San Diego Unified Port District. 1977. *San Diego Unified District Annual Report: 1976-77*. Carl Reupsch Collection, San Diego Historical Society, San Diego, CA.



Building 104 - Contracts and Pricing Office, corner of West Elevation, San Diego, California, 1943. Teledyne-Ryan Archives.



Building 104 - Contracts and Pricing Office, West Elevation, San Diego, California, October 2009.



Building 104 - Contracts and Pricing Office, Southwest Oblique, San Diego, California, October 2009.



Building 104 - Contracts and Pricing Office, Northwest Oblique, San Diego, California, October 2009.



Building 104 - Contracts and Pricing Office, North Elevation, San Diego, California, October 2009.



Building 104 - Contracts and Pricing Office, East Elevation; junction with Building 102, San Diego, California, October 2009.



Building 104 - Contracts and Pricing Office Interior, general north wall detail, San Diego, California, October 2009.



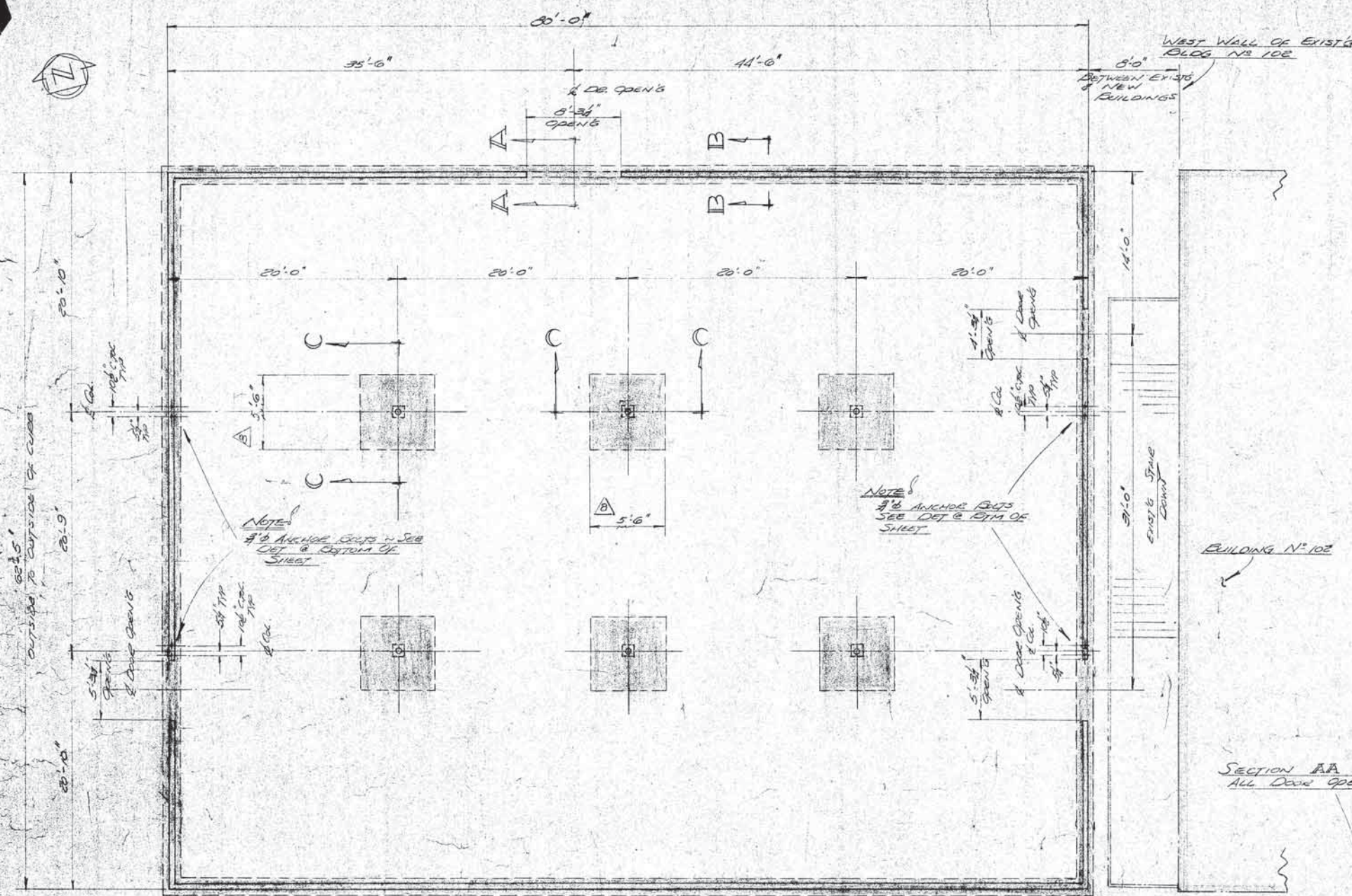
Building 104 - Contracts and Pricing Office Interior, second floor general view, San Diego, California, October 2009.



Building 104 - Contracts and Pricing Office Interior, office door detail, San Diego, California, October 2009.

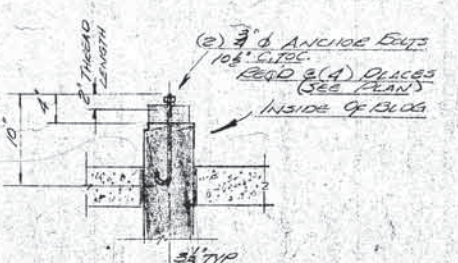


Building 104 - Contracts and Pricing Office Interior, window detail, facing Southwest, San Diego, California, October 2009.

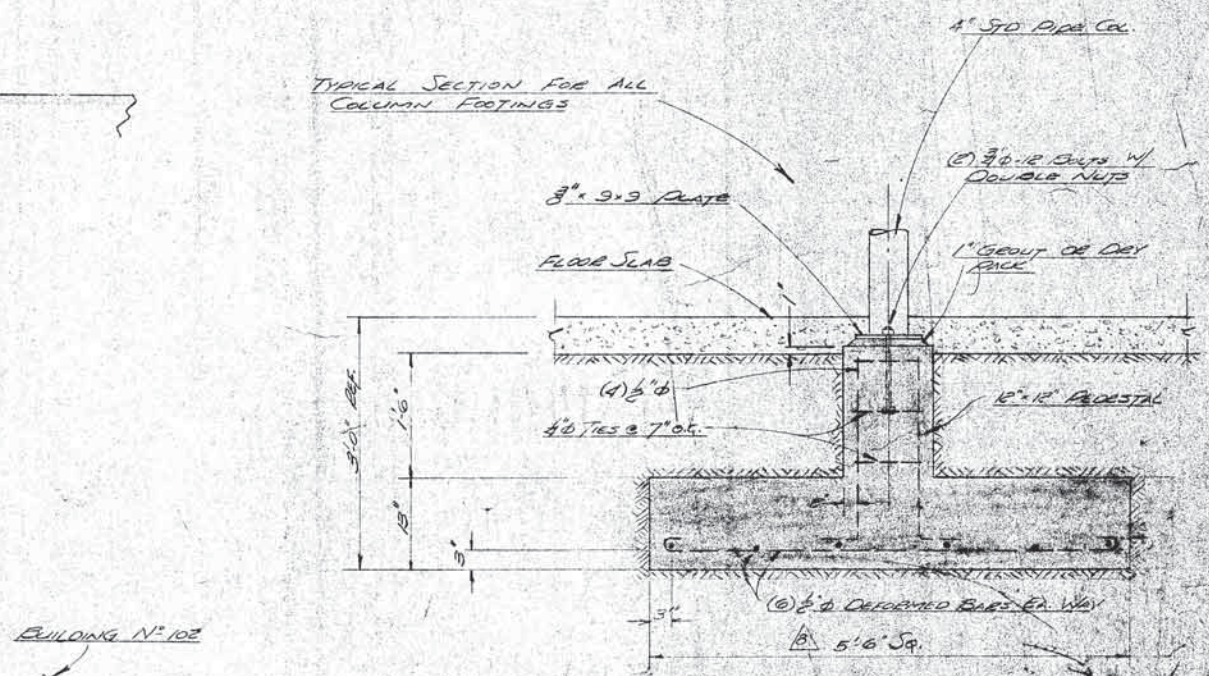


PLAN
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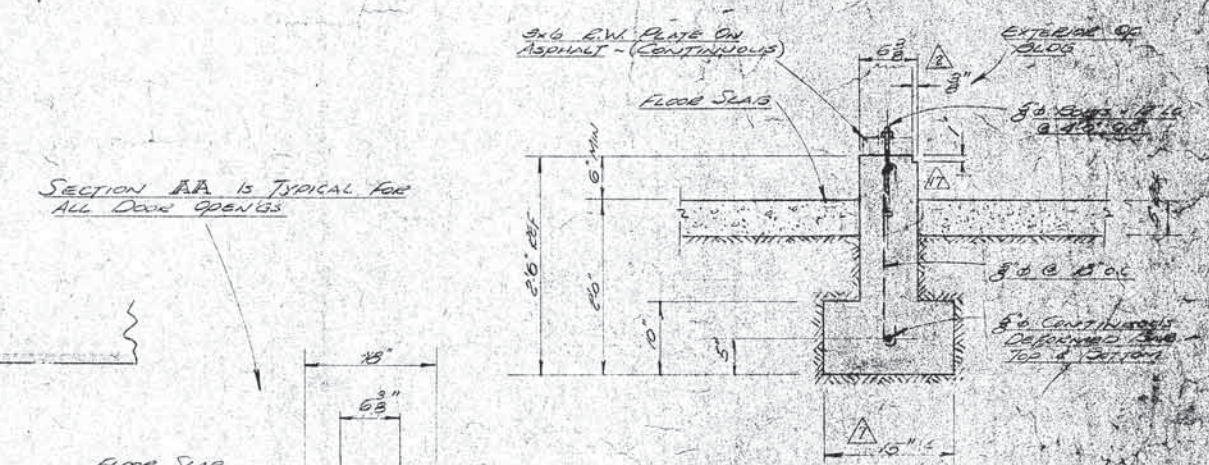
- GENERAL INSTRUCTIONS:
1. CONCRETE ~ MINIMUM COMPRESSIVE STRENGTH TO BE 3000 P.S.I. @ 28 DAYS.
 2. EXISTING CONCRETE SLAB TO BE USED AS FIRST FLOOR.
 3. SAN DIEGO TESTING LAB TO EXERCISE QUALITY CONTROL.



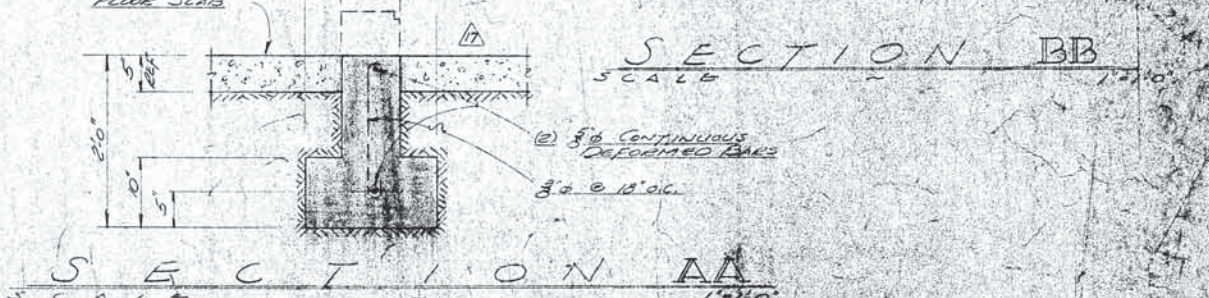
TYP ANCHOR BOLT DETS
FOR G.V.G. POSTS IN
EAST & WEST WALLS



SECTION CC
SCALE 1/4" = 1'-0"

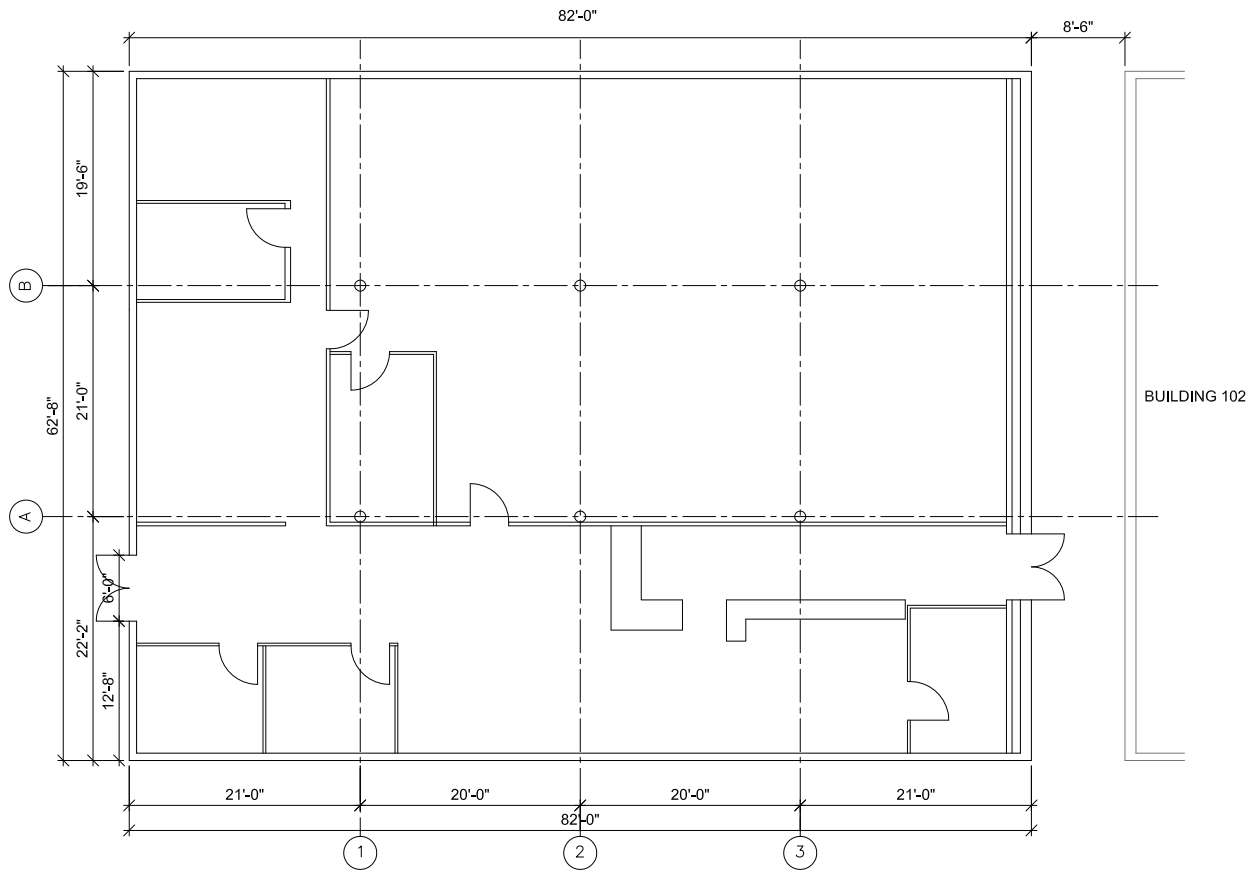


SECTION BB
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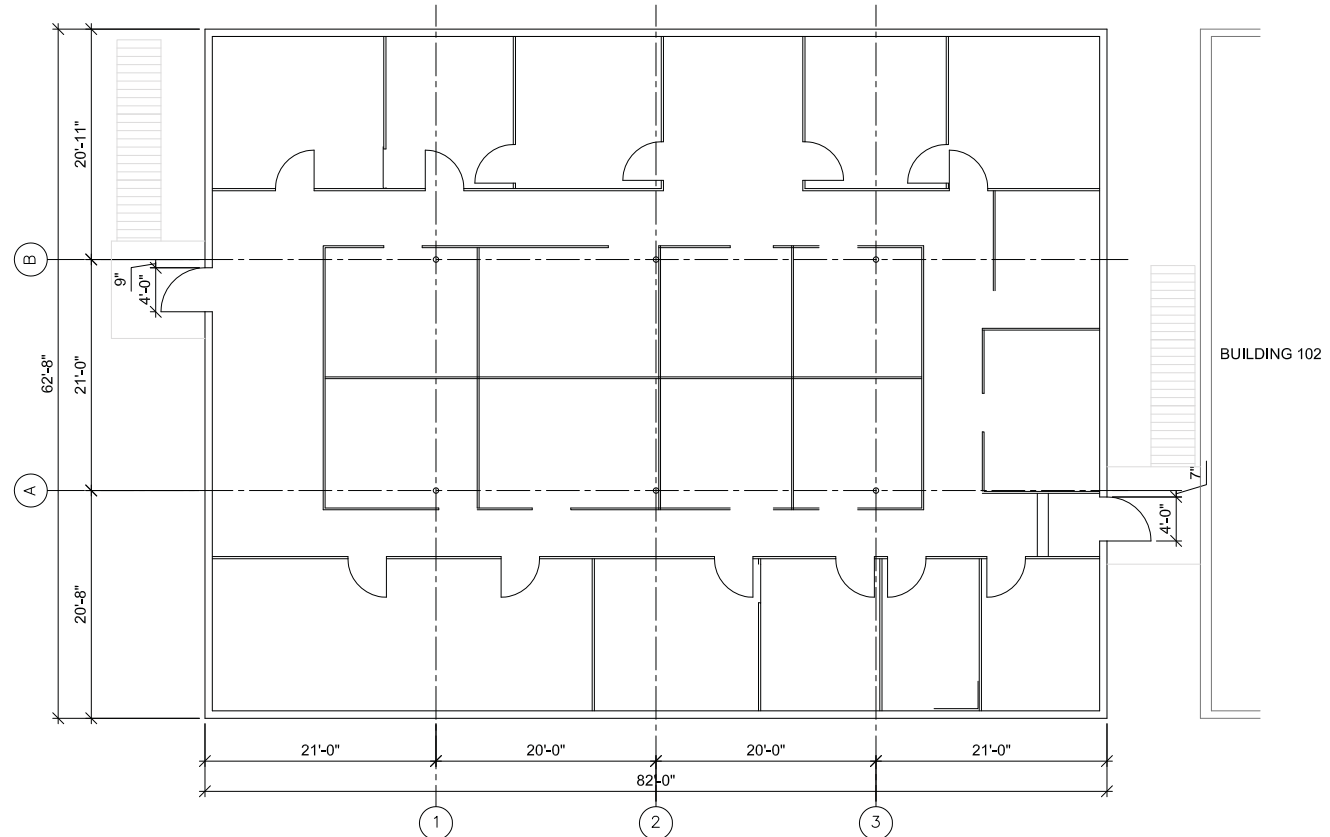


SECTION AA
SCALE 1/4" = 1'-0"

APPROVED	DATE	RYAN AERONAUTICAL CO.	DATE	7/2/56
		PLANT ENGINEERING DEPARTMENT		
		DESIGNED BY	W. E. H.	
		CHECKED BY	W. E. H.	
		PROJECT	104	
		DESCRIPTION	ELECTRONICS BUILDING (104)	
		FOUNDATION DETS		



First Floor Plan
Scale 1/8" = 1'-0"



Second Floor Plan
Scale 1/8" = 1'-0"

DRAWN BY: EMERY R. WEAVER

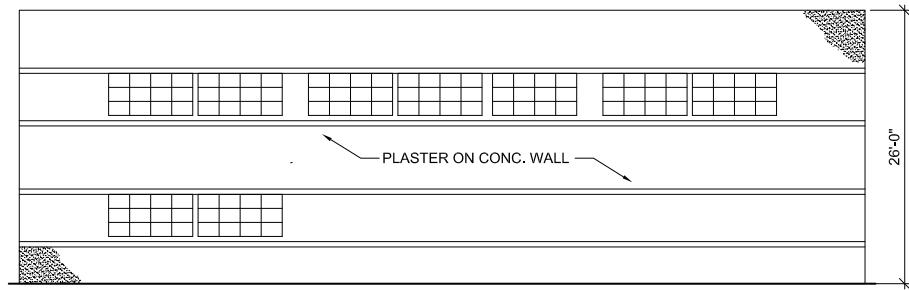
RYAN AERONAUTICAL COMPANY
HISTORIC DISTRICT
JANUARY 2010

NAME AND LOCATION OF STRUCTURE
BUILDING 104 - ENGINEERING BUILDING
2701 N. HARBOR DRIVE
SAN DIEGO, CALIFORNIA
SAN DIEGO COUNTY

SURVEY NO.
SHEET 2 OF
4 SHEETS

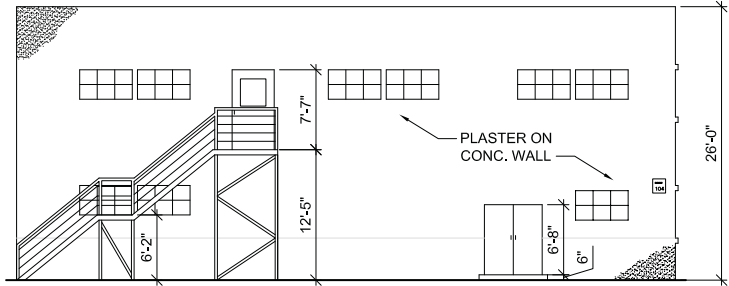
HISTORIC AMERICAN
BUILDINGS SURVEY

Library of Congress
Index Number



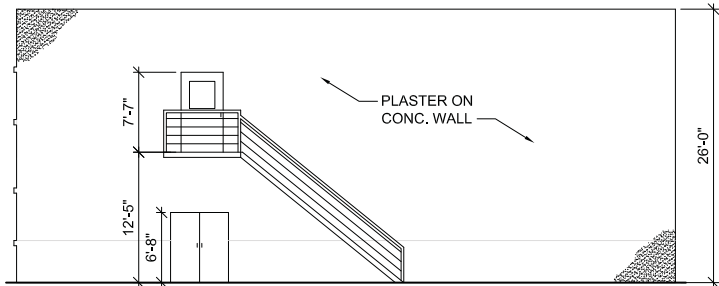
South Elevation

Scale 1/8" = 1'-0"



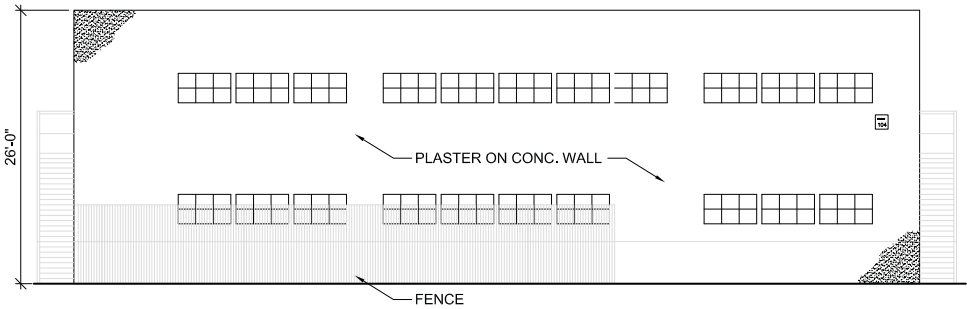
West Elevation

Scale 1/8" = 1'-0"



East Elevation

Scale 1/8" = 1'-0"



North Elevation

Scale 1/8" = 1'-0"

DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY
HISTORIC DISTRICT
JANUARY 2010

NAME AND LOCATION OF STRUCTURE

BUILDING 104 - ENGINEERING BUILDING

2701 N. HARBOR DRIVE

SAN DIEGO, CALIFORNIA

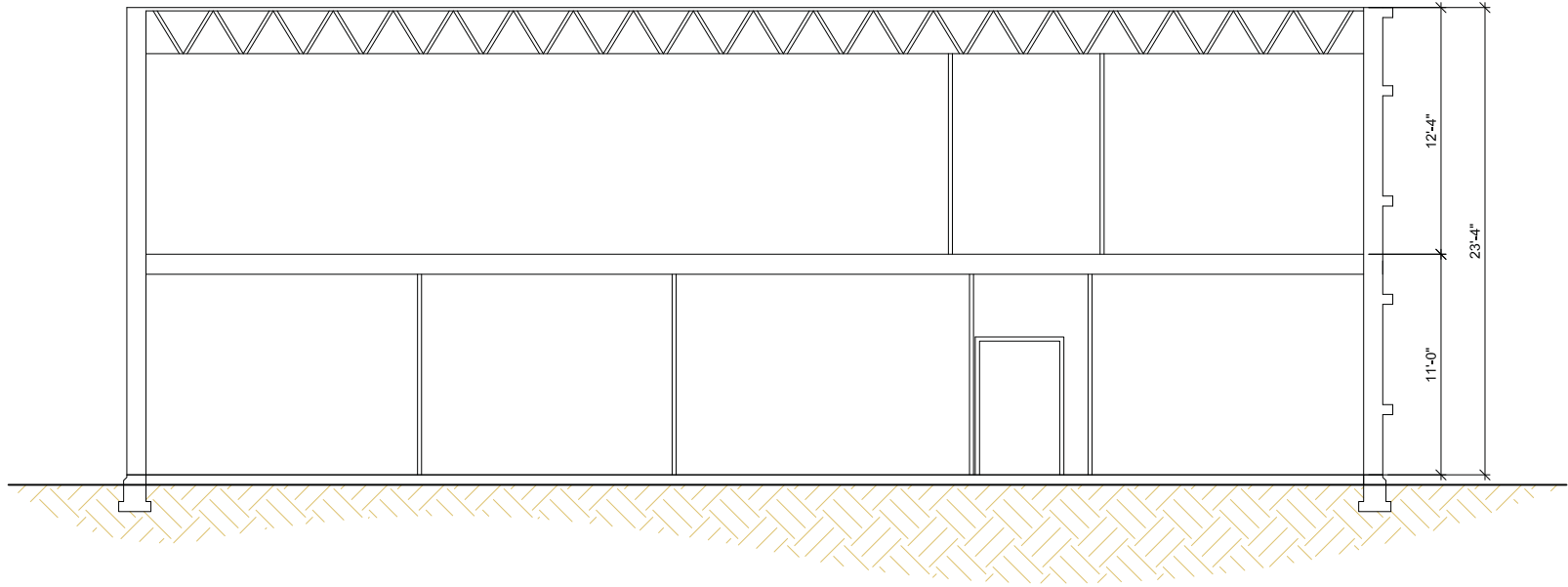
SAN DIEGO COUNTY

HISTORIC AMERICAN
BUILDINGS SURVEY

SURVEY NO.

SHEET 3 OF
4 SHEETS

Library of Congress
Index Number



Section
Scale 1/4" = 1'-0"

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RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010	2701 N. HARBOR DRIVE BUILDING 104 - ENGINEERING BUILDING SAN DIEGO, CALIFORNIA SAN DIEGO COUNTY	SURVEY NO. SHEET 4 OF 4 SHEETS	HISTORIC AMERICAN BUILDINGS SURVEY	Library of Congress Index Number
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