FINAL

Building 102 Contracts and Pricing Office

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 102 - CONTRACTS AND PRICING OFFICE

Location: 2701 North Harbor Drive, San Diego, CA 92101, USA

region (URS Corporation, 2008).

Present Owner/Occupant: San Diego County Regional Airport Authority

Present Use: Vacant

Significance: Building 102 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 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

Building 102, built in 1944, was an administration building. It 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.

Historian: Megan Venno

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: 1944

2. Architect: Frank L. Hope Jr.

- 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 102 is a two-story wood-framed building with a built-up roof. It is a 75,724-square-foot rectangular shaped building set on a concrete slab, and measures approximately 75 feet by 570 feet. The framed construction has a stucco-covered exterior. Fenestration consists of two rows (one on the upper and one on the lower level) of windows with three stacked panes, with only the lower one operable set in pairs along the front (south) and east and west elevations. The same style windows are arranged in various groupings on the back (north) side. The building has a flat roof approximately 38,000 square feet in size. Several of the original wood-framed windows remain. Building 102 was constructed in two phases (east section constructed first and the west side constructed shortly after) with a 4-inch to 8-inch gap between sections. The architectural style and windows are consistent throughout both phases. There is no direct access between the west and east portions of the building on the first floor.
- 5. Alterations and additions: Alterations to Building 102 include the replacement of several wood-framed windows with steel frames and infilling of window bays with wood or paint and a one-story addition running along the north elevation of the building that is constructed of concrete masonry units (CMU). A one-story wood-framed structure has been added along the north elevation, from the eastern end of the building to the start of the new addition. The building is connected to three other buildings: Building 104 to the west, Building 100 to the east, and Building 105 to the south.

B. 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 Cityowned 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 102 is an administrative two-story building that houses the complex cafeteria. It has retained several architectural features including horizontal rows of windows with Art Moderne-inspired decorative horizontal banding, wood-framed windows with three stacked panes, with only the lower one operable. along the north elevation, a first-story wood- and metal-post covered walkway and canopies along the north elevation, and a decorative concrete block sun screen wall set in front of a multiple barrel roof along the south elevation. The building has a long narrow rectangular form and axial plan, and the building's design employs various openings and bays (especially along the north elevation). Building 102 is similar in appearance and attached to Building 100, which creates a visually continuing association between the two buildings. Building 102 is representative of a vernacular Art Moderne-inspired administrative building located at an industrial aviation facility during its period of significance (URS Corporation, 2009).
- 2. Condition of Building Material: Building 102 is in good condition.

B. Description of Exterior:

- 1. Overall Dimensions: Building 102 is 75,724 square feet and measures approximately 75 feet by 570 feet.
- 2. Foundations: Building 102 is built on a concrete slab foundation.
- 3. Walls: The walls of Building 102 are clad in painted lath and plaster.

4. Structural System: Building 102 is a wood-framed building covered with lath- and plaster-exterior cladding.

5. Openings:

- a. Doorways: Building 102 has double steel-framed entry doors on the first floor at the west end of the south (primary) facade. A series of sliding glass doors provide access from the cafeteria to a walled courtyard on the south elevation. The east elevation is connected to Building 100 through a two-story walkway. There are no exterior doors on the east elevation. The north elevation has multiple single-, double-, and multiple-entry doors, including the two sets of double doors providing entry to Café Ryan. The west elevation has entry doors on both the first and second floors. The second floor stairs are accessible by an exterior stairwell.
- b. Windows: Fenestration consists of two rows (one on the upper level and one on the lower level) of windows along the north and south elevations. Windows on the eastern end of the south elevation are three-pane metal awning windows arranged in pairs. The west end of the south elevation features wood-frame double-hung windows, and the cafeteria section of the building has glass fixed and slider windows. The north elevation has wood-frame double-hung windows and fixed wood-frame casement windows. There are no windows on the east or west elevations. Some of the original wood-framed windows have been replaced with steel-framed windows of the same style set in original openings.
- 6. Roof: The flat roof of Building 102 consists of three multi-ply built-up roofs over a wood deck and a reflective surface coating.

C. Description of Interior:

Floor Plans: Building 102 is a two-story administrative building that served as the executive and accounting offices and housed Café Ryan, the complex cafeteria. Both floors are subdivided into offices. Portions of both floors are open, but have been divided with a variety of partitions.

The first floor has a central corridor running east to west in the eastern half of the building with offices on either side. The central portion of the building contains the café area, which includes an open employee dining area, the executive dining suite, a full kitchen, and hoods and cool rooms. The western portion of Building 102 has another central corridor running east to west with offices on either side.

The second floor is open in plan but has been subdivided with a variety of temporary partition walls.

A two-story cast-in-place concrete structure in the middle of the north end of the building contains a secure vault on each floor. There is no direct access between the east and west ends of Building 102 on the first floor.

D. Site:

Historic Landscape Design: None

PART III. SOURCES OF INFORMATION

A. Early Views: From the Teledyne-Ryan Archives

B. Interviews: N/A

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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 102 - Contracts and Pricing Office, North Elevation; juncture between Buildings 100 and 102, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102 - Contracts and Pricing Office, North Elevation, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102 - Contracts and Pricing Office, North Elevation, San Diego, California, date unknown. Teledyne-Ryan Archives.

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Building 102 - Contracts and Pricing Office, North Elevation, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102 - Contracts and Pricing Office, North Elevation, detail of Café Ryan entry, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102 - Contracts and Pricing Office, North Elevation, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102 - Contracts and Pricing Office, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102 - Contracts and Pricing Office, Café Ryan Courtyard in front of South Elevation, San Diego, California, date unknown. Teledyne-Ryan Archives.



Building 102, - Contracts and Pricing Office, Southeast Oblique, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, North Elevation, facing Southwest, exterior of cafeteria, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, North Elevation, facing Southwest, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, corner of West Elevation, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, connection corner of Buildings 102 and 105, facing northwest, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, garden wall detail, facing Northwest, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, barrel roof over dining area detail, facing Northeast, San Diego, California, October 2009.



Building 102 - Contracts and Pricing Office, window detail, San Diego, California, October 2009.



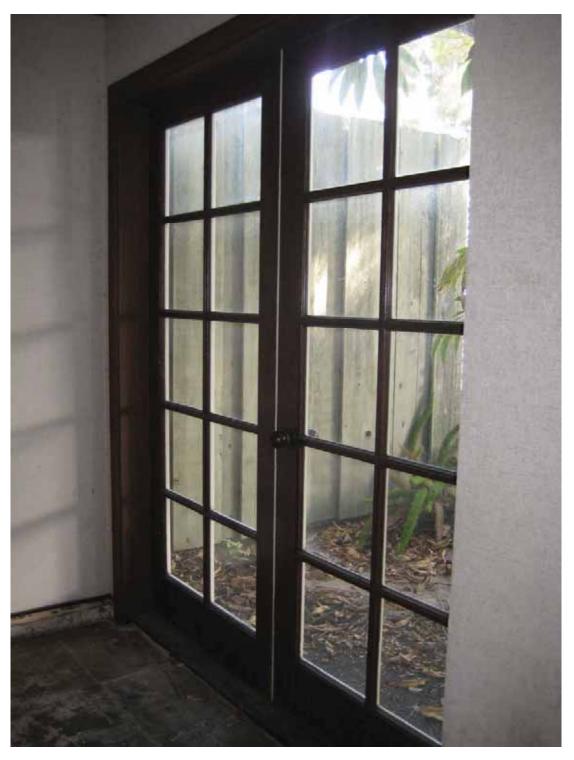
Building 102 - Contracts and Pricing Office Interior, hallway detail, San Diego, California, October 2009.



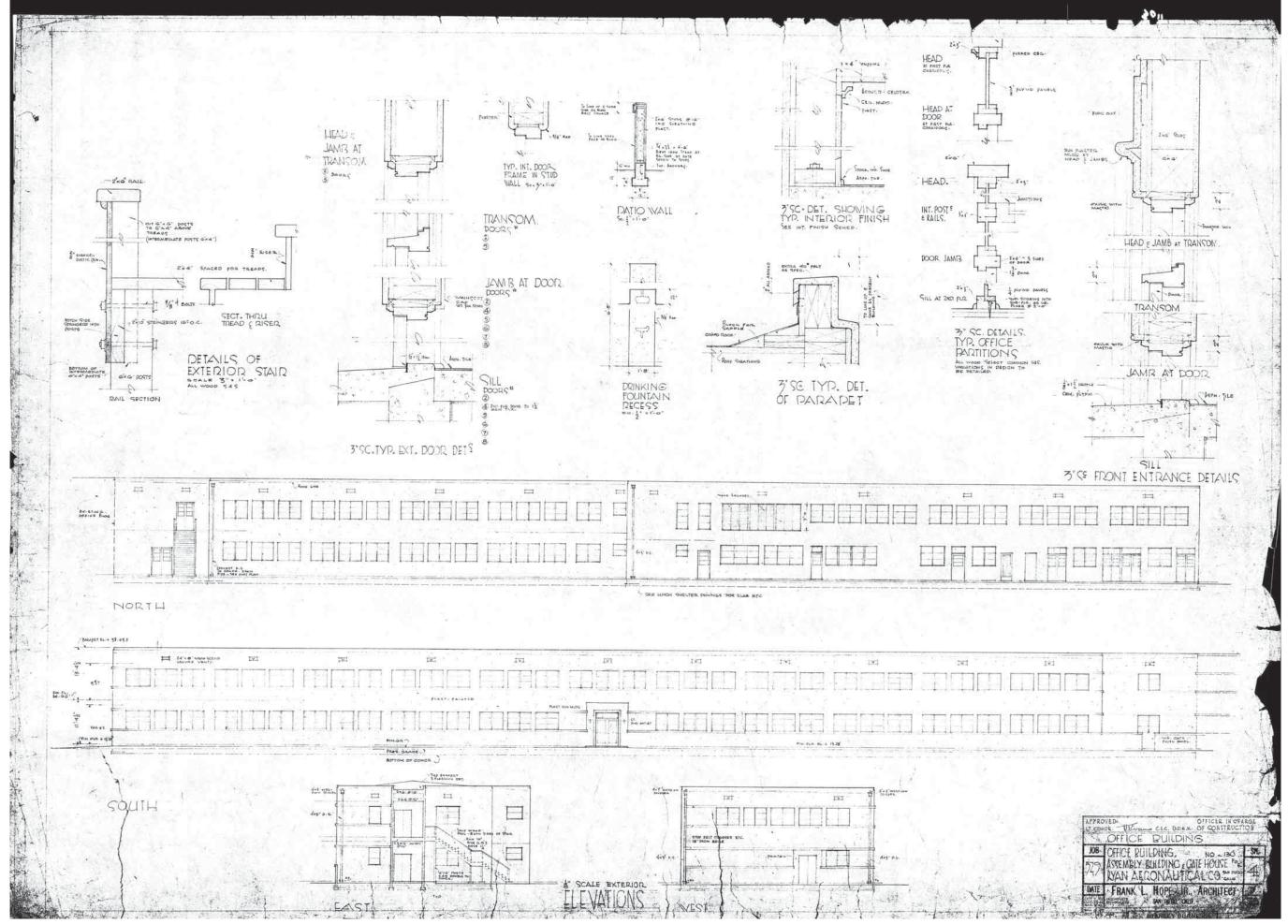
Building 102 - Contracts and Pricing Office Interior, office form detail, facing Southwest, San Diego, California, October 2009.

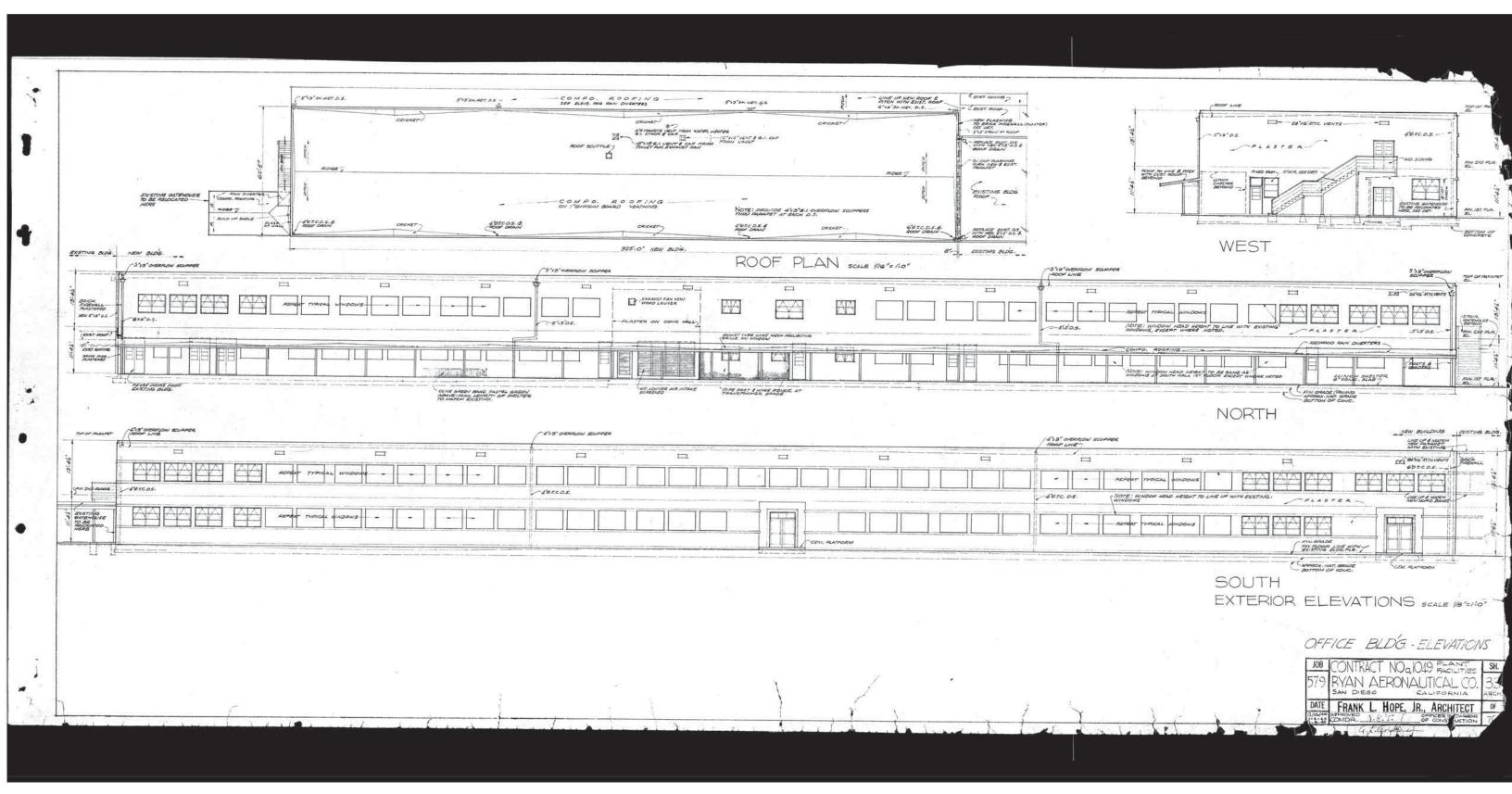


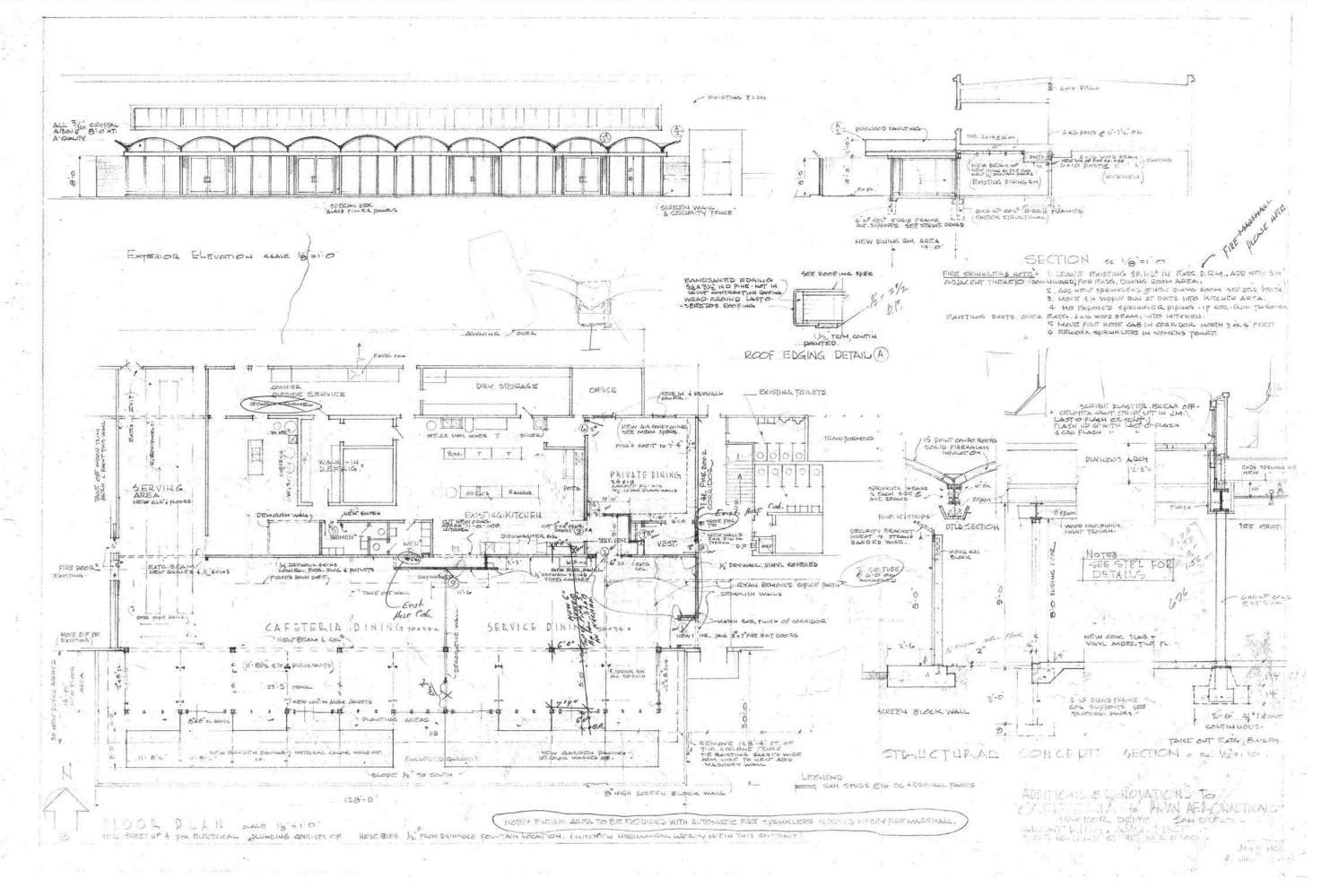
Building 102 - Contracts and Pricing Office Interior, panel ceiling detail, San Diego, California, October 2009.

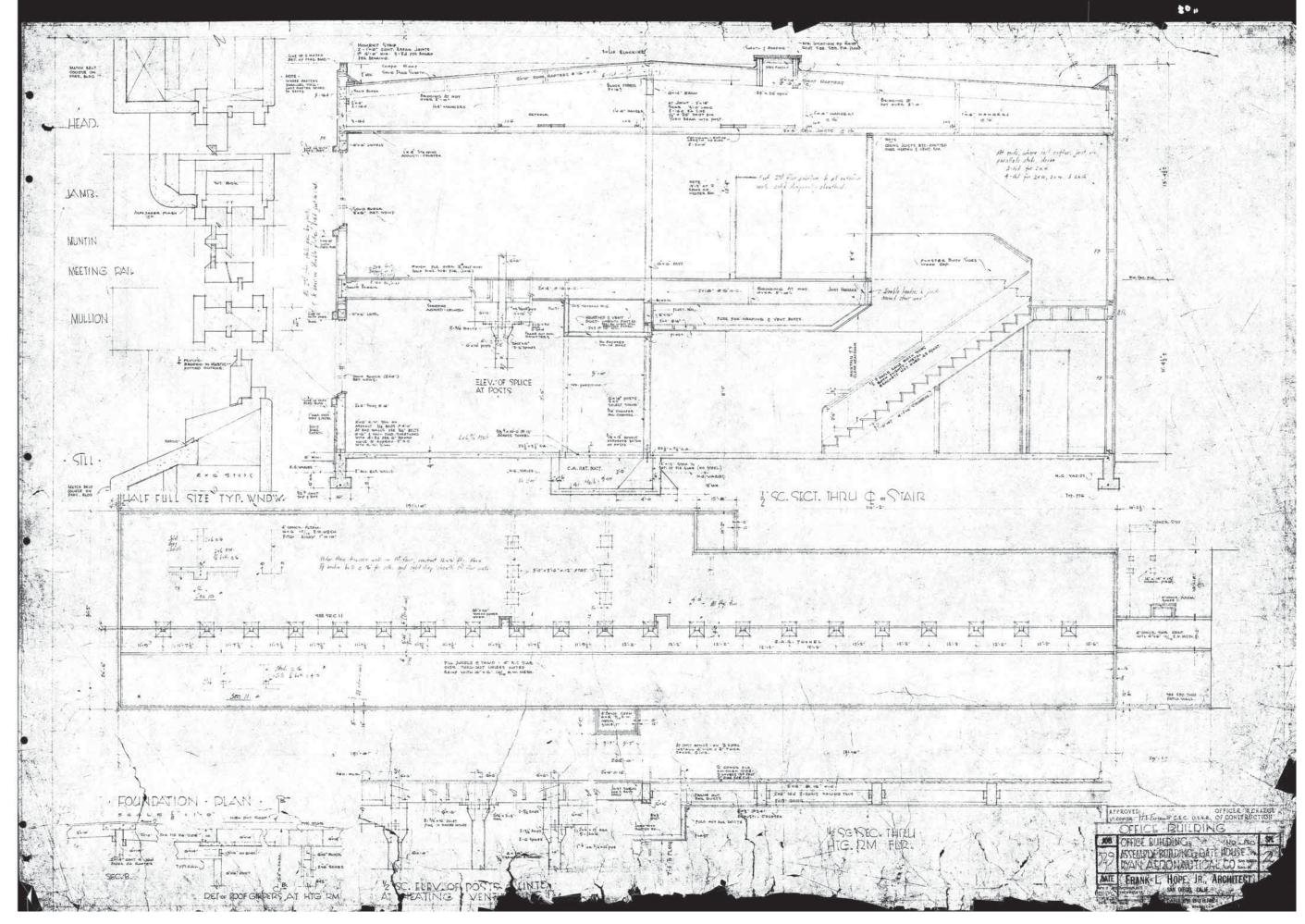


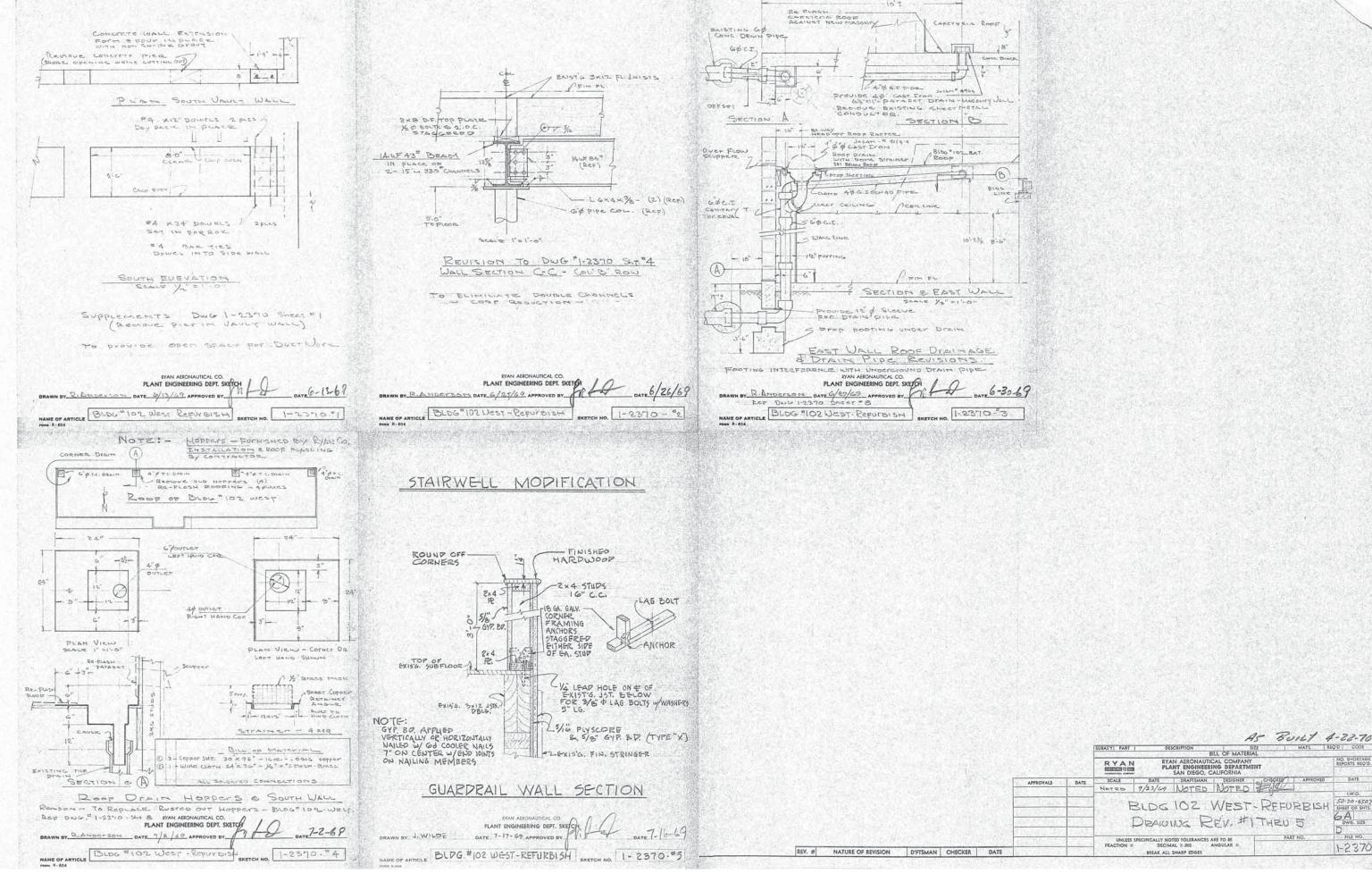
Building 102 - Contracts and Pricing Office Interior, external doors leading to garden area detail, San Diego, California, October 2009.

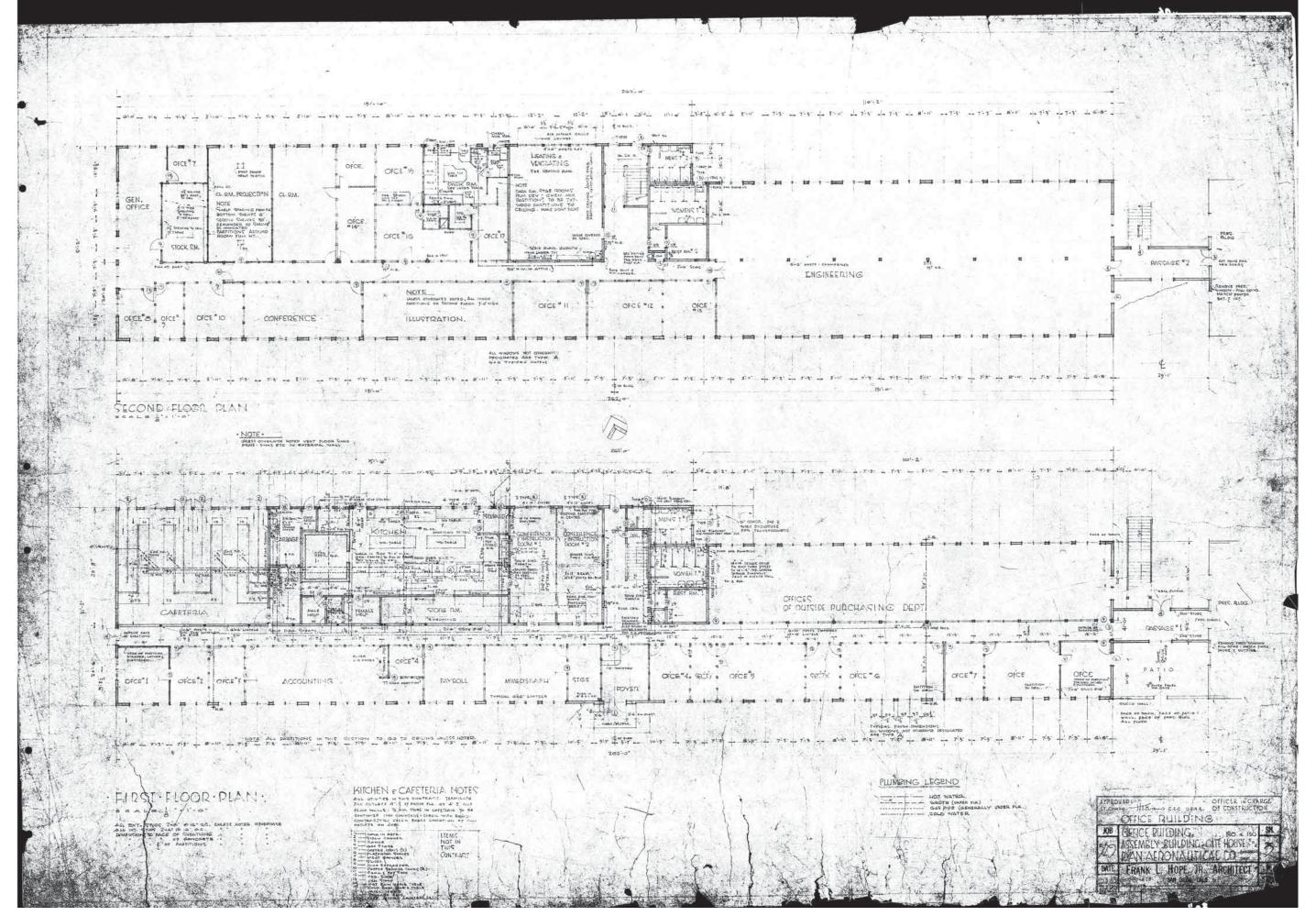


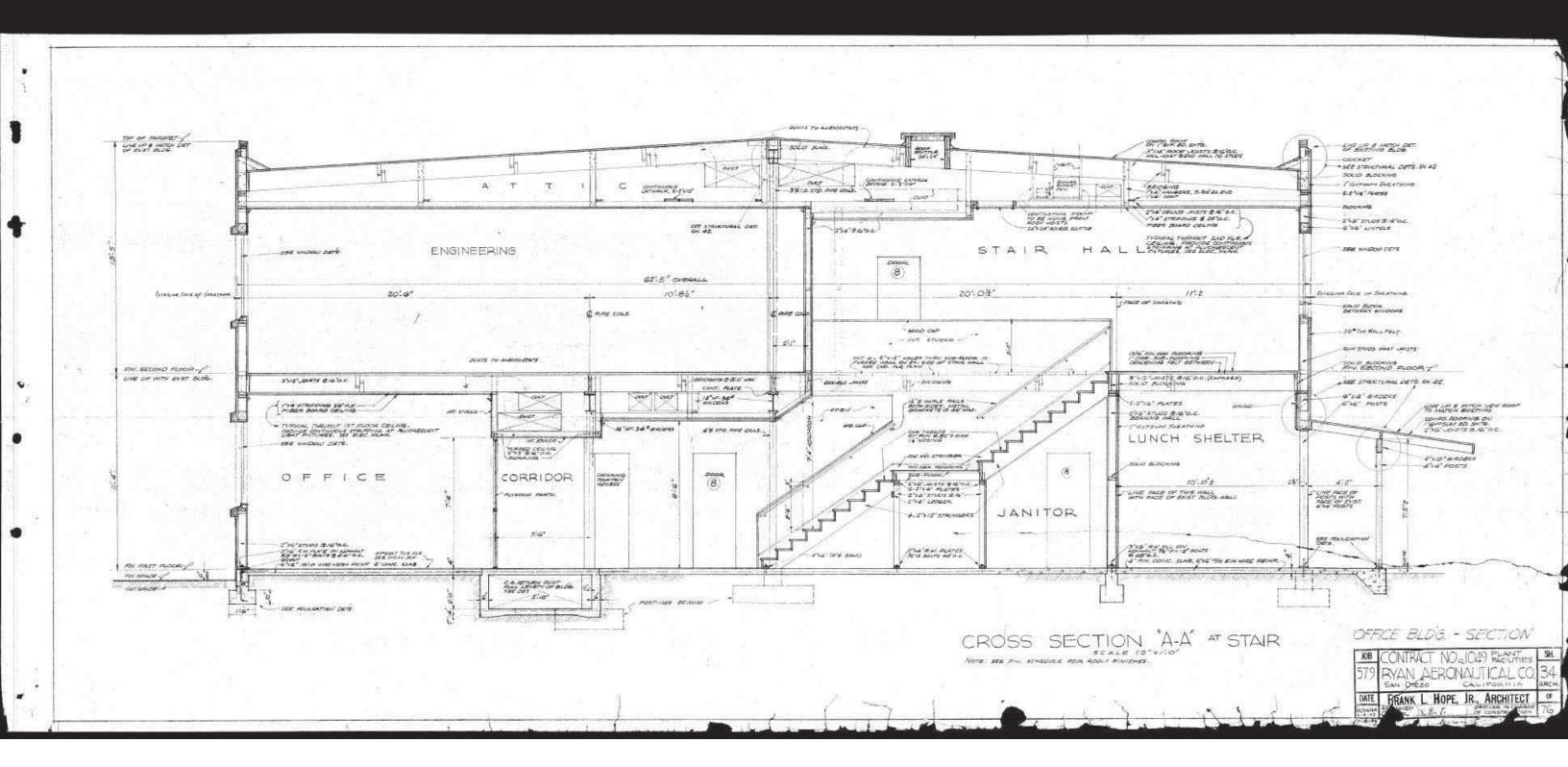


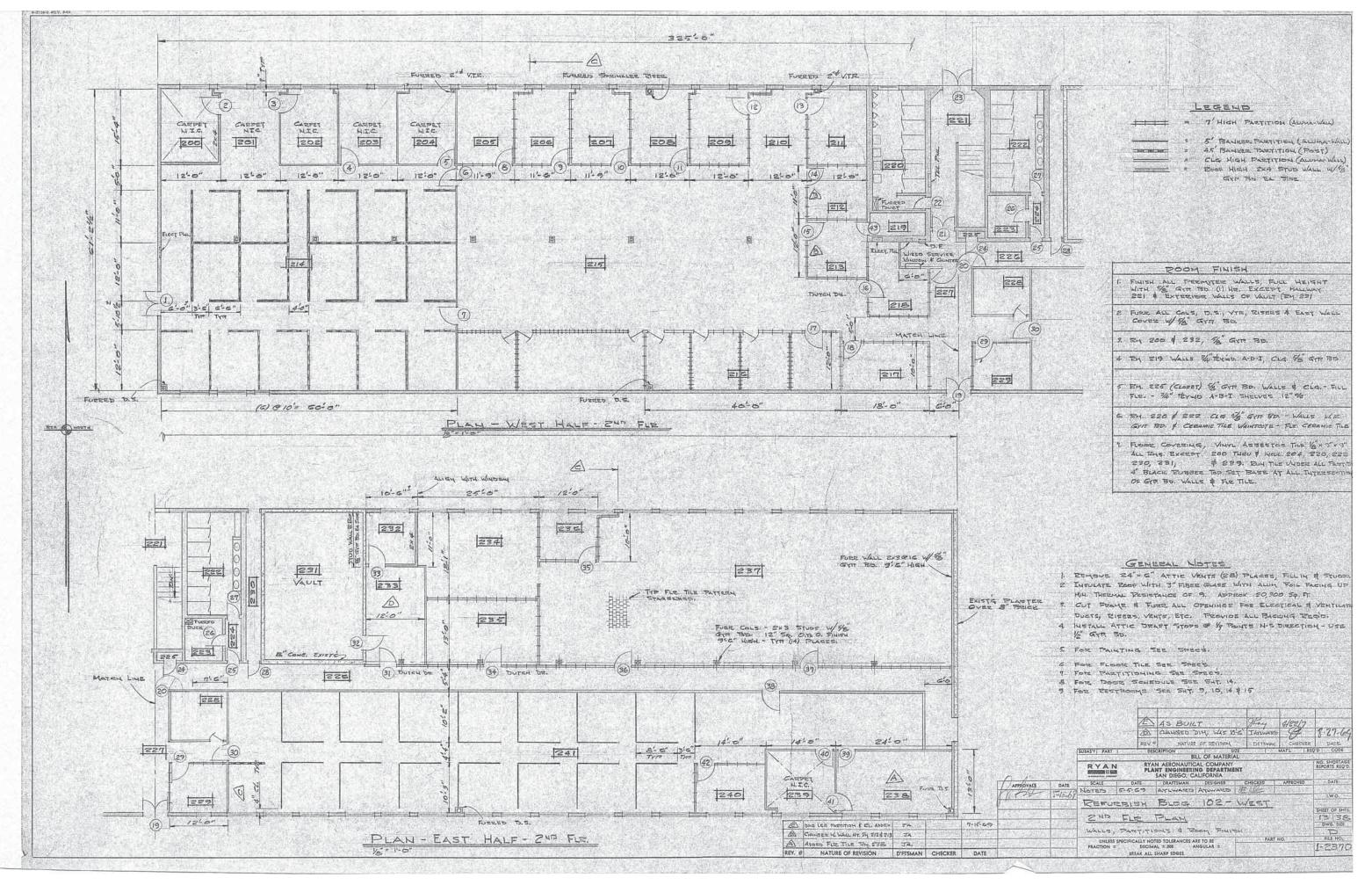


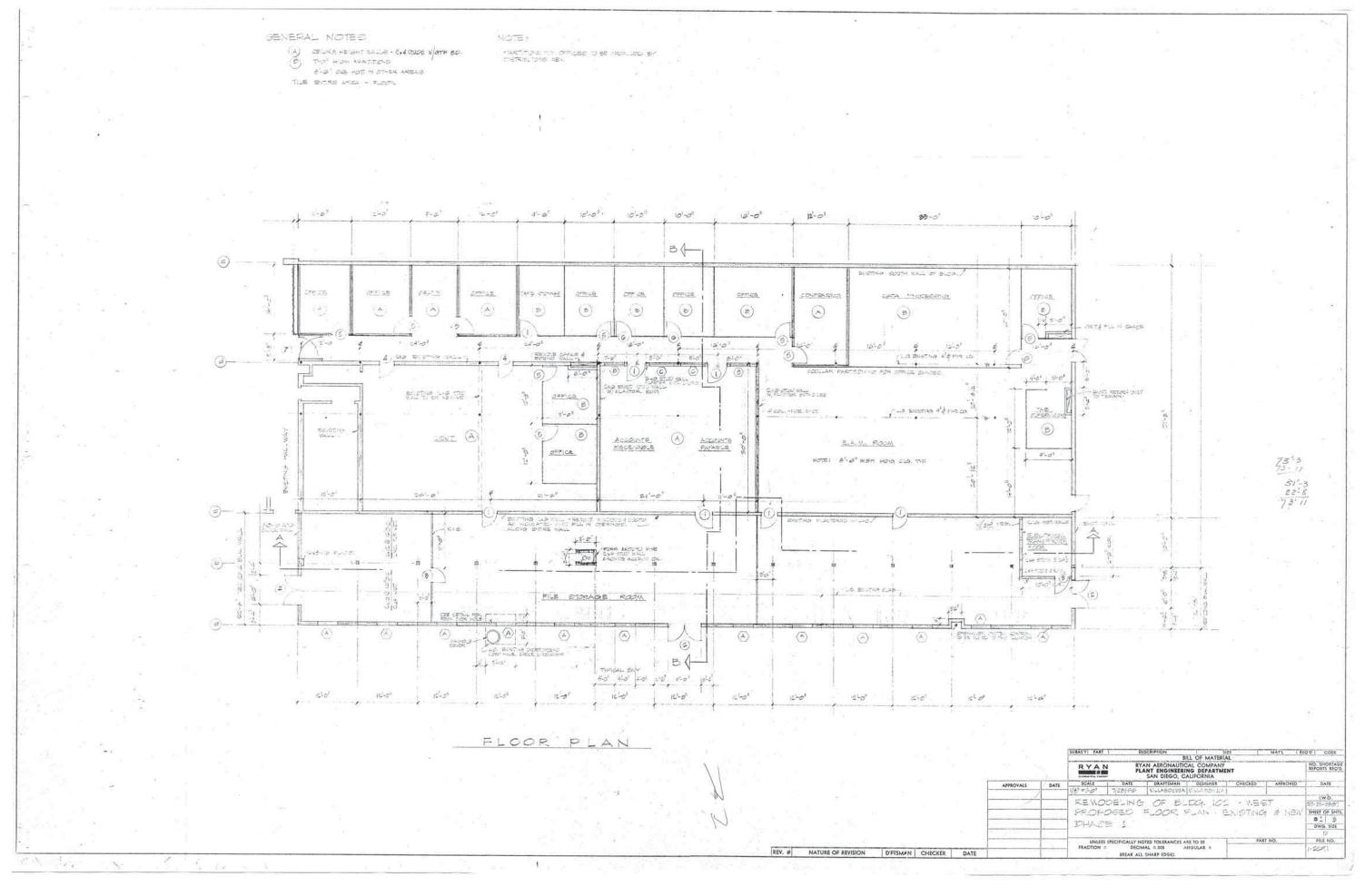


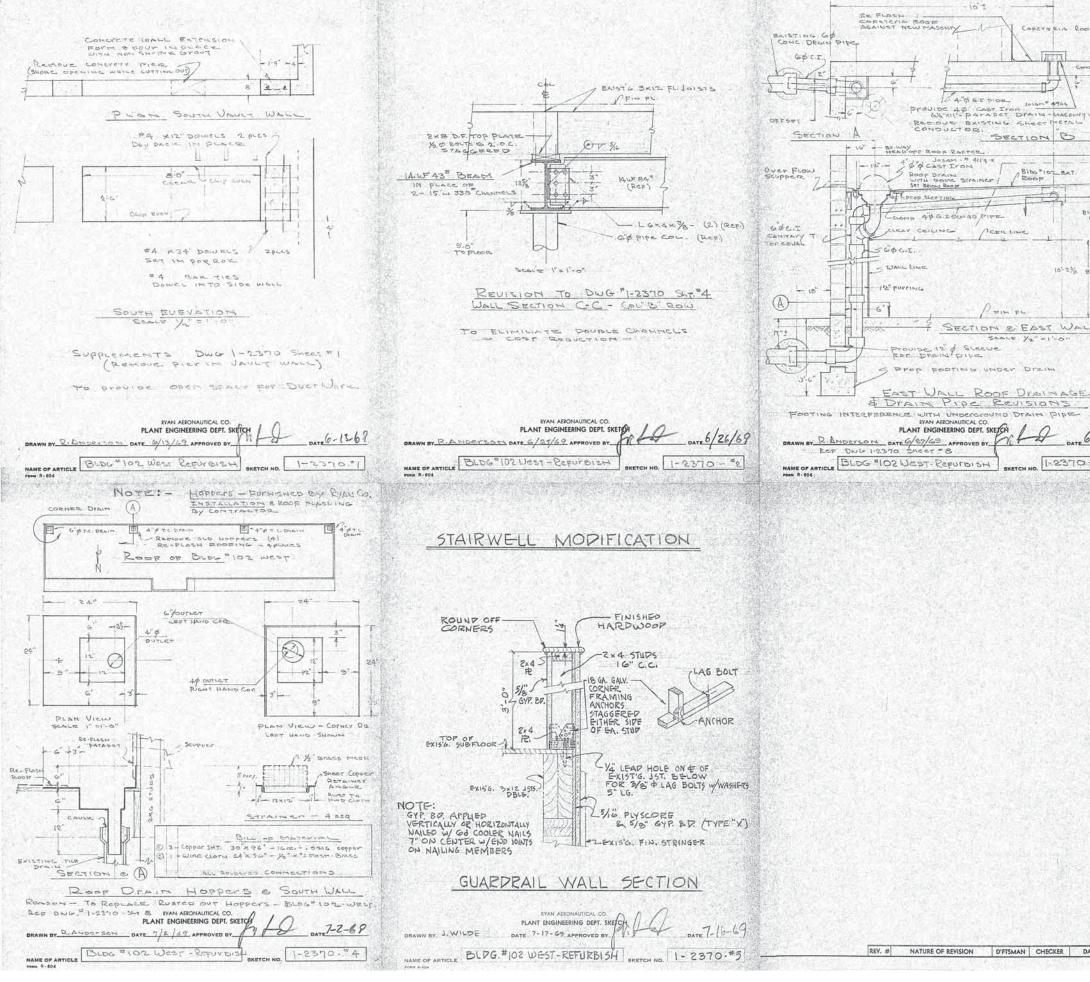


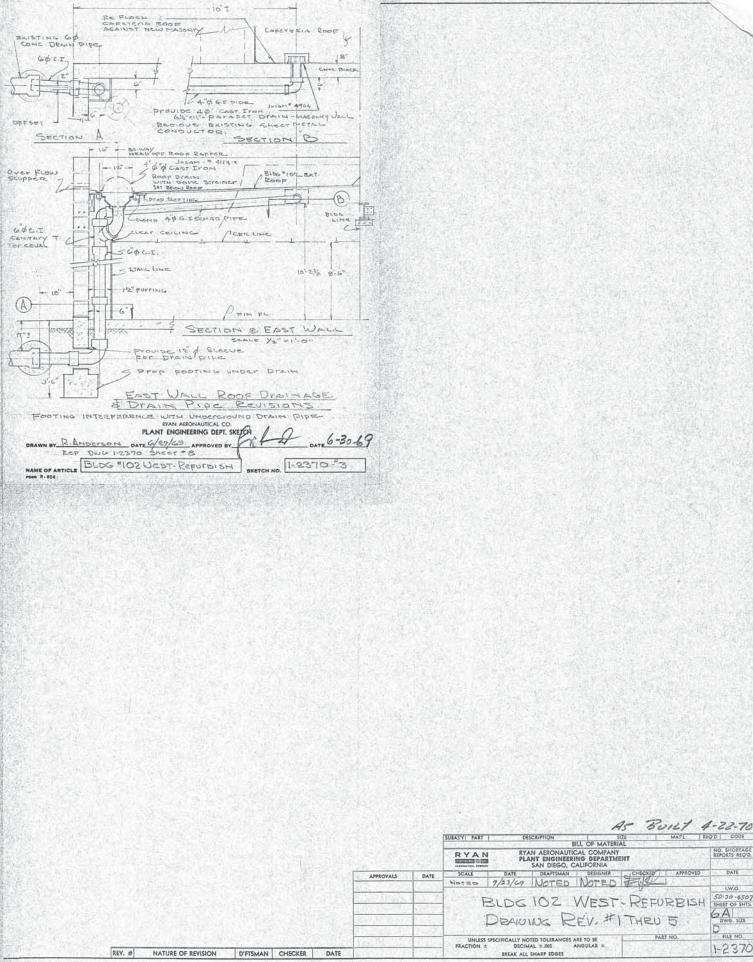


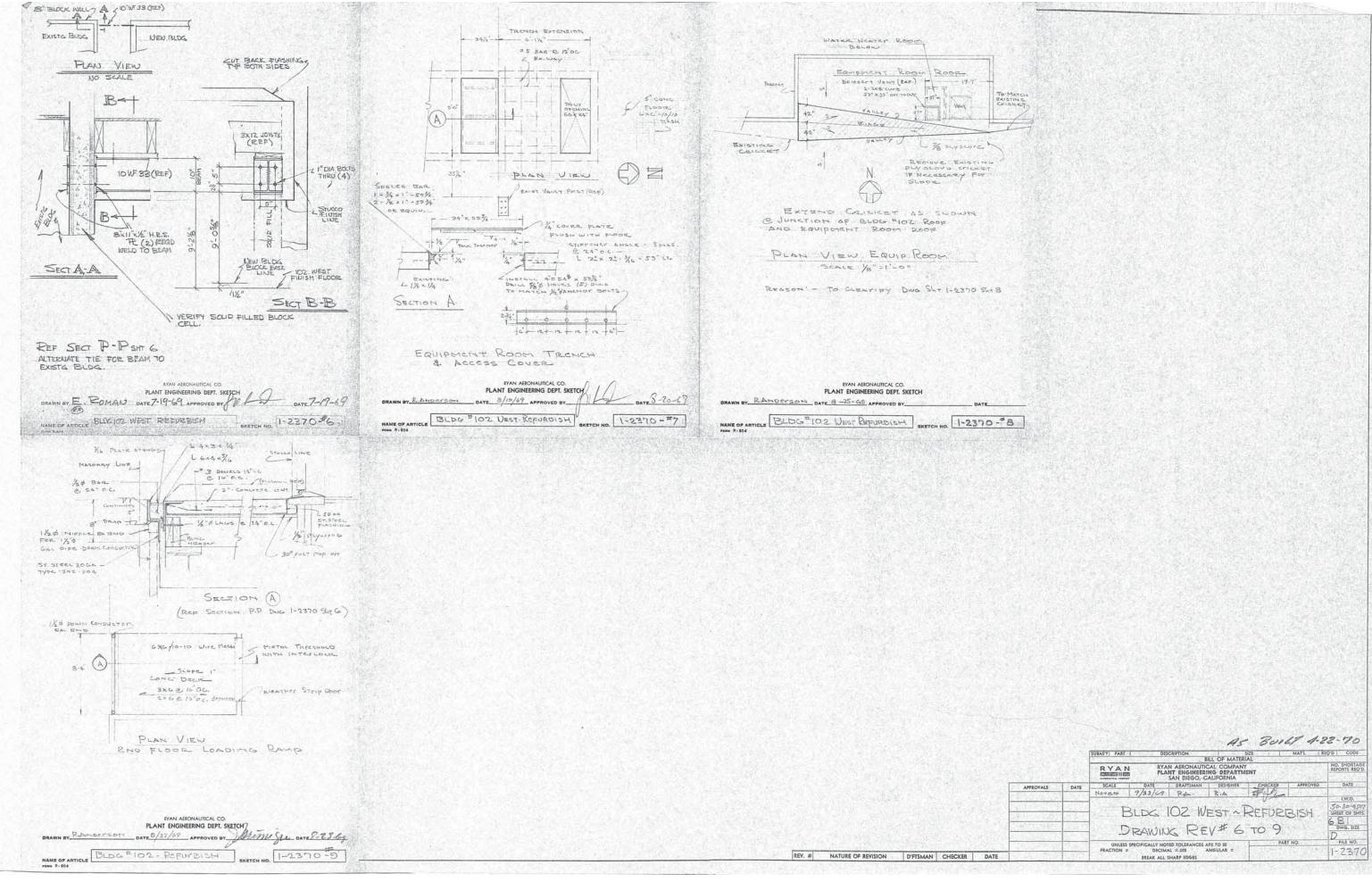


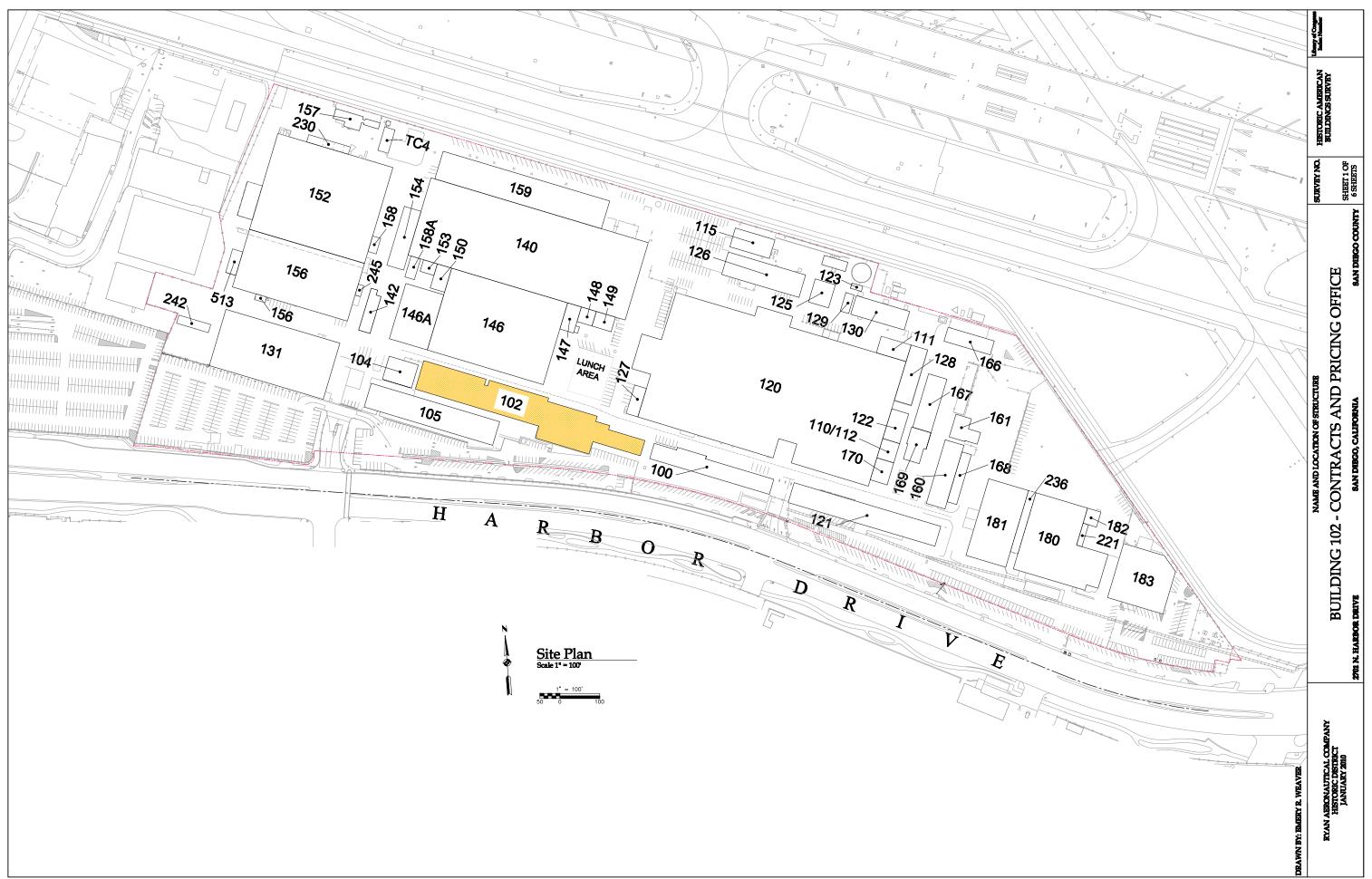


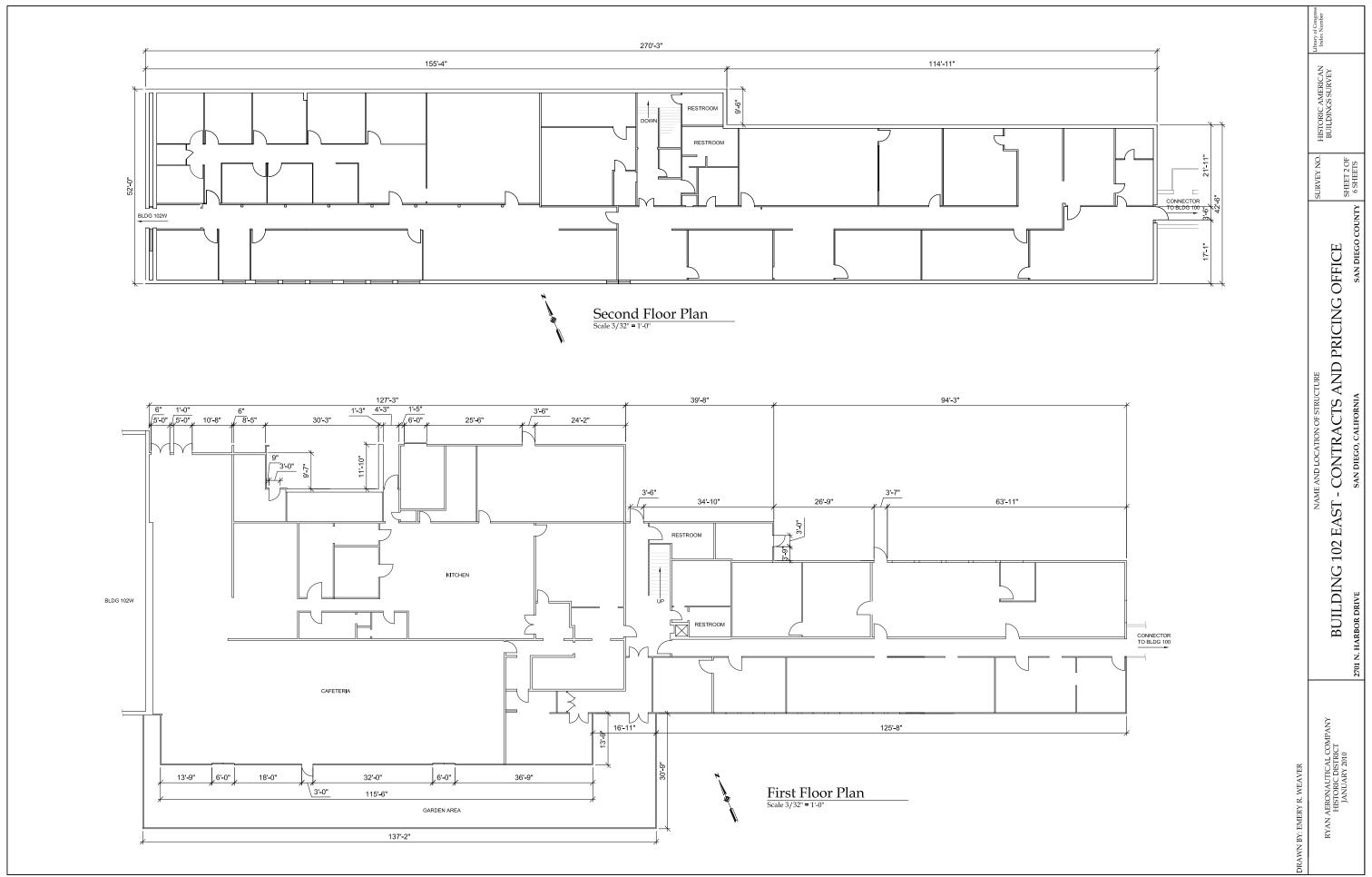


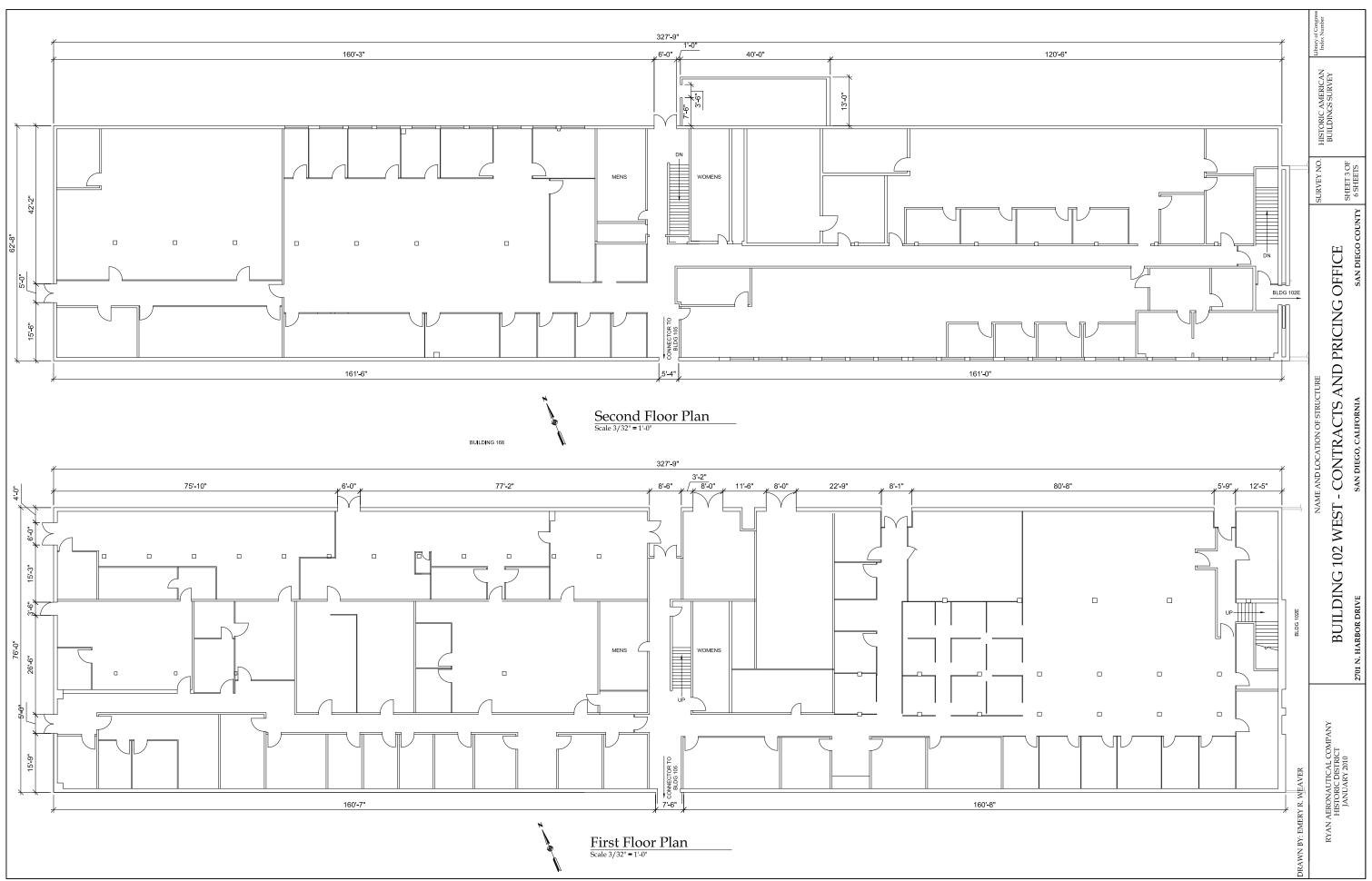


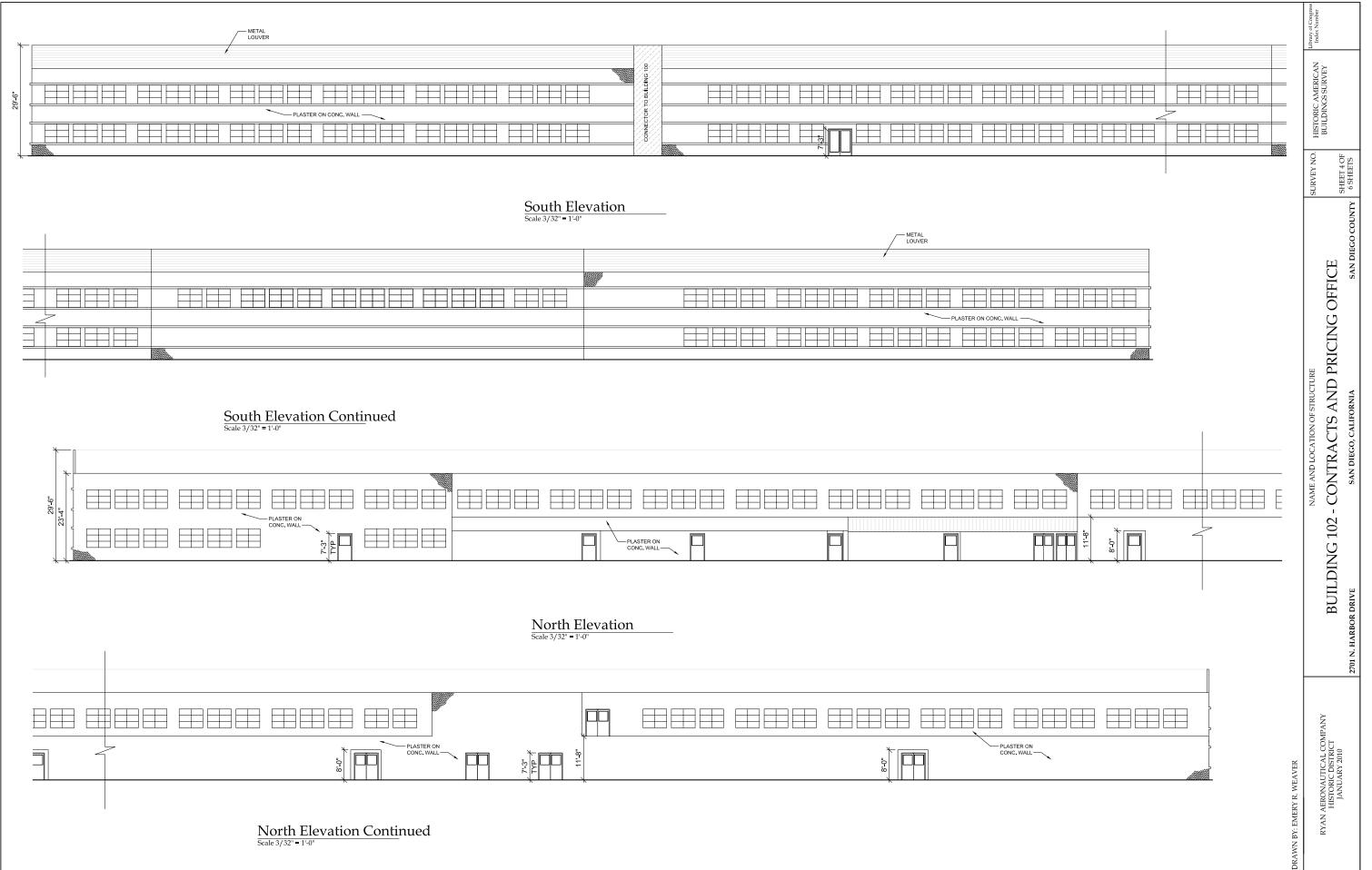


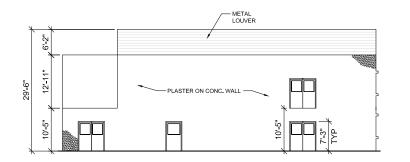




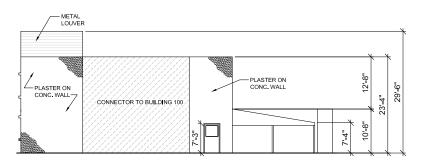








East Elevation
Scale 3/32" - 1'-0"



HISTORIC AMERICAN BUILDINGS SURVEY

NAME AND LOCATION OF STRUCTURE
BUILDING 102 - CONTRACTS AND PRICING OFFICE
RDRIVE SAN DIEGO, CALIFORNIA SAN D

DRAWN BY: EMERY R. WEAVER

West Elevation
Scale 3/32" - 1'-0"

