#### NPS Form 10-900 **United States Department of the Interior** National Park Service

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

# 1. Name of Property

DRAFT

Historic name: <u>Sperry Flour Company Vallejo Mills Historic District</u> Other names/site number: <u>Starr Mills</u>; General Mills, Inc. Sperry Division Vallejo; General

Mills Vallejo Mills

Name of related multiple property listing:

<u>N/A</u>

(Enter "N/A" if property is not part of a multiple property listing

# 2. Location

 Street & number: \_\_\_\_\_\_\_
 800 Derr Avenue

 City or town: \_\_\_\_\_\_
 Vallejo\_\_\_\_\_\_\_
 State: \_\_\_\_\_\_\_\_

 Not For Publication: \_\_\_\_\_\_\_
 Vicinity: \_\_\_\_\_\_\_

# 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this \_\_\_\_\_ nomination \_\_\_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property \_\_\_\_ meets \_\_\_\_ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

\_\_\_\_national \_\_\_\_statewide \_\_\_\_local Applicable National Register Criteria:

<u>A</u> <u>B</u> <u>C</u> <u>D</u>

Signature of certifying official/Title:

Date

State or Federal agency/bureau or Tribal Government

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Sperry Flour Co. Vallejo Mills Historic District	Solano, California County and State	
In my opinion, the property meets	does not meet the National Register criteria.	
Signature of commenting official:	Date	
Title :	State or Federal agency/bureau or Tribal Government	

# 4. National Park Service Certification

I hereby certify that this property is:

- \_\_\_\_ entered in the National Register
- \_\_\_\_ determined eligible for the National Register
- \_\_\_\_ determined not eligible for the National Register
- \_\_\_\_ removed from the National Register
- \_\_\_\_ other (explain:) \_\_\_\_\_\_

Signature of the Keeper

Date of Action

# 5. Classification

# **Ownership of Property**

(Check as many boxes as	apply.)
Private:	X
Public – Local	X
Public – State	X

Public – Federal

# **Category of Property**

(Check only **one** box.)

Building(s)	
District	x
Site	
Structure	
Object	

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# Number of Resources within Property

(Do not include previously lis	ted resources in the count)	
Contributing	Noncontributing	
10	4	buildings
		sites
2		structures
		objects
12	4	Total

Number of contributing resources previously listed in the National Register \_\_\_\_\_

6. Function or Use
Historic Functions
(Enter categories from instructions.)
AGRICULTURE/processing-flour mill, storage-grain elevator, warehouse, feed
warehouse
_COMMERCE/storage-warehouse, business-mill office
TRANSPORTATION/water-related-wharf, rail-related-rail lines, road-related- company
garage
INDUSTRY/manufacturing facility-flour mill, industrial storage-grain elevator,
warehouse, feed warehouse
DOMESTIC/single residence
-

# **Current Functions**

(Enter categories from instructions.) \_\_\_\_\_VACANT/NOT IN USE\_\_\_\_\_

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#### 7. Description

#### **Architectural Classification**

(Enter categories from instructions.)

OTHER - Industrial

LATE 19<sup>TH</sup> AND EARLY 20<sup>TH</sup> CENTURY REVIVALS – Beaux Arts

LATE 19<sup>TH</sup> AND EARLY 20<sup>TH</sup> CENTURY AMERICAN MOVEMENTS -

Craftsman/First Bay Tradition\_

**Materials:** (enter categories from instructions.)

Principal exterior materials of the property:

Foundations: concrete

Walls: Reinforced concrete, brick, wood shingle, corrugated metal,

Roofs: Tar and gravel, corrugated metal, asphalt shingle

Other: Fiberglass, rolled steel, wood, heavy timber, brick, terra cotta

### **Narrative Description**

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

### **Summary Paragraph**

The Sperry Flour Company's Vallejo Mills is located at the eastern shoreline of the Mare Island Strait (Napa River) near its confluence with the Carquinez Strait and San Pablo Bay. The roughly 30-acre flour mill site is directly east across the river from the former Mare Island Naval Shipyard (MINSY) and west of south Vallejo, California. The hilly neighborhood around Sperry Mill is primarily residential, with multi-building apartment complexes and single-family dwellings to the east of the historic district. There are areas of open brush to the north and south of the Sperry Mill along the shoreline, and just across the water the disused naval base and industrial shipbuilding facility at MINSY. The historic district itself has 12 contributing and 4 noncontributing resources including a wharf, Manager's Residence, Administration and Laboratory Building, Barn, Company Garage, Mill and Warehouse Building, Feed Warehouse, Grain Elevator rail lines, bulk houses, and several small outbuildings. The industrial milling area with its large flour-production, warehouse, and grain storage buildings is located on the paved

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portion of the site near the shoreline, while the domestic buildings associated with the mill are slightly removed atop a hill to the east. The domestic buildings are sited in a more open area of trees and grass, where only the driveway is paved. The important buildings in the industrial area are constructed of reinforced concrete, some with decorative features executed in concrete and brick cladding. One large grain storage structure is steel frame with asbestos cladding. The industrial buildings feature steel sash, glass block, or fiberglass windows. The house and garage are wood frame construction with wood shingle cladding. There are small ancillary buildings in both the domestic and industrial areas clad in corrugated metal. The district maintains exceptional integrity of location, design, setting, materials, workmanship, feeling, and association.

# **Narrative Description**

# Site Overview

In 1869, Captain Abraham Dubois Starr established Vallejo's first flour mill on the site. Extension of the California Pacific Railroad (which eventually became the Southern Pacific Railroad) to the vicinity made the strategic location adjacent to the Carquinez Strait even more attractive. By water, the site was connected to the San Francisco Bay as well as the Sacramento-San Joaquin Delta, providing an ability to ship grain from California's interior and flour to anywhere in the world. The railroad was connected to the greater U.S. rail network, opening the U.S. market. Starr constructed a dock, flour mill, and warehouse.<sup>1</sup>

By the 1880s, Starr Mills was the largest commercial mill on the West Coast. George Washington McNear purchased the property in 1895, renaming it for his Port Costa Milling Company. The original house for the plant superintendant was constructed under McNear's management by 1901, although it was smaller than its present form. A garage and barn were also built near the house about the same time.

Sperry Flour Company bought the site in 1910 and began a program of modernization. Sperry installed a marine leg to convey grain from ships in 1914, and built a wharf-side grain elevator to the south of the original mill between 1910 and 1916. A devastating fire in 1916 destroyed the warehouse. In order to continue production after the fire, Sperry hired engineer Maurice Couchot to design a complex of new mill buildings: a monumental grain elevator with sixty silos, an eight-story mill, and a two-story warehouse connected to the mill executed in reinforced concrete in 1917 according to Couchot's innovative fire-resistant building specifications. A conveyor bridge connected the grain elevator with the adjacent new mill and the old wharf-side mill (which remained in use.) The following year, the company built a two-story office building with laboratory and a garage for company vehicles using the same designers, builders and materials. The 1901 Manager's Residence was also remodeled with wood shingle siding into its present First Bay Tradition form during this period.

<sup>&</sup>lt;sup>1</sup> James E. Kern and Vallejo Naval and Historical Museum, Vallejo, Charleston, SC: Arcadia Publishing, 2005, 29;

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General Mills purchased Sperry Flour Company in 1929, and the Vallejo plant became part of the Sperry Division of General Mills, Inc. A catastrophic fire in 1934 destroyed the first Sperry Flour Company grain elevator near the wharf. In 1947, the company constructed the enormous fan-shaped feed warehouse. A bag factory (demolished in the early 1980s) was constructed the same year. In 1957, yet another fire destroyed the old Starr Mill by the waterfront, and the company built a bulk house for grain storage in front of the 1917 mill and warehouse. An adjacent bulk house was added in 1965. Between the mid-1980s and 1992 several ancillary structures were built for shops or storage, along with the Mill Run Canopy (demolished c2015). Operation as a flour mill ended in 2004 and the property has been vacant since.

# **Current Conditions and Character-defining Features**

The buildings and structures near the waterfront along either side of Derr Street (which enters the site from the north and curves toward the waterfront) define the character of the historic district. All are associated with grain-milling operations, and were purpose-built between 1917 and 1965 for various roles in Sperry Flour Company's and later General Mills Inc.'s industrial milling operations. The buildings are oriented northwest-southeast to conform to the shape of this area the waterfront (which includes areas of fill created by the company over the years. Most buildings' longer main facades look onto the water. Although the buildings themselves are arranged in a rectilinear grid (except for the Company Garage, which is tilted slightly more north-south to conform to the shape of the hill behind it), roads and railroad tracks curve non-orthogonally around and into buildings.

The district is dominated by its World War I-era buildings, although there are surviving contributors that date from the property's earliest use as a flour mill as well as buildings constructed in the post-World War II era up to 1965. Transportation-related structures (the rail lines and wharf) were initially constructed during the 1869 – 1886 period of the property's establishment as a flour mill. The First Bay Tradition Manager's Residence (c1901/1917) is slightly removed from the industrial complex and the only contributing resource with woodframe construction and a primarily non-industrial historic function. The four 1917-18 buildings are united by their reinforced concrete construction, which was chosen for its structural strength, availability during the wartime steel shortage, and fireproof qualities. Grain Elevator and Mill and Warehouse buildings are monumental in scale, while the Company Garage and Administration and Laboratory Building feature modest one- and two-story massing. The Grain Elevator's design is utilitarian, and is a visual landmark because of its size, prominence, and location near the waterfront. The Mill and Warehouse shares these qualities, but incorporates aesthetic features including projecting cornice, stepped parapet, frieze, spandrals, and expressed structural columns with decorative brick facing. The much smaller Company Garage also exemplifies a dual-purpose utilitarian and aesthetic design. Administration and Laboratory, executed in reinforced concrete with brick facing like the other buildings in the group, is far more highly ornamented than any of the other buildings in the district. The use of concrete and flat arches show its designer's forward-looking use of building technology, and are paired with details inspired by Beaux-Arts classicism including polychrome mosaic cartouche, projecting cornice with floral and dentil motif, decorative water table, and classical entryway with pediment and pilasters.

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Name of Property County and State Surviving contributors from post-World War II are, like the Grain Elevator, massive in scale and utilitarian in materials and details. The 1947 Feed Warehouse is remarkable for its size, use of fire-resistant fiberglass along with reinforced concrete, and unique fan-shaped plan. With its eleven truck bays at its north elevation, the Feed Warehouse also exemplifies the shift away from water and rail transport to trucking during the postwar period. The 1957 and 1965 bulkhouses are visual landmarks for their height and waterfront-adjacent location. Some open areas on the site represent lost resources, most prominently the wharf-adjacent square area of fill that projects into the strait, which held early mill and warehouse buildings. Other areas, such as the space between the Mill and Warehouse Building and the Feed Warehouse were altered after the Period of Significance when they were paved with asphalt for parking. The small open areas near the Administration and Laboratory Building and the woods around the Manager's Residence, however, represent areas that were intentionally left open or landscaped during the Period of Significance.

Character-defining features of the Historic District:

- Waterfront location
- Minimal landscaping with most areas between buildings paved
- Site layout defined by waterfront and transportation-related infrastructure rail lines and wharf
- Industrial character
- Expressed structure
- Visual prominence of certain buildings due to location and massive height and scale
- Variation in height and scale from one story to 100'
- Blend of utilitarian/industrial and aesthetic features
- Large window openings
- Reinforced concrete construction
- Decorative features on certain buildings:
  - First Bay Tradition features: steeply-pitched roof, wood shingle cladding, wood sash windows, and domestic setting characterized by open space
  - Beaux Arts features: decorative projecting cornices, spandrals, friezes, classical entryway, ornamental cartouche, dentils, water table, and floral motif.
  - $\circ$   $\;$  Stepped parapets and brick cladding  $\;$
  - Blend of utilitarian and aesthetic features

# **Contributing Resources**

- 1. Rail Lines (1869 1886)
- 2. Wooden Wharf and Pilings (1869 1886)
- 3. Manager's Residence (c1901/1917)
- 4. Barn (c1901)
- 5. Manager's Garage (c1901)
- 6. Flour Mill and Warehouse (1917)
- 7. Grain Elevator (1917)
- 8. Administration and Laboratory Building (1918)
- 9. Company Garage (1918)
- 10. Feed Warehouse (1947)

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- 11. Old Bulk House (1957)
- 12. New Bulk House (1965)

#### **Noncontributing Resources**

- 1. Forklift Repair (c1985)
- 2. Welding Shop (c1985)
- 3. Pipe Storage (c1985)
- 4. Bakery Bulk House (1992)

#### **District Integrity**

The integrity of the Sperry Flour Company Vallejo Mills Historic District is assessed below by assessing the seven principal aspects of integrity that affect its significance.

#### Location

The Historic District retains integrity of location. The industrial core of the site retain its original relationship with the waterfront. Buildings remain in their historic locations, retaining their original spatial relationships within the site, including the Manager's Residence and associated buildings which are clustered behind the industrial area on the hillside.

#### Design

The Historic District's design is most strongly expressed through the grouping of four buildings at the heart of the site's industrial core designed by Maurice Couchot in 1917-1918. The buildings represent an early use of reinforced concrete construction, which was technologically innovative during this period. Couchot demonstrated a sophisticated ability to blend the utilitarian qualities of reinforced concrete with aesthetically-oriented design, creating buildings that were purpose-built to house a variety of flour production and storage activities and were attractive as well as enormously durable. The spatial relationships between the buildings demonstrate Sperry Mill's site plan, which was informed by the need to move raw materials and finished products into and out of the Historic District, primarily via the rail lines and wharf, which date from the property's establishment as a flour mill in the nineteenth century. Postwar additions to the Historic District (a large feed warehouse and large bulk houses) were fit into the existing site plan, demonstrating the site's continuity of use as well as changes in its practical needs as new products and modes of transportation developed. Despite the loss of some resources (most notably the old Starr Mill and warehouse near the waterfront) the district retains the ability to convey its 1917 design as a flour mill as well as its subsequent evolution as the milling business changed over time.

#### Setting

The Historic District was established as a flour mill in a rural waterfront setting, adjacent to shipping lanes and with sufficient space for expansion. Mare Island Naval Shipyard was across the strait to the west, and the areas to the south and north along the shoreline were undeveloped. The neighborhood to the east was first developed for housing during the district's period of postwar use as a flour and grain mill. The visible setting of the site dominated by the waterfront with Mare Island across the strait, undeveloped areas to the north and south, and the hill behind

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Name of Property County and State the industrial core, has been virtually unaltered since 1917, therefore the Historic District retains integrity of setting.

# Materials

The Historic District retains a high degree of integrity of materials, with district contributors retaining most or all of their exterior historic materials. Industrial buildings retain their reinforced concrete, brick, asbestos, and fiberglass. There have been virtually no materials lost on large grain elevators or Feed Warehouse. Contributors with wood elements, the Wharf and Manager's Residence, have suffered some degradation of material through weathering, with wooden piers, shingles, and window sashes falling away over time. Some and doors in the industrial core have been replaced, most significantly on the Mill and Warehouse building where industrial sash has been removed and openings partially infilled. Despite these losses, the district strongly conveys its historic identity as a flour mill through its materials.

# Workmanship

The Historic District retains a high degree of integrity of workmanship across periods and styles of construction. The oldest industrial buildings are examples of early reinforced concrete construction with decorative features (cartouche, classical entryway) that demonstrate high levels of mastery. The Manager's Residence from the same era is an example of the First Bay Tradition, a style that relied on wood-frame construction as well as wood cladding and windows. The buildings constructed after 1947 demonstrate postwar workmanship in reinforced concrete, fiberglass, and asbestos. The periods of workmanship exhibited in these buildings express the span of the site's industrial heritage.

### Feeling

The Historic District strongly evokes the feeling of a historic flour mill. The oldest surviving resources (wharf and rail lines) alongside the World War I era and post-World War II buildings express the site's historic function and development over time. The Historic District's integrity of location, design, setting, materials, and workmanship combine to express the site's theme of flour milling.

### Association

The Historic District retains integrity of association as a flour mill. It operated nearly continuously as a flour and grain mill from 1869 until its closure in 2004. Contributing resources on the site are associated with its earliest development as well as subsequent important periods of change and expansion that marked its history through the late twentieth century.

### **Resource Descriptions**

All resources located within the boundaries of the Sperry Flour Company Historic District are described in the following narrative, which is organized according to contributing and non-contributing status and then by date.

# HISTORIC DISTRICT CONTRIBUTORS

District contributors were all constructed between 1869 and 1965, during the property's period of active use as a flour mill. Although most have been altered to some degree over the decades, as

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Name of Property County and S described below, each contributing resource retains sufficient integrity to convey historic significance.

# **Rail Lines (1869 – 1886)**

# Physical Description

Railroad tracks enter the site from the north along the west side of Derr Street. The tracks, which connected the flour mill to the U.S. rail network, branch in three directions within the site, running toward and around buildings and terminating on the wharf. Most sections of track have concrete or asphalt infill covering wood railroad ties.

# Historic Use

The site was chosen for development of a flour mill because of its strategic location adjacent to the waterfront and railroad, which was extended to the vicinity in 1869. The rail connection was a crucial way for the Starr and its successor Sperry Mill to ship raw materials into the site and transport its finished products to California and the large U.S. market. The importance of the rail line is graphically illustrated in historic photos of the site, all of which feature multiple rail cars through the 1970s. Sperry Flour Company installed additional spur lines in 1920 to handle increased volumes of flour shipment due to the increased volume of flour sold during World War I. The railroad remained crucial for shipping grain into the post-World War II period as evidenced by the careful siting of the 1947 Feed Warehouse (itself a road-transport oriented building with eleven truck bays) around the rail lines that curve through the site. *Integrity* 

Concrete and asphalt infill, loss of some sections of track, and the decline of the larger rail network have partially compromised integrity of design, workmanship, and materials. The heavily-used rolled steel rails themselves are likely to have been replaced in kind several times over a century of industrial used. But the lines remain in or very close to the branching alignment that was established by 1886, and current buildings were constructed to conform to that alignment. The importance of the rail lines to the function of the flour mill and the relationship between the tracks and other structures on the site is clearly visible, therefore the railroad tracks retain the ability to convey their historic significance and retain integrity.

# Wooden Wharf and Pilings (1869 - 1889)

### **Physical Description**

The wharf and pilings are located at the historic district's southwestern border along the Mare Island Strait. A section of wharf with horizontal boards atop treated wood pilings projects into the strait from the southern tip of the rectangular promontory that held the original mill buildings. It is roughly 100' long and 60' wide and features the remnants of railroad tracks that once ended on the wharf. There are wharf pilings along the entire length (roughly 350') of the promontory to the northwest of the wharf. A roughly 10' wide walkway topped with horizontal boards stretches from wharf along the western edge of the pilings. The walkway boards have fallen away completely in several areas.

### Historic Use

The southernmost section of the wharf dates from c1889 (the Starr Mill era). Most of the pilings were installed in 1919 when the wharf was expanded by the Sperry Flour Company, although some may date from the property's earliest use as a flour mill prior to the construction of the 1889 wharf. The wharf was used to transport bulk grain to the mill as well as flour and other

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finished products to market for most of the property's period of use as a mill. They are particularly significant because the wharf/pilings and rail lines are the only parts of the historic district that retains associations to the nineteenth century use of the property as a flour mill as well as to the Sperry and General Mills eras.

# Integrity

Despite their poor condition, the wharf and pilings retain sufficient integrity to qualify as contributors to the historic district. A significant amount of decking material has been lost, partially compromising integrity of design, workmanship, and materials. However, the simple structure retains its important location and setting between the water and industrial site. The importance of the wharf and pilings to the function of the flour mill and the relationship between the water-related features and other structures on the site is clearly visible, and therefore the wharf and pilings retain enough historic fabric to clearly convey their historic significance.

# Manager's Residence (before 1901/1917)

The Manager's House is located on the brow of a hill above the cluster of industrial buildings near the waterfront. The two-story wood-frame building is an example of a vernacular First Bay Tradition house. Its compound plan reflects multiple additions over its many decades of use as a residence for mill managers. Its steeply-pitched multi-gabled roof is asphalt shingle. It is clad in wood shingles. Fenestration includes tall two-over-one and shorter one-over-one wood sash. Glazing is missing from several window sashes. There are large vents at east and west gable ends. The south elevation features a second-story balcony and a tall brick exterior chimney on the south elevation.

# Historic Use

The house was built as the plant superintendent's residence during the early years of the property's use as a flour mill. (It is present on 1901 Sanborn Maps but a small gabled house is visible on the earliest photos of the site so it is likely to have been constructed during the late nineteenth century.) It continued its use as a residence for flour-mill managers and their families well into the second half of the twentieth century. The building exemplifies the once-common practice of housing employees and managers on or near industrial sites, which declined in the second half of the twentieth century as the ubiquity of the private car allowed managers to move away from noisy industrial sites.

# Integrity

Additions to the building brought it to its present footprint between 1901 and 1908. Shingle cladding was added about 1917. Minor alterations performed between 1917 and 1950 were a function of its ongoing use as a residence that supported the main purpose of the industrial flour production facility. Deterioration of the building since the mill closed in 2004 (such missing glazing and window sashes) has partially compromised integrity of design, materials, and workmanship. However, the building retains its location including its spatial relationship to the industrial site, is easily recognizable as a First Bay Tradition dwelling, and is able to convey its historic function as a dwelling for the flour mill's superintendents. Therefore the Manager's Residence retains integrity.

# Barn (c1901)

The Barn is located roughly 100' north of the Manager's Residence, and is farther from the waterfront and industrial core of the historic district than any of the other buildings on the site. It

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is a simple vernacular building, and is rectangular in plan and wood frame construction with corrugated metal cladding. Its primary roof is gabled, with a partially collapsed shed roof addition on its east elevation. The east elevation is partially clad in vertical wood boards. There are small nearly-square window openings at the gable ends and on all but the east elevation. Several have four-light wood sash that appear to be salvaged from double-hung windows, but have been installed as separate fixed windows. The size of the openings varies, and several lack glazing. There are two wooden doors on the south elevation.

# Historic Use

The building's proximity to the Manager's Residence indicates association with the domestic life of the plant's managers, and its form suggests that the original use may have been to house animals or equipment used in a kitchen garden on the site. No documentary evidence about the buildings origins or use has been uncovered, but it exemplifies the practice of housing employees on industrial sites and the typical domestic self-sufficiency of an era when vegetables and possibly other food for the family table would have been cultivated on site. *Significance and Integrity* 

Roof collapse, missing windows, and alterations including replacement of original wood siding with corrugated metal and apparent installation of salvaged windows have resulted in a partial loss of integrity of design, materials, and workmanship. However, the building retains its location including its spatial relationship to to the other domestic buildings and the industrial site, and is able to convey its historic function as a barn. Therefore the Barn retains integrity.

# Manager's Garage (c1901)

The small Manager's Garage is located between the Barn and the Manager's Residence. The wood-frame building is rectangular in plan with flat roof and shingle cladding. Two large openings for vehicle access lack doors. The building is nearly engulfed in vegetation, so visibility is limited.

# Historic use

The building's form and location suggest that it was used for storage of the Plant Manager's personal vehicle, but no documentary evidence has been uncovered to reveal its historic use. It originally exhibited an L-shaped plan but was altered to its present rectangular form around the middle of the twentieth century. However, this change occurred within the period of significance, allowing the building to contribute to the character of the cluster of domestic buildings that exemplify the practice of housing plant managers' families on an industrial site. *Significance and Integrity* 

# Missing doors have resulted in a partial loss of integrity of design, materials, and workmanship. However, the building retains its location including its spatial relationship to the other domestic buildings and the industrial site, and is able to convey its historic function as a residential garage. Therefore the Manager's Garage retains integrity.

# Flour Mill and Warehouse (1917)

### **Physical Description**

The Flour Mill and Warehouse building is located near the center of the historic district between the Grain Elevator and bulk houses. It is rectangular in plan with a flat roof on which large mechanical units have been installed. There is a simple decorative stepped parapet with plain frieze. The two-story warehouse section is 350' long and 100' wide, while the eight-story mill is

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150' long, 54' wide, and 120' high. Expressed structural columns of reinforced concrete divide the building into bays, which are infilled with brick-clad spandrals dividing large windows. The spaces between spandrals and columns were originally completely filled with multiple-light steel industrial sash in order to provide light to the interior, but most windows have been replaced with smaller glass block or metal sash windows, and openings partially infilled with brick or concrete masonry units. There are loading docks across most of the southwest elevation, and modern loading bays have been added near the southwest corner. There is a metal shed awning projecting from the second story near the center of the building. *Historic Use* 

# The building was designed by Maurice C. Couchot and constructed in 1917 for use as a flour mill and warehouse. An early example of a reinforced-concrete industrial building, it was considered a state-of-the-art facility at the time of its construction for its technologically innovative fireproof materials, labor-saving mechanical devices, and up-to-date attention to cleanliness. The eight-story mill section of the building was designed so that a different part of the operation would be performed on each floor. Storage and shipping were on the ground floor. The second floor was devoted to flour packing. Elevator boots and line shafting were on the third floor, with rolls on the fourth. The fifth floor was primarily devoted to spouting. There were twenty purifiers on the sixth floor, and the seventh floor had square sifters. The top floor had elevator heads and dust collectors, with a cleaning department separated from the other departments at the north end of the building. The building's design also included progressive employee amenities meant to contribute to worker well-being: private toilets in every department, wash rooms, and showers.<sup>2</sup> There was also a plan for a tennis court and garden on the roof, and photographs from the mid-1930s suggest that the garden was installed and maintained for at least two decades. Sperry Flour Company's Vallejo Mills closed in 2004. Integritv

Integrity of design, materials, and workmanship has been partially compromised by the alterations to the windows. The building retains its strategic waterside location, original expressed reinforced concrete columns, massive size and stepped height reflecting its industrial uses for flour production and storage, and decorative features including stepped parapet and brick cladding. The Flour Mill and Warehouse retains the ability to convey its original significance.

# Grain Elevator (1917-18)

The massive Grain Elevator structure is located immediately adjacent to the Flour Mill and Warehouse building to the northeast. Constructed of reinforced concrete, it is 350' long, 50' wide and 112' high, with 60 large cylindrical storage silos adjacent to one another. A flat-roofed "head house" (where the elevator machinery was located) is one story higher than the silos, and features metal industrial sash windows in which original operable awning sections have been replaced with horizontal sliders. A flat-roofed conveyor housing building is situated atop the elevators. Slightly narrower than the silos, it features a combination of replacement horizontal aluminum sliders and original multiple-light steel industrial sash. There are metal handrails around the edge of both head house and conveyor housing roofs. *Historic Use* 

<sup>&</sup>lt;sup>2</sup> The American Miller, "Forty-eight Years of Activity," Chicago, Illinois, 1 June 1917, 457.

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The Grain Elevator was begun by MacDonald Engineering and the addition designed by Maurice C. Couchot. Construction was completed in 1918.<sup>3</sup> Grain Elevators allowed for the efficient storage and gravity-powered distribution of bulk grain, which was somewhat innovative on the West Coast at the time of construction. The enormous size of this building was instrumental in the massive increase in productivity Sperry was able to achieve at the Vallejo plant after its completion.

# Integrity

Replacement of some windows at the top of the massive grain storage structure constitutes a minor alteration, and the building has had no other known alterations. The Grain Elevator retains integrity of location, design, setting, materials, workmanship, feeling and association and an excellent ability to convey its historic function.

# Administration and Laboratory Building (1918)

The Administration Building is located only about 40' to the northwest of the Grain Elevator Building. The roughly 60' x 40' two-story building is dwarfed by the massive industrial structure. The Administration Building is rectangular in plan, and constructed of reinforced concrete with brick cladding. Its flat roof features a decorative stepped parapet with coping. A decorative cartouche with the Sperry Flour Company's logo and motto executed in mosaic adorns the center of the parapet. Its terra cotta frame is topped with a relief nautical bollard. A highly ornamented projecting cornice featuring a projecting floral motif and subtle dentils wraps around three sides of the building. Flat concrete arches form five bays on the main façade, each with sets of metal replacement windows on upper and lower floor. The centered main entryway is elaborated with classical motifs: pediment, projecting cornice, and pilasters. The original door has been replaced with an aluminum frame fully glazed door and sidelight. A decorative scored-concrete water table wraps around three sides of the building. Side elevations have concrete flat arches and fenestration pattern identical to the main facade with three rather than five bays, and some windows infilled with brick. Main façade entryway and windows have modern awnings. The fenestration pattern is carried around to the rear elevation, which lacks the decorative features of front and sides including parapet, cornice, and flat-arch bays. Electrical conduits have been installed on the rear façade, and there is a small single-story projecting addition of concrete masonry units that houses mechanical equipment.

# Historic Use

The building was used as administrative offices and a laboratory by the local plant managers who worked for the Sperry Flour Company and then General Mills after it purchased the site in 1929. Business offices were located on the first floor, while the laboratory upstairs was where the company's chemists tested the protein content of flour and performed other measures of product quality as well as developing potential new products.

### Integrity

Replacement of original wood-sash casement windows has partially compromised integrity of design, materials, and workmanship. The building's important decorative features including parapet, cornice with cartouche, classical entryway, water table, and brick cladding have survived, as has its characteristic reinforced concrete construction. Its location and relationship to the other buildings on the site are intact, particularly the enormous Grain Elevator that looms

<sup>&</sup>lt;sup>3</sup> Harris Allen, ed., The Architect, Published by the Architect Press, July, 1918, 149.

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Name of Property above it. The quality of surviving materials and its level of ornamentation make the building easily recognizable as the on-site "emblem" of the Sperry Flour Company during its period of use, and it retains the ability to convey its original significance.

# **Company Garage (1918)**

The Company Garage is located about 100' northwest of the Administration Building. It is roughly 75' x 25' with flat roof and stepped parapet with higher sections at each end of the main façade. It is reinforced concrete with brick cladding. Its entablature with projecting cornice, architrave, and frieze is its primary decorative feature. The building is divided into five flat-arched garage bays. Four have metal roll-up doors, and the northernmost bay has been infilled with brick. There is a personnel entry fitted with a modern metal door at the north end of the main (west) facade, and a multi-light steel sash window at the south end. The south elevation features partially glazed metal door with original transom.

### Historic Use

The building was constructed for use as a repair shop for the cars and other machinery used on the site during its period of use as a flour mill.

# Integrity

The modern doors have partially compromised integrity of design, materials, and workmanship. The building's important features including parapet, decorative entablature, and brick cladding have survived, as has its characteristic reinforced concrete construction. It retains its location and relationship to the other buildings on the site, and its historic function is easily recognizable. The building retains the ability to convey its original significance.

### Feed Warehouse (1947)

The Feed Warehouse is located adjacent to the waterfront about 100' northwest of the 1917 Mill and Warehouse and 50' west of the Company Garage. It is 42,500 square feet and is constructed of reinforced concrete with a flat roof. Fixed fiberglass windows form a clerestory around the building. Its unique fan-shaped plan was designed to conform to the railroad tracks that served the site. Each of its three elevations is different: the north has eleven openings, ten of which have roll-up doors; the long west elevation facing the water is blank except for the clerestory, and the east elevation curves along the railroad spur and features openings with roll-up doors at either end. A covered conveyor belt connects the Feed Warehouse to the main Mill and Warehouse Building. Mechanical equipment is housed in a metal structure atop the roof. *Historic Use* 

The building was added to the site to provide additional warehouse space for the mill's animal feed products in the immediate post-World War II era. The southern end of the building housed a machine shop.

### Integrity

The covered conveyor and mechanical housing on the roof constitute minor alterations, and the building has no other known alterations. It retains integrity of location, design, setting, materials, workmanship, feeling and association and an excellent ability to convey its historic function.

### Old Bulk House (1957)

The Old Bulk House is located in front of the main Mill and Warehouse Building. It is approximately 60' tall with steel frame and asbestos cladding. It is square in plan, with a square-

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plan projecting volume at the south under its own gable roof. There is a personnel entry with metal door adjacent to the projection. A single-story shed roof supported by metal posts at the west elevation shelters another entryway. Along with the New Bulk House adjacent, it is visually prominent on the site due to its height and location near the waterfront.

Historic Use

The building was added to the site to provide additional warehouse space for the mill's animal products in the post-World War II era.

# Integrity

There have been no know alterations to the Old Bulk House. It retains integrity of location, design, setting, materials, workmanship, feeling and association and an excellent ability to convey its historic function.

# New Bulk House (1965)

Immediately adjacent to the Old Bulk House, the New Bulk House is roughly 80' tall and square in plan. It is constructed of reinforced concrete. A ladder leads up the north elevation to the roof, which is enclosed in a guard rail. It is visually prominent on the site due to its height (only the 1917 grain elevator is taller) and location near the waterfront.

# Historic Use

The building was added to the site to provide additional warehouse space for the mill's animal products in the post-World War II era. Additional grain storage was needed during this period because in order to use pneumatic conveyor systems.

### Integrity

There have been no know alterations to the New Bulk House. It retains integrity of location, design, setting, materials, workmanship, feeling and association and an excellent ability to convey its historic function.

# HISTORIC DISTRICT NONCONTRIBUTORS

### Forklift Repair (c1985)

The small single-story building is south of the Mill and Warehouse Building in a cluster of ancillary buildings. It is square in plan with a gabled roof, and is clad in corrugated metal. Windows are horizontal sliders. It was constructed after the Period of Significance and is therefore a noncontributor to the Historic District.

### Welding Shop (c1985)

The small single-story building is immediately adjacent to the Mill and Warehouse Building in a cluster of ancillary buildings. It has a gabled roof, metal cladding, double swinging metal doors, and lacks fenestration. It was constructed after the Period of Significance and is therefore a noncontributor to the Historic District.

### Pipe Storage (c1985)

The single-story building is immediately adjacent to the Mill and Warehouse Building in a cluster of ancillary buildings. It has a flat roof with moderate overhang and is constructed of concrete masonry units. The vehicle door bay at the west elevation is enclosed with plywood

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# **Bakery Bulk House (1992)**

The building is adjacent to the southwest corner of the Bakery Warehouse. The reinforced concrete building is 80' tall and rectangular in plan. Its flat roof is enclosed in a guard rail. Single-story volumes with metal roll-up doors project from the north and south elevations, and there are concrete masonry unit additions that connect the Bulk House to the adjacent warehouse. It was constructed after the Period of Significance and is therefore a noncontributor to the Historic District.

# 8. Statement of Significance

#### **Applicable National Register Criteria**

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
  - D. Property has yielded, or is likely to yield, information important in prehistory or history.

#### **Criteria Considerations**

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location

Х

Х

- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

United States Department of the Interior National Park Service / National Register of Historic Places Registration Form NPS Form 10-900 OMB No. 1024-0018

Sperry Flour Co. Vallejo Mills Historic District Name of Property Solano, California County and State

# Areas of Significance (Enter categories from instructions.) INDUSTRY COMMERCE ARCHITECTURE ENGINEERING

**Period of Significance** 

### **Significant Dates**

1929	
1947	
1957	
1965	

#### **Significant Person**

(Complete only if Criterion B is marked above.)

**Cultural Affiliation** 

#### Architect/Builder

Maurice C. Couchot, Civil Engineer W.S. Dinwiddie, Contractor

\_Unknown architects/builders\_\_\_\_

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**Statement of Significance Summary Paragraph** (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Sperry Flour Co. Vallejo Mills Historic District is an industrial district eligible for the National Register of Historic Places under Criteria A and C. The Historic District is significant under Criterion A at the state and local level for its association with the development of the flour milling industry in California and for the expansion of that industry into worldwide markets during and after World War I. The period of significance begins in 1917 with the construction of new mill, warehouse, and grain elevator buildings in response to the rise in demand for flour caused by U.S. entry into the war. The period of significance ends in 1965, when the construction of the last large bulk house on the site signaled the beginning of a gradual decline in flour production and export industry-wide that would lead to the plant's eventual closure. The Historic District is also eligible at the local level for its architecture for the period between 1917 and 1965. It possesses a significant concentration of structures connected by plan and use that form a physical record of industrial architecture trends from World War I through the post-World War II period. Its 1917 – 1918 buildings, designed by renowned structural engineer Maurice C. Couchot and built by Dinwiddie Construction, are represent an era of technological innovation when reinforced concrete industrial construction was being perfected. They are also excellent examples of Couchot's ability to blend utilitarian considerations such as fireproof construction with aesthetic distinction in his industrial buildings.

**Narrative Statement of Significance** (Provide at least **one** paragraph for each area of significance.)

### **Background:**

### City of Vallejo

The original inhabitants of the Vallejo area were the Coast Miwoks and Patwin tribes that lived there before the arrival of Europeans. In 1833, General Mariano Vallejo passed through the area on his way to set up a headquarters in Sonoma on behalf of the Mexican government. As military commander of Mexico's northern frontier, Vallejo received vast land grants from the Mexican government in the 1830s. Rancho Suscol, which included the land on which the town of Vallejo was built, was one of these large grants. After California became part of the United States in 1850, General Vallejo offered 156 acres adjacent to the Carquinez Strait as a site for the state capital, and the grateful legislature named the town Vallejo in the General's honor. John B. Frisbie, who was General Vallejo's son-in-law, commissioned a surveyor to lay out a town and built a house in Vallejo. The California State Legislature came to Vallejo in 1852, but soon abandoned the mostly-undeveloped town for Benicia and finally Sacramento. This emptied the

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Name of Property County and State nascent village of most of its population, but Vallejo received a more lasting government sponsor just two years later when the U.S. Navy established its first West Coast base and eventually a major shipyard on Mare Island. This was the start of a 142-year relationship between the navy and the town. Vallejo began to grow slowly after the arrival of the navy, with hotels, churches, a wharf, and a telegraph line opening in the late 1850s. Vallejo soon became a flourishing town and incorporated in 1867.<sup>4</sup>

With its strategic location on the Napa River and Carquinez Strait, Vallejo became a center of trade and shipping, especially after the railroad arrived in 1860. Its perfect position at the confluence of two major rivers and San Francisco Bay made it the ideal choice for the western terminus of the transcontinental railway. By the late nineteenth century, the town had a population of over 8,000, and was thriving economically with the support of U.S. Naval spending. As U.S. power began to reach overseas in the 1910s, the navy grew and so did Vallejo. Vallejo's Filipino community dates from this period, when the Philippines became an American territory and its citizens were allowed to move to the United States with few restrictions. Early twentieth-century Vallejo was something of a company town, where almost every family had someone employed on Mare Island in one way or another. World War II transformed Vallejo, as the town tripled in population in response to the increased shipbuilding and other military activity at Mare Island. As in other California towns, Vallejo's diversity increased during the war as people of all races relocated to answer the call to war work. Growth continued after the war as the Bay Area's network of highways and bridges made Vallejo an attractive home for commuters. Industrial activity declined during the postwar period, and the Mare Island base closed in 1996.<sup>5</sup>

# The Flour Milling Industry in California

Flour milling was one of the first large scale industries to succeed in California. Once gold was discovered, the influx of people quickly strained California's agricultural production and exposed its inability to provide enough food, particularly bread stuffs, to the miners and other settlers. Originally flour milling was done at small local mills with grinding stones, and had to be transported by animal pack trains. But by the mid-nineteenth century, California began to transition from cattle ranching (hides and tallow) to a wheat empire. When disgruntled miners left the gold fields, they found an ideal environment for raising wheat: great expanses of fertile soil and flat terrain combined with a climate of rainy winters and hot, dry summers. By the mid-1850s, the state's wheat output exceeded local consumption, and California's grain operations began to evolve into a mechanized form of agriculture quite different from traditional family

<sup>&</sup>lt;sup>4</sup> Clarke, S.J. Publishing Co., History of Napa and Solano Counties, California: From the Earliest Settlement to the Present Time. Chicago, The S.J. Clarke Publishing Co., 1926, p. 81 – 82; Hunt, Marguerite. History of Solano County, California. Chicago, The S. J. Clarke Publishing Co., 1926; Gregory, Thomas Jefferson. History of Solano and Napa Counties, California, with Biographical Sketches of the Leading Men and Women of the Counties Who Have Been Identified with Its Growth and Development from the Early Days to the Present Time. Napa County, California, Historic Record Company, 1912, p. 90.

<sup>&</sup>lt;sup>5</sup> Kern, James E. and Vallejo Naval and Historical Museum, Vallejo, Arcadia Publishing, Charleston, SC, 2005, p. 3 – 5; Orpila, Mel. Filipinos in Vallejo. Arcadia Publishing, Charleston, SC, 2005, p. 9; Palmer, Lyman L. History of Napa and Lake Counties, California. Slocum, Bowen, & Company, San Francisco: 1881, p. 86 – 87. U.S. Census Records. Vallejo, California, 1870-1940.; Polk City Directories. Vallejo California, 1871-1904.

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Name of Property County and State farms. California grain operations were quite large by contemporary standards and extensively employed labor-saving, scale-intensive technologies such as gang plows, large headers, and combined harvesters.<sup>6</sup>

Improved transportation diminished the necessity for locating flour and grain milling operations in close proximity to wheat fields. Specifically, the 1860s saw the construction and completion of the transcontinental railroad and interior rail connections. Wheat growing areas were near major rivers, and combined storage and milling operations grew up near water and rail transportation termini. Grain was loaded on barges and scows or rail cars in the interior, shipped to ports for milling, and sent around the world on clipper ships. By the 1880s, California's foreign export trade included Europe, Asia, Mexico, Central America, and the Pacific Islands, setting a pattern of integration into world markets that characterized California agriculture from that period through to the twenty-first century.<sup>7</sup>

# Establishment of Commercial Grain Enterprises in Vallejo

By the 1870s Vallejo had become a major industrial center because of its deep water channels, proximity to the San Francisco Bay and the Sacramento-San Joaquin Delta, and the recent completion of the California Pacific Railroad terminus. The Navy on Mare Island supported the shipbuilding and lumber industries, while regional agriculture drove the related grain storage, milling, and brewing industries. As early as 1867, Chicago grain elevator capitalist G.C. Pierson tried to introduce the grain elevator system of bulk storage to California. He decided to locate his first elevator in Vallejo at the new tidewater railroad terminus of the California Pacific Railway. The Vallejo Elevator Company erected a massive structure in 1969, the same year Starr Mills was established. Vallejo quickly became the leading wheat export port in the United States. However, after three years of operation the elevator subsided and collapsed into the mud of the Napa River shoreline in September of 1872.<sup>8</sup>

# Starr Mills and the Establishment of Vallejo Mills

Although initially overshadowed by the Vallejo Elevator Company, Abraham Dubois Starr arranged with the railroad to acquire land in Vallejo in 1869, and built a flour milling operation on the isthmus directly across from MINSY with direct railroad access and marine offloading from grain scows. The property that became Sperry Flour Company Vallejo Mills would remain a flour mill for 135 years, closing only for one fourteen-month period between 1924 and 1925 before its ultimate closure in 2004. It was purchased and further developed first by Sperry Flour Company and finally General Mills. Flour was sacked by the mechanized grain combine in the field and delivered by river scow or rail to the mill. It opened with a production capacity of 200 barrels per day. (Constructed on fill adjacent to a wharf, the original mill and warehouse buildings would remain in use through ownership changes until the old buildings finally burned in 1957.) The mill and warehouse were enlarged as the business developed. Starr and his brother, who joined the

<sup>&</sup>lt;sup>6</sup> Alan L. Olmstead and Paul W. Rhode, "California Agriculture Dimensions and Issues, The Evolution of California Agriculture, 1850-2000", University of California, 2003.

<sup>&</sup>lt;sup>7</sup> Ibid.

<sup>&</sup>lt;sup>8</sup> Ernest Wichels and Matthew Fountain, "Sperry Flour Mill", Solano Historian, Pub. Solano Historical Society May 1982, P 20-24.

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business in 1870, acquired a second mill in Marysville (north of Sacramento) during the 1870s. By the mid-1880s Starr Mills had become the largest commercial flour milling operation on the Pacific Coast.<sup>9</sup>

In 1884, Starr embarked upon an ambitious scheme to expand his empire by building a "very large" mill in Crockett, a town located six miles to the south of Vallejo on the Contra Costa County shoreline. A financial panic swept the country in 1893 and hit Starr's empire particularly hard. In 1893, Wheatport (Crockett) shut down and Starr declared bankruptcy. The Starr Corporation owned the Vallejo Mills until 1895, and continued to produce more than two thousand barrels of flour a day.<sup>10</sup>

# Port Costa Milling Company

George Washington McNear originally devoted his business to shipping grain from a Port Costa warehouse, one of the many grain warehouses along the Carquinez Strait. During the 1893 downturn, he appropriated as much surplus grain as possible to save his business, and entered the milling industry and in 1895. He purchased both Wheatport and the Starr Mills in South Vallejo, renaming them Port Costa Milling Company. McNear's son, Seward took over management and implemented a few important changes. He introduced a chemist to develop a method to reduce milling emissions. This led to the establishment of a chemical laboratory in 1908, the main function of which was to determine which blend of grains produced the best flour.<sup>11</sup>

# **Criterion A: Development of Sperry Flour Company Vallejo Mills**

### The Sperry Flour Company

Founded as a small barley-producing mill in Stockton in 1852 by Austin Sperry, the Sperry Flour Company grew to become the state's most important flour and feed producer. Through a series of partnerships and purchases, Sperry developed a flour and grain combine that incorporated as the Sperry Flour Company in 1894, a milling empire which "embrace[d] practically all the flour and grain milling interests of California."<sup>12</sup>

Sperry's competitive practices quickly carried the company beyond California. The Pacific Northwest posed the first threat to the California giant when mills in Oregon and Washington began significant exports to East Asia. In response, company president Horace Davis began to invest in warehouse and milling facilities in Tacoma, Washington. By 1906, Sperry Company

<sup>&</sup>lt;sup>9</sup> Paul N. Woolf, "A Historical Appraisal of the Flour Milling Industry in California," (Ph.D. diss., University of California, Berkeley, 1939), chapter 3, p. 10; Walter A. Starr, "Abraham DuBois Starr: Pioneer California Miller and Wheat Exporter," California Historical Society Quarterly, 27 (September 1948), 193-197. (Original footnote, Carey and Company, 2008); "Solano Yesterdays." Vallejo Times Herald (Vallejo), June 23, 1974, Sunday Times herald. <sup>10</sup> Ibid.

<sup>&</sup>lt;sup>11</sup> Woolf, "Flour Milling Industry," chapter 8; Marguerite Hunt and Harry Lawrence Gunn, History of Solano County and Napa County: From their Earliest Settlement to the Present Time (Chicago, 1926), 101-106. (Original footnote, Carey and Company, 2008)

<sup>&</sup>lt;sup>12</sup> Woolf, "Flour Milling Industry"; "A Territory Larger than Two States," Sperry Family, 2 (Nov. 1918), 1-2; Gray, Business without Boundaries, 108-109; "A Flour Combine," Los Angeles Times, august 9, 1892, p. 1; "Closed Down," ibid., February 22, 1895, p. 2. (Original footnote, Carey and Company, 2008)

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Name of Property County and State bought the Tacoma facilities outright, a merger that warranted national headlines. Davis also saw potential in Los Angeles becaue of rapid population growth, and Sperry built a mill there in 1904. Davis acquired the Starr Mills Company in 1910, a purchase that included the Vallejo Mills.

Soon after acquiring the Vallejo plant, Sperry Company began modernizing the facilities. The 1880s Starr Mills storage warehouse was inefficient because sacked grain had to be unloaded manually. Grain elevators were in use on the East Coast and around the Great Lakes, but none had been successfully constructed in California.<sup>13</sup> After the failure of the Vallejo Elevator in 1872, grain elevators were not used locally until Sperry Flour introduced a wharf-side elevator between 1910 and 1916. The company constructed the four-story, 83' x 173' structure on an asphalt-covered timber deck just to the south of the original Starr Mills facility. Milled Flour continued to be sacked and stored in the adjacent Starr Mills warehouse. Thus, Sperry Flour Mill entered modern milling in a monumental way.

The outbreak of WW1 in 1914 and the opening of the Panama Canal the same year placed new demands on American flour producers while also opening new access to world markets, especially for plants like Sperry's Vallejo Mills, which was located on the West Coast. As demonstrated in a 1913 advertisement, Sperry Flour Company's main exports were to east Asia, especially China, the Philippines, and Japan. Exports to Europe were secondary and had to pass through the Suez Canal by way of Egypt. This was a long and costly voyage which limited the quantity of flour that could reach Europe. The opening of the Panama Canal allowed U.S. exporters to move goods quickly from West Coast production facilities to the warring powers in Europe. This was one of the central reasons for the canal project, and Sperry Flour Company, as the largest flour producer on the West Coast, was integral in the creation of a new global food system facilitated by the canal. Sperry flour became such an iconic aspect of the war that Belgian women embroidered empty Sperry mills sacks and returned them to the factory as a token of appreciation. In addition to its "Drifted Snow" flour, the company produced other grain products such as rolled oats and poultry feed.<sup>14</sup>

On the morning of August 29, 1916, defective wiring in the warehouse ignited a major fire at Sperry Vallejo. Before fire boats from Mare Island could douse the flames, the large warehouse, thirteen Southern Pacific Railroad box cars, five automobiles, and thousands of tons of wheat were destroyed. Although the mill building survived, damage was estimated at \$500,000. In order to ration the manufacture of steel and other heavy construction material in preparing for

<sup>&</sup>lt;sup>13</sup> A grain elevator facility stores grains in bulk and processes them vertically relying on gravity, thereby saving labor and time. The grain elevator concept, essentially a canvas or leather belt with buckets, was invented by a merchant, Joseph Dart, and applied by an engineer, Robert Dunbar, in the 1840's in Buffalo, NY. They also invented the "marine leg" which scooped loose grain from the hulls of ships, elevated it, and distributed it to bins by means of a horizontal consignor. Early grain elevators were constructed from framed or cribbed wood which made them prone to fires.

<sup>&</sup>lt;sup>14</sup> Woolf, "Flour Milling Industry"; "A Territory Larger than Two States," Sperry Family, 2 (Nov. 1918), 1-2; Gray, Business without Boundaries, 108-109; "A Flour Combine," Los Angeles Times, august 9, 1892, p. 1; Panama Canal Authority. "A History of the Panama Canal." Pancanal.com. Accessed May 04, 2017; Vallejo Marine Terminal. "History of the Vallejo Marine Terminal." Accessed May 04, 2017; Sperry Flour Company. "Sperry Flour Products in Every Home." Advertisement. 1913.

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Name of Property possible war, the federal government had sharply curtailed any construction that did not contribute to the war effort. The unusual authorization to rebuild and expand at the Vallejo Mills illustrates the plant's essential role in supplying flour to the Entente Powers.<sup>15</sup>

The United States' entry into the war in 1917 created an even greater demand for flour to be shipped to Europe, and pushed production far above the amount needed domestically. The U.S. Government became the largest purchaser of flour, encouraging mills to produce huge amounts of flour and leading to Sperry Flour Company's greatest period of expansion and dominance on the West Coast. Determined to increase the size of their operation to respond to the market, and also eager to overcome the fire hazard presented by the earlier redwood timber construction, Sperry Flour Company's owners engaged civil engineer Maurice C. Couchot (1871-1933), who had some recent experience with innovative industrial design. Couchot laid out a site plan for a complex of buildings which included an eight-story flour mill and warehouse connected to a monumental elevator with sixty grain storage silos straddling a rail line. He oversaw their construction in the record time of one year. The new grain silos and warehouse/mill (known as A & B Mill) were connected to the old wharf-side mill (which remained in use but became known as C Mill) by a conveyor bridge at the third floor level. The mill and silos were constructed by the then young contracting firm of W. H. Dinwiddie (now Hathaway Dinwiddie one of the most successful construction firms in the country). The following year the same engineer and contractor completed a two-story administration/laboratory building and a garage for maintenance and repair of company vehicles. As a result of the expansion at Vallejo Mills and its other sites, Sperry Flour Company remained the industry powerhouse on the Pacific Coast and one of the three most powerful milling companies in the nation. Plant Superintendent Jesse E. Godley pulled the spout and released wheat into the new grinders on November 22, 1917. The new mill produced 1,800 barrels of flour and grain on its first day. Functioning at full capacity, it was able to produced 3,500 barrels per day. Sperry Flour Company leaders referred to the new Vallejo facilities as "our crowning achievement," "the king of all Sperry mills," and "one of the best illustrations to show the rapid progress made by our Company during the past six years."<sup>16</sup>

By 1918, with the U.S. fully engaged in World War I hostilities, Sperry Flour Company had claimed international importance. Couchot's mill building was the largest in California and industry publications touted it as "one of the most up-to-date mills of its kind in the country, and probably in the world." Less than a year after the new plant opened, its output was up to 5,000 barrels of flour a day. The plant ran around the clock to produce food for the war effort, and employed 300 workers. Boom conditions at Sperry Vallejo lasted through 1920, when the U.S. government was still making large orders. For example, in the summer of 1920 there were orders

<sup>&</sup>lt;sup>15</sup> Jim Ritch, "Sperry Fire Loss Set at \$300,000," Vallejo Times-Herald, August 31, 1934, p. 1,2; "Fire Won't Delay Sperry Supply," Madera Evening Chronicle, 1 September 1916; "\$500,0000 Fire," Los Angeles Times, 20 August 1916.

<sup>&</sup>lt;sup>16</sup> "The Architect in Industrial Building," Architect and Engineer, 54 (Sept. 1918), 101-109; Henry Jonas Magaziner, "Working for a Genius: My Time with Albert Kahn," APT Bulletin, vol. 32 no. 2/3 (2001), 59-64; Alan Conant to Editor, ibid., vol. 18, no. 3 (1986), 3; Betsy Hunter Bradley, "Industrial Modernism: Architecture and Ideology," Journal of the Society of Architectural Historians, 54 (December 1995), 508-510. Woolf, "Flour Milling Industry," chapter 8. (Original footnote, Carey and Company, 2008).

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The robust growth that characterized the 1910s and especially 1917-1920 was not sustainable. New routes and technologies developed during the war allowed for quicker, cheaper transport of grain, reducing prices and bringing new producers into the market. Increased production, stimulated by the U.S. government during the war, led to a grain glut which farmers exacerbated through overproduction. Sperry's Vallejo Mills plant was at the center of these developments, as its state-of-the-art export facilities had contributed significantly to the over-production of flour in the U.S. and globally. By 1921, the end of the war and overproduction were having disastrous effects on Sperry's finances. Roy Bishop moved into corporate management from Crocker Bank to get Sperry Flour Company back on track. The company secured a massive mortgage to acquire working capital, and anticipated a shutdown of the Vallejo Mills plant the following year. Bishop devoted himself to recovering domestic and export markets (particularly reviving the trade with Asia which had been so important before the war), and avoided shutting down in 1922. The company pursued innovative marketing strategies, added animal feed products, and absorbed competing mills. These efforts were not enough to stave off the closure of the Vallejo Mills for over a year in 1924-25, but by the end of the decade Sperry Flour Company was back on sound financial footing.<sup>18</sup>

#### General Mills

In 1929 James F. Bell and Harry Bullis, owners of the newly formed General Mills Corporation in Minneapolis, were buying mills all over the U.S. in order to enact their plan of market consolidation. Sperry Flour Company was by this time attractive due to its revived financial strength (capital stock worth \$9,000,000) General Mills acquired the Sperry Flour Company and virtually all the other important flour and graining corporations in the country, using the weakness of milling operations to consolidate the nation's mills into one giant conglomerate. General Mills, functioning as a holding company in this period, allowed Sperry mills to function with relative autonomy, retaining the well-established brand.<sup>19</sup>

The lingering weakness of the milling industry combined with the economic hardships of the Great Depression led to tensions within the Vallejo plant. On April 3, 1934 Plant Superintendent Charles Bailey approved a 20% increase in wages for workers at the Vallejo Sperry plant. At the same time, production and grain prices had been steadily falling. The pay hike was likely the result of tensions between the plant and its workers, as was seen in other industries during this period. These conflicts place Sperry Flour Company in the midst of the changes in worker/employer relations occurring all over the nation during the 1930s. In 1937, 300

<sup>&</sup>lt;sup>17</sup> The Southwestern Journal of Grain-Flour, "Sperry Flour Earns Position of International Importance," 11 April 1918, 30; "5000 Barrels a Day," Healdsburg Enterprise, 17 August 1918; "Vallejo Mills," Sacramento Union, 27 June 1920.

<sup>&</sup>lt;sup>18</sup> James Gray, *Business without Boundaries*, Minneapolis: University of Minnesota Press, 1954, 113-116; "Sperry Mortgages His Mills to Get Working Capital," Red Bluff Daily News, 20 December 1921; Sacramento Union, 5 August 1920;

<sup>&</sup>lt;sup>19</sup> Gray, Business without Boundaries, 148

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Name of Property County and State employees (most if not all of the Vallejo plant's labor force) joined the AFL flour and cereal workers' union. However, the first strike at the mill was not until the 1950s.<sup>20</sup>

In 1934, not long after the wage hike, there was another major fire at Sperry Vallejo, which destroyed the grain elevator (or bulk house) that had been constructed in the early 1910s when Sperry first acquired the property. 300 sailors and firemen from Mare Island battled the conflagration for three hours, but the grain elevator toppled into the bay before they were able to control the blaze. It also destroyed 60 tons of flour and grain and the marine leg (grain hoist). Perhaps due to their fireproof construction, the 1917-1918 buildings designed by Maurice Couchot were not affected. The damage was estimated at \$280,000. Despite the economic depression, the buildings adjacent to the wharf were repaired.<sup>21</sup>

Production and export of flour to the rest of the world began to increase in the late 1930s as war loomed in Europe once again. The passage of the lend-lease act in 1940 opened the floodgates, doubling exports in just a few years as U.S. producers began to meet the massive demand for food stuffs in war-torn Europe. By the time the U.S. entered the war, farm incomes had recovered to their pre-1929 levels. General Mills continued its food-production activities, considered a patriotic duty during the war, and also diversified away from grain and flour. Its mechanical division, once responsible for keeping mill machinery running, began designing torpedoes and other war materiel.<sup>22</sup>

Henry Bullis, who became General Mills President in 1942, was planning for the postwar period before World War II ended. Part of this plan was acquisition. By 1946, General Mills owned the Sperry Flour Company outright, and the U.S. government again controlled the vast majority of the export market. Government and business had learned lessons from the 1918 slump and were determined not to repeat it. The Marshall Plan had the dual purpose of rebuilding Europe and absorbing massive U.S. agricultural surpluses. General Mills' postwar economic plan sought to increase production by developing a greater variety of inexpensive products and more modern, efficient plants. The early postwar period brought the construction of two new additions to the site in order to keep up with production: the enormous feed warehouse near the waterfront and a bag factory at the south end of the site (later demolished) were both constructed in 1947. The fan shaped, 42,500 square-foot reinforced-concrete feed warehouse was built on the site of Sperry's recreational facilities. Its unique plan was a response to the need to fit such a large building into a site that had been developed for nearly a century. Its long, curved east elevation conformed to the alignment of the old rail line spurs, while the multiple vehicle doors at the north

<sup>&</sup>lt;sup>20</sup> Fearon, Peter. "Great Depression of the 1930s." In History of World Trade Since 1450, edited by John J. McCusker, 332-336. Vol. 1. Detroit: Macmillan Reference USA, 2006; Gray, Business without Boundary, 129-154, esp. 147-151 (Original footnote, Carey and Company, 2008); History of agricultural price-support and adjustment programs, 1933-84: background for 1985 farm legislation. Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service, 1984, 1-3; "Sperry Flour Mill Workers Join Union," San Bernadino Sun, 22 January 1937; "Solano Yesterdays." Vallejo Times Herald (Vallejo), April 3, 1974, Evening News.; Ibid, April 2.

<sup>&</sup>lt;sup>21</sup> Madera Tribune, 31 August 1934; "Fire Destroys Marine Grain Elevator," Healdsburg Enterprise, 6 September 1934.

<sup>&</sup>lt;sup>22</sup> "Exports and Imports." Farming in the 1940s, Living History Farm. Accessed May 05, 2017; History of General Mills, 1941 – 1946, General Mills 2017, https://history.generalmills.com/the-story.html, Accessed 15 May 2017.

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Name of Property County and State acknowledged the new dependence on trucks for transportation in the postwar period. Another notable element of the unique industrial building's design is its continuous fiberglass clerestory window along the entire long curve of the east elevation, which flooded the building with natural light. The building was connected to the 1917 Warehouse/Mill with an overhead conveyor bridge just below the old conveyor bridge. General Mills also painted its own logo on the silos, finally doing away with the venerable Sperry Flour Company brand.<sup>23</sup>

After 1950, the scale of building never again matched the large-scale construction programs of the periods around the world wars. New bulk houses were required for grain storage over the decades, in part because of the change to pneumatic conveyance systems. In 1957, the old Starr Mill near the wharf burned down, and General Mills did not rebuild it. A bulk house constructed that year featured fire-resistant corrugated asbestos cladding. A second new bulk house was constructed next to the 1957 Bulk House in 1965. Construction of this storage facility coincided with the start of a long period of decline leading to the eventual closure of the facility. By the mid-1960s, operations had contracted in scale and scope. Vallejo Mills was producing only flour, having abandoned its ambitious animal feed programs. It had 150 employees, less than half of those employed during its World War I heyday. Three ancillary storage and shop buildings were constructed in the mid-1980s, along with a mill run canopy (silos at the south end of the site demolished c2015) for more storage. In 1992 a bulk house was added adjacent to the 1947 feed warehouse, the last addition to the site. General Mills gradually reduced production at the Vallejo facility culminating in the closure of Vallejo Mills in 2004.<sup>24</sup>

# Historical Significance of the Manager's Residence and Associated Buildings

Construction of the Manager's Residence during the late nineteenth century, its expansion during the first decade of the twentieth century, its 1917 remodel into a First Bay Tradition-style house, and its ongoing use as a dwelling for the plant superintendent demonstrate important aspects of Vallejo Mills' history and the manager's role at the site. The Manager's Garage and Barn in the same area further illustrate how the superintendents' families lived on the site. Set apart from the industrial buildings on the wooded hilltop, the naturalistic siting of the domestic and ability of its natural wood shingles to blend with the surrounding landscape are important aspects of the First Bay Tradition. A domestic style of architecture developed in the 1880s, its most significant examples are found in semi-rural areas near San Francisco. Developed by Joseph Wurster in the Oakland Hills in the 1880s, Bernard Maybeck and Julia Morgan are among its most significant practitioners. Although this relatively simple example lacks the architectural distinction of landmark examples, Sperry Flour Company's investment in remodeling the residence for Jesse Godley's family shows its commitment to providing up-to-date housing as an amenity for the plant's manager, the desirability of living on an industrial site in an age before easy car travel, and the necessity for the superintendent's round-the-clock presence in an industry constantly threatened by fire. The fact that managers continued to live on site through the end of the period of significance shows the ongoing value to the company of having the person in charge

 <sup>&</sup>lt;sup>23</sup> History of agricultural price-support and adjustment programs, 1933-84: background for 1985 farm legislation.
 Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service, 1984, 23-31.

<sup>&</sup>lt;sup>24</sup> Vallejo City Directories, 1960 – 1965; Ernest D. Wichels, "The Sperry Pioneers," 10 November 1963; Summary of late 20<sup>th</sup> century activities, Carey and Company, 2008, p 17-18.

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Name of Property County and State constantly present, and the fact that although lifestyles and living conditions had changed significantly by the 1960s the free house was sufficient incentive to induce managers' families to keep living at the plant.

Jesse (Jessie) E. Godley was plant superintendent from at least 1914-1925, and probably the most important local manager in the history of the Vallejo Mills' site. He was local during the site's most critical period of development: the important period of plant expansion during the 1910s and the era of crisis that followed. Godley managed the mill, living on the site in the Manager's Residence (its address was on Bay Street, which was changed to Derr Street in the late 1950s) with his family. Born in California about 1870, Godley married a woman named Mary in 1900, and the couple had three children over the next decade, so they were a family of five when they lived at Vallejo Mills. Godley worked in the flour milling business for decades, and by 1910 was a flour company manager in Sausalito before moving to Sperry Vallejo. It was under Godley's management that the four reinforced concrete industrial buildings designed by Maurice C. Couchot were constructed. Godley would also have overseen the remodel of the Manager's Residence, where he lived for over a decade, to its current natural-shingled form. Mary Godley died in 1926, and Jesse left the flour milling business and moved to Napa about that time.<sup>25</sup>

Charles R. Bailey assumed the leadership role at Sperry Vallejo about 1930. Like Godley, Bailey was a career flour man, and had worked as a mill foreman in Washington State before moving to Vallejo. He lived in the Manager's Residence with his wife Jessie during the early 1930s. Already in his fifties when he assumed leadership, the couple's daughter was an adult by the time the pair moved into the house.<sup>26</sup>

By 1939, Peter Christensen was Plant Superintendent. Christensen was born in Wyoming about 1888, and lived in the Manager's Residence with his wife Helen. During the Great Depression it was common for families to make ends meet by taking in lodgers. A married couple, a flour packer and flour blender at the plant, rented a room from the Christensens. Christensen managed the plant until at least 1948. Russell H. Dean was superintendent during the early 1960s, and lived in the Manager's Residence until at least 1965.<sup>27</sup>

### **Criterion A Conclusion**

Sperry Flour Company Vallejo Mills is significant for its important role in the development of California's flour milling industry, and for the rapid expansion of that industry spurred by World War I. Sperry Flour Company was one of the three largest U.S. flour companies, and Vallejo Mills was its largest plant. It was one of the largest and most technologically advanced flour mills in the nation in the late 1910s. Vallejo Mills was one of the facilities that allowed the U.S. to increase production sufficiently to feed its own army and domestic population as well as its

<sup>&</sup>lt;sup>25</sup> U.S. Census Records, Sausalito, 1910, Vallejo, 1920; Vallejo City Directory, 1915; Oakland Tribune, 14 June 1925,
27.

<sup>&</sup>lt;sup>26</sup> U.S. Census Records, Parkland, Washington, 1920, Vallejo, 1930; Vallejo City Directory, 1933.

<sup>&</sup>lt;sup>27</sup> U.S. Census Records, Vallejo, 1940, Vallejo City Directory, 1939 – 1948.

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allies during that conflict.<sup>28</sup> Vallejo Mills was an important local employer and one of the plants that helped transform the town into an industrial powerhouse. During the 45 years following the creation of the worldwide food system during World War I that system evolved and changed in response to changing realities, and Vallejo Mills exemplified many of the broad trends that governed the flour milling business: industry contraction in the early 1920s, consolidation at the end of the decade with the rise of General Mills, a second period of intensive production during World War II, the industry's creation of new products for the postwar era when the U.S. gained even more market dominance in processed grain foods, and the eventual contraction and decline of U.S. flour milling. The buildings added to the site over the decades demonstrate the Historic District's flexibility and evolution in responding to the changing demands of the world food economy and changing manufacturing and transportation technology. This diversity allows the site to convey its significant contribution to U.S. flour milling for the entire period of significance.

# **Criterion C: Industrial Architecture and Design**

# Maurice C. Couchot

Maurice C. Couchot was born in France about 1871 and came to the U.S. as a teenager about 1888. Research (including contacting Couchot's descendants) has revealed no details about his formal education, so he may have attended engineering school in Europe. He lived at first in San Francisco, and married a French-Canadian woman named Bertha Bouthillier in 1898. The couple lived in Alameda, and had four children between 1901 and 1912. They were socially prominent in Alameda, and Bertha's hostessing efforts were covered in local newspapers. Couchot would become well-known as a structural engineer later on in his career, but he appears to have worked in a variety of engineering jobs until he was about 35. Between 1898 and 1906, he listed his occupation variously as engineer, mining engineer, and mechanical engineer, only calling himself a structural or civil engineer later.<sup>29</sup>

About 1905, Couchot began partnering with architects in building design and gaining recognition as a structural engineer. Over a career that spanned two-and-a-half decades, he designed or acted as a consulting engineer on many large and high-profile institutional, industrial and commercial buildings. His first known work was the Marysville Free Library, designed with William Curlett and constructed in 1905-06 (Couchot's descendants name several other early works that may have preceded it but have not been confirmed). Curlett and Couchot used reinforced concrete for the Beaux-Arts library building's construction. Concrete reinforcement was invented in the midnineteenth century, and the first reinforced concrete buildings in Northern California were not constructed until the mid-1880s. Use of steel to add tensile strength to brittle concrete was still quite rare at the turn of the twentieth century. By 1904, Couchot was already contributing articles to engineering publications and giving public talks urging its use. About 1905, he became an agent for Joseph Kahn's "Kahn System," a method of reinforcing with steel that Kahn (whose

<sup>&</sup>lt;sup>28</sup> The importance of flour to the war effort is perhaps difficult to understand for those used to the more varied modern diet, but contemporary sources indicate that bread was still often the main source of calories during this period and it was common for a person to eat a pound a day.

<sup>&</sup>lt;sup>29</sup> U.S. Census Records, Alameda, CA, 1900, 1920; Alameda County Marriage Records, 21 April 1898; City Directories, Alameda, California, 1900 – 1906;

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Name of Property County and State brother was renowned industrial architect Albert Kahn) patented in 1902. Couchot designed the Marysville library using the Kahn Bars for reinforcement.<sup>30</sup>

Couchot's advocacy for what was at the time a relatively new type of construction was undoubtedly strengthened by his experience in the Great San Francisco Earthquake and Fire in 1906. Couchot inspected and photographed San Francisco on April 18, 1906 and the days following, carefully recording which buildings performed well and which failed. In May, Architect and Engineer devoted its entire issue to the effects of the earthquake. An article Couchot authored concluded that "Class A" steel frame structures performed better than any others in the quake, and pointed out that the few reinforced concrete buildings in San Francisco "all stood the earthquake and the few that went through the fire came out hardly injured." Couchot continued to strongly advocate that engineers and architects use structural steel to reinforce concrete construction. The earthquake's destruction of San Francisco's built environment created unprecedented opportunity for architects and engineers at the region undertook rebuilding, and as an engineer who had already been advocating for an earthquakeresistant construction method Couchot was poised to take advantage of that opportunity. He soon began to gain local and even regional prominence. By the middle of 1906, he had a commission for the ten-story reinforced-concrete Fife Building (since demolished) in San Francisco. When he entered a partnership with E.T. Thurston, Jr. in 1907, Engineering News described Couchot as a structural engineering expert and a "pioneer in reinforced concrete," crediting him with one of San Francisco's first reinforced concrete buildings.<sup>31</sup>

As Couchot's professional celebrity increased, he began to receive commissions for important commercial and public buildings, often as a member of a team in a dynamic a series of partnerships with architects and fellow engineers. Beginning in 1906 he was a member of several firms: first Couchot and O'Shaughnessy, then Couchot and Thurston, MacDonald and Couchot in the early 1910s, Couchot and Markwart beginning in 1918, and then Couchot, Rosenwald and Roeth and briefly Couchot and Rosenwald. His single-project collaborations (as well as the above formal partnerships) resulted in a distinguished series of buildings: the Bank of Italy's (1908) replacement for the pre-earthquake company headquarters and a National Historic Landmark, Oakland Municipal Auditorium (1913-15), and the Palace of Fine Arts (with Bernard Maybeck) and French Building (1915) at the Panama Pacific Exposition. Couchot partnered with different architectural design teams on each of these projects, but they share several characteristics. These large buildings are in prominent locations and designed to be impressive enough to act as emblems of the entities that commissioned them. Architectural influences ranged from Beaux-Arts classicism to Maybeck's Roman-inspired fantasy, but the buildings

<sup>&</sup>lt;sup>30</sup> M.C. Couchot, C.E., "Reinforced Concrete Construction in the Marysville Library, Architect and Engineer, February 1906; John R. Dunlap, "The Engineering Magazine: An Industrial Review," October, 1904, 689; Ryan Salmon, EIT and Meghan Elliott, P.E., "The Kahn System of Reinforced Concrete," Structure, Apr 2013, accessed 2 May 2017.

<sup>&</sup>lt;sup>31</sup> Maurice Couchot, C.E., "How the Earthquake Affected Certain Buildings," Architect and Engineer, May 1906; American Society of Civil Engineers, "Transactions," Presented 16 March 1910; Engineering News, The Engineering News Publishing Company: New York, January-June 1907; Research has not revealed details about any buildings Couchot designed in San Francisco prior to 1907.

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Name of Property County and State share a focus on technical innovation and aesthetic distinction derived from careful proportions paired with lavish decorative details.<sup>32</sup>

Despite the large number of notable commercial and public buildings with which he is associated, it is Couchot's industrial buildings (most designed during an intensive period of professional activity from roughly 1916-1920) that best express the full range of his talents. The NRHP-listed National Carbon Company (1917) is a recognized example: Couchot used fire- and earthquake-resistant reinforced concrete to create an expansive and technologically innovative manufacturing space. Its facade was replete with Classical motifs that distinguished the building from its utilitarian neighbors. Couchot's unusual ability to design buildings with the highest possible engineering standards that were also aesthetically appealing yielded remarkable results, and it led to many more commissions during the World War I era. During this period of intense productivity Couchot's commissions included a tire factory in Oakland, a power plant in Alameda, a suspension bridge and pipeline in the Sierra Nevada, and a rice mill near Sacramento. His 1917 design of Sperry Flour Company's multi-building plant on Vallejo's waterfront led to several more commissions for that large company, and over the next two years he designed mills for the company in Ogden, Utah, and Spokane and Tacoma, Washington. Couchot designed a Southern Pacific warehouse, constructed in San Francisco in 1920, and shortly thereafter two Sperry mills in Southern California.<sup>33</sup>

Couchot's intensive period of industrial building design corresponds to U.S. involvement in World War I and the period immediately after the war. This was a time of intense mobilization of the U.S. economy to support the war effort with weapons, food for troops, transport, and other necessities. Weapon manufacture also led to a shortage of steel, making construction of large industrial buildings with less expensive, more fire-resistant, and equally load-bearing reinforced concrete newly attractive. Vallejo's Sperry Flour Mill, the Alameda power company, and the National Carbon Company buildings were all pictured in 1918 and 1919 issues of Architect and Engineer alongside articles discussing the merits of reinforced concrete. The Sperry Flour Mill was even featured in a roof company advertisement.<sup>34</sup>

After World War I, Couchot returned his focus to designing notable commercial and institutional buildings. His audience had expanded beyond Northern California, and two distinguished Southern California buildings, the Glendale Southern Pacific Depot (1923), and the Los Angeles Broadway-Spring Arcade (1922-1924) exemplify Couchot's technical expertise but have decorative details inspired by Spanish precedents in contrast to earlier buildings constructed in Northern California. Other significant works he produced in the 1920s included the Senator Hotel in Sacramento, the Francesca Apartments in Sacramento, and the Bellevue Club in

<sup>&</sup>lt;sup>32</sup> National Register of Historic Places Nomination Form, National Carbon Company, Prepared by Anna B. Frej, January 1983, 3; Judith Prine McBrien, *Pocket Guide to Los Angeles Architecture*, W.W. Norton & Company: New York, 2009, 57.

 <sup>&</sup>lt;sup>33</sup> National Register of Historic Places Nomination Form, National Carbon Company, Prepared by Anna B. Frej,
 January 1983, 3; Santa Ana Register, 30 June 1933, 1: "Sperry Flour Buildings," Architect and Engineer, July, 1920.
 <sup>34</sup> S.M. Fechheimer, "Concrete Into its Own," Architect and Engineer, May 1918, 91;

Albert Kahn, "The Architect in Industrial Building," September 1919, 101-109; "Pabco Roofs," Architect and Engineer, April 1919, 1.

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Name of Property County and State Oakland. At the time of his death in 1933, he was an internationally renowned structural engineer, and one of the projects mentioned in his obituary was Sperry Flour Company Vallejo Mills.<sup>35</sup>

# Reinforced Concrete Mill Design

As discussed above, the choice of reinforced concrete as a building material allowed for better fireproofing and increased structural stability, qualities that had led Couchot to become a pioneer in the material's use. The 1917 buildings are much larger than the older mill buildings, because reinforced concrete allowed for longer spans than wood frame construction. The size of the mill and silos were important elements in Vallejo Mills ability to begin producing unprecedented volumes of flour. And its relatively frugal use of steel meant that the materials were available for speedy construction during wartime. In addition, the choice of material along with the narrow footprint of the mill portion of the building allowed for the very large window openings to bring abundant natural light into the work areas. Operable steel windows brought crucial ventilation to the inherently dusty business of grain milling.

### Site Plan Innovations

The thoughtful and innovative siting of the 1917 industrial buildings (slightly removed from the waterfront and existing buildings and straddling a rail line) is an important aspect of its design. Construction could start right away, rather than waiting for clean-up after the fire since it was not adjacent to the old buildings, allowing the accelerated one-year construction schedule to become a reality. The close physical proximity of the new mill, warehouse, and grain elevator and their siting around the rail line were important innovations that allowed for increased industrial efficiency.

### Couchot and Sperry Flour Company Identity

The siting of the four Couchot buildings between the waterfront and hillside, Couchot's effort to exploit the aesthetic potential of concrete itself, and his facility at combining utilitarian industrial building design with decorative features make Vallejo Mills an unusually attractive industrial site. Larger buildings are sited behind smaller ones, giving the site a harmonious balance between the vertical silos and horizontal warehouse as well as a pleasing stepped massing.<sup>36</sup> Sperry Flour Company recognized the beauty of Vallejo Mills, and used the silos as a canvas for a giant painting of its logo visible from the water (as did General Mills years later.) The site also served as a template for Sperry's newer mills, also designed by Couchot, which display many of the characteristics of the 1917-18 Vallejo Mills Buildings including administration buildings modeled on Couchot's Vallejo Administration and Laboratory Building.

### 1947 Feed Warehouse

Although its unknown designer has not received the recognition of an acknowledged master like Couchot, the feed warehouse is also notable for its design. The unusual fan shape with a long

<sup>&</sup>lt;sup>35</sup> National Register of Historic Places Nomination Form, National Carbon Company, Prepared by Anna B. Frej, January 1983, 3;

<sup>&</sup>lt;sup>36</sup> Betsey Hunter Bradley, "Industrial Modernism: Architecture and Ideology," Journal of the Society of Architectural Historians, December 1995, 54.

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curving elevation was an extremely creative response to the need to add an enormous building to a heavily-built site. Sandwiched between the rail line and waterfront, the building made the most of the available land by ignoring the template of the traditional rectilinear building plan. Its north elevation, completely devoted to loading bays for trucks, makes the building a perfect expression of the transition from water and rail to truck transport. It also demonstrates the maturation of the use of reinforced concrete, which by the postwar period was de rigeur for industrial construction. A fiberglass clerestory window stretches along the entire curved east elevation just below the roofline, providing natural light to the interior. Like the building's unique plan and flat roof, the clerestory is a modernist element. Fiberglass was a technologically innovative material that was also fire-resistant.

# **Criterion C Conclusion**

Vallejo Mills is significant at the local level as a district that represents a distinctive entity in which functional and aesthetic considerations were blended to form a visually arresting industrial site. The World War I-era buildings that form the core of the Historic District were the work of renowned structural engineer Maurice C. Couchot, a pioneer in the use of reinforced concrete in building construction as well as a designer of aesthetically sophisticated buildings. These buildings were both templates for future mills constructed by Sperry Flour Company and used as emblems of the company. The 1917-1918 buildings as well as the 1947 feed warehouse exhibit technologically innovative use of site plans, sensitivity to the site, and pioneering use of new materials. The buildings constructed toward the end of the period of significance were less groundbreaking, but are important as district contributors because the site as a whole demonstrates the evolution of industrial architecture over many decades.

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### **Previous documentation on file (NPS):**

- \_\_\_\_\_ preliminary determination of individual listing (36 CFR 67) has been requested
- \_\_\_\_\_ previously listed in the National Register
- \_\_\_\_\_previously determined eligible by the National Register
- \_\_\_\_\_designated a National Historic Landmark
- \_\_\_\_\_ recorded by Historic American Buildings Survey #\_\_\_\_\_
- \_\_\_\_\_recorded by Historic American Engineering Record # \_\_\_\_\_
- \_\_\_\_\_ recorded by Historic American Landscape Survey # \_\_\_\_\_

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Historic Resources Survey Number (if assigned): \_\_\_\_\_\_

10. Geographical Data

Acreage of Property <u>30</u>

Use either the UTM system or latitude/longitude coordinates

# Latitude/Longitude Coordinates (decimal degrees)Datum if other than WGS84:(enter coordinates to 6 decimal places)1. Latitude: 38.0814262. Latitude: 38.0801683. Latitude: 38.0818744. Latitude:Longitude: -122.2456674. Latitude:

Or UTM References Datum (indicated on USGS map):

NAD 1927 or

NAD 1983

Sections 9-end page 38

Sperry Flour Co. Vallejo Mills Historic District	
Name of Property	

1. Zone:	Easting:	Northing:
2. Zone:	Easting:	Northing:
3. Zone:	Easting:	Northing:
4. Zone:	Easting :	Northing:

**Verbal Boundary Description** (Describe the boundaries of the property.) The property encompasses all of the parcels APN 0061-160-220 and 0061-160-230, as recorded at the Solano County Assessor's office.

**Boundary Justification** (Explain why the boundaries were selected.) The Historic District boundaries are the boundaries of the parcel and the approximate boundaries of the flour mill property during the period of significance

11. Form Prepared By
name/title: <u>Kara Brunzell, Historian and Architectural Historian</u> Cynthia Ripley, Architect
organization:Brunzell Historical
street & number: <u>1613 B Street</u>
city or town: <u>Napa</u> state: <u>California</u> zip code: <u>94559</u>
e-mailkara.brunzell@yahoo.com
telephone:707/290-2918
date: <u>19 May 2017</u>

### **Additional Documentation**

Solano, California County and State

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- Additional items: (Check with the SHPO, TPO, or FPO for any additional items.)

### Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

### Photo Log

Photo Log

Name of Property: Sperry Mill Historic District City or Vicinity: Vallejo County: Solano State: California Photographer: Wayne Law Date of Photographs: August 2016 Location of Original Digital File: Brunzell Historical 1613 B Street Napa, California

Solano, California

 e of Property
 County and State

 Description of Photograph(s) and number, including description of view indicating direction of camera:

 Photo #1 (CA\_Solano County\_Sperry Mill Historic District\_001)

Historic District overview from northwest with Company Garage, Administration and Laboratory Building, Grain Elevator, Mill and Warehouse, and Feed Warehouse (working clockwise from center left), camera facing southeast Photograph 1 of 27

Photo #2 (CA\_Solano County\_Sperry Mill Historic District\_002) Feed Warehouse, northwest facade, camera facing south Photograph 2 of 27

Photo #3 (CA\_Solano County\_Sperry Mill Historic District\_003) Feed warehouse, northwest facade, camera facing southeast Photograph 3 of 27

Photo #4 (CA\_Solano County\_Sperry Mill Historic District\_004) Feed Warehouse, southwest facade, bakery bulk house, northwest facade, camera facing southeast Photograph 4 of 27

Photo #5 (CA\_Solano County\_Sperry Mill Historic District\_005) View of wharf and waterfront, camera facing south. Photograph 5 of 27

Photo #6 (CA\_Solano County\_Sperry Mill Historic District\_006) Grain Elevator, north and west facades,,Mill and Warehouse, north and west facades, Old Bulk House, north facade, camera facing southeast. Photograph 6 of 27

Photo #7 (CA\_Solano County\_Sperry Mill Historic District\_007) Mill and warehouse, north and west facades, old bulkhouse, north facade, Grain elevator, west facade, grain silos, west facade, camera facing southeast. Photograph 7 of 27

Photo #8 (CA\_Solano County\_Sperry Mill Historic District\_008) Bakery Bulk House and Feed Ware arehouse, southwestern facades, camera facing north Photograph 8 of 27

Photo #9 (CA\_Solano County\_Sperry Mill Historic District\_009) Company Garage, west and south facades, camera facing north. Photograph 9 of 27

Photo #10 (CA\_Solano County\_Sperry Mill Historic District\_0010)

Sperry Flour Co. Vallejo Mills Historic District

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Name of Property Administration and Laboratory building, north and west facades, Grain Elevator, north and west facades, camera facing southeast. Photograph 10 of 27

Photo #11 (CA\_Solano County\_Sperry Mill Historic District\_0011) Administration building, detail parapet, cartouche and conrice, camera facing east. Photograph 11 of 27

Photo #12 (CA\_Solano County\_Sperry Mill Historic District\_0012) Administration building, west facade, camera facing east. Photograph 12 of 27

Photo #13 (CA\_Solano County\_Sperry Mill Historic District\_0013) Rail lines between grain silos and flour mill, camera facing southwest Photograph 13 of 27

Photo #14 (CA\_Solano County\_Sperry Mill Historic District\_0014) New Bulk House and Old Bulk House, northeast facade, wharf, camera facing southwest from mill building Photograph 14 of 27

Photo #15 (CA\_Solano County\_Sperry Mill Historic District\_0015) Warehouse, southeast facade, welding shop, southwest facade, pipe storage, southwest and southeast facades, grain silos, southwest and southeast facades, forklift repair, southwest facade, camera facing north. Photograph 15 of 27

Photo #16 (CA\_Solano County\_Sperry Mill Historic District\_0016) Forklift repair, southeast and southwest facades, flour mill, southwest facade, grain silos, southeast and southwest facades, camera facing north. Photograph 16 of 27

Photo #17 (CA\_Solano County\_Sperry Mill Historic District\_0017) Mill and Warehouse, south and east facades, grain silos, south and west facades, camera facing northwest. Photograph 17 of 27

Photo #18 (CA\_Solano County\_Sperry Mill Historic District\_0018) Historic District overview from south with New Bulkhouse, Flour Mill and Warehouse, Grain Elevator and silos, and ancillary buildings in foreground, camera facing north. Photograph 18 of 27

Photo #19 (CA\_Solano County\_Sperry Mill Historic District\_0019) Manager's Residence, north facade, camera facing southeast. Photograph 19 of 27

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Photo #20 (CA\_Solano County\_Sperry Mill Historic District\_0020) Manager's Residence, north and east facades, camera facing south. Photograph 20 of 27

Photo #21 (CA\_Solano County\_Sperry Mill Historic District\_0021) Manager's Garage, northeast facade, camera facing west Photograph 21 of 27

Photo #22 (CA\_Solano County\_Sperry Mill Historic District\_0022) Barn, south and east facades, camera facing northwest Photograph 22 of 27

Photographer: Kristen Lucas Photo #23 (CA\_Solano County\_Sperry Mill Historic District\_0023) Interior, north ground floor of mill building with ductwork and catwalks, camera facing northwest Photograph 23 of 27

Photographer: Kristen Lucas Photo #24 (CA\_Solano County\_Sperry Mill Historic District\_0024) Interior, south ground floor of mill building with machinery, camera facing southeast Photograph 24 of 27

Photographer: Kristen Lucas Photo #25 (CA\_Solano County\_Sperry Mill Historic District\_0025) Interior, north fourth floor of mill building with ducts and flour bins, camera facing southeast Photograph 25 of 27

Photographer: Kristen Lucas Photo #26 (CA\_Solano County\_Sperry Mill Historic District\_0026) Interior, central fourth floor of mill building with ducts and equipment, camera facing northwest Photograph 26 of 27

Photographer: Kristen Lucas Photo #27 (CA\_Solano County\_Sperry Mill Historic District\_0027) Interior, south fourth floor of mill building with ducts and equipment, camera facing southeast Photograph 27 of 27

Sperry Flour Co. Vallejo Mills Historic District Name of Property



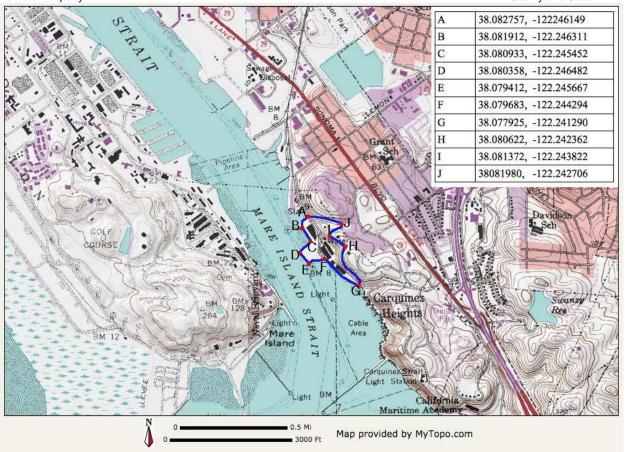


Figure 1: Location Map with Latitude and Longitude

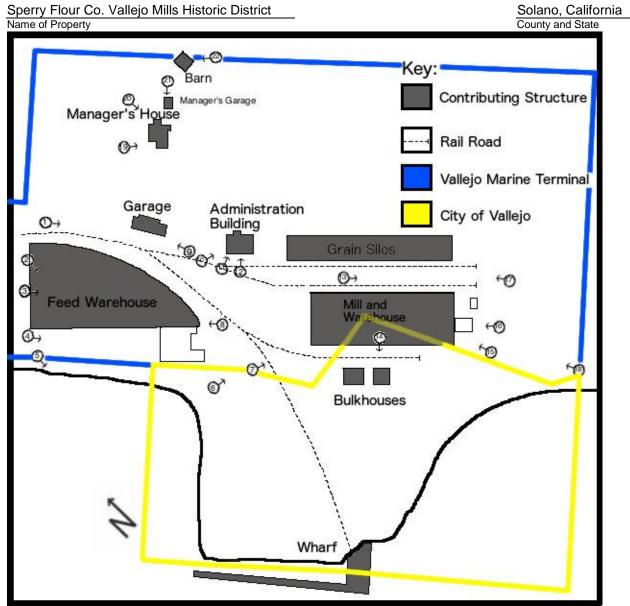
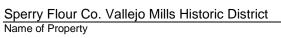


Figure 2: Sketch Map showing property ownership boundaries and contributing resources with photo key.

First Floor ⊬⊘ ତ≁	Fourth Floor ↔ ↔
4	

Figure 3: Photo Key, Flour Mill interior photos.



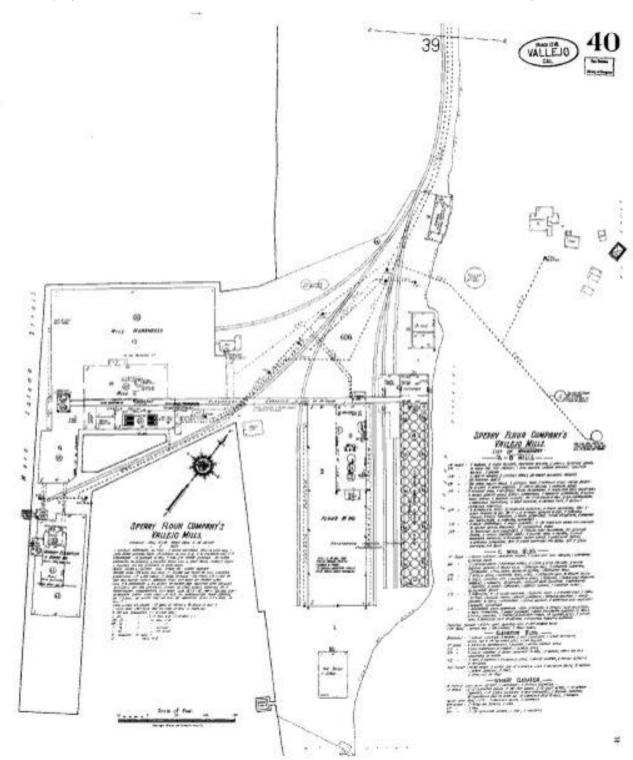


Figure 4: Sanborn Insurance Map, Vallejo, California, 1919.

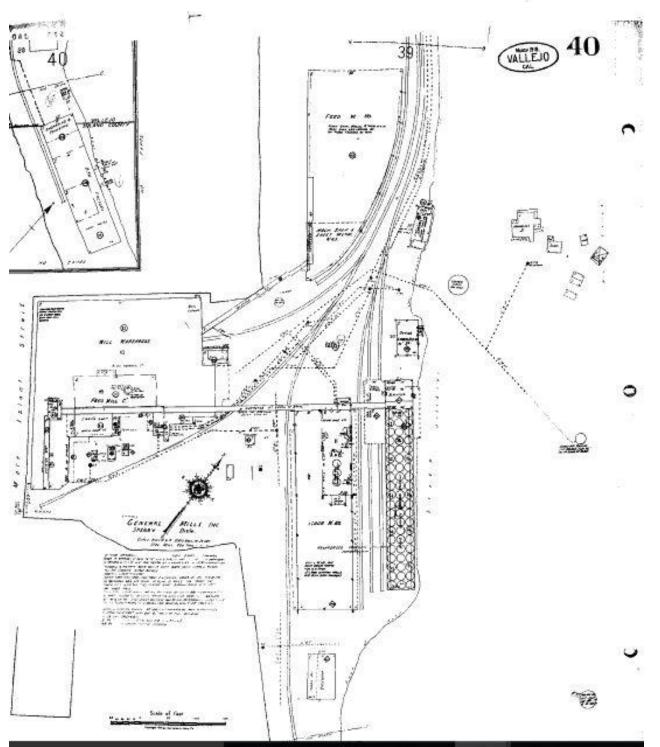


Figure 5: Sanborn Insurance Map, Vallejo, California, 1919-1950



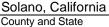




Figure 6: Sperry Flour Company Advertisement, Los Angeles Herald, 17 March 1920.

Sperry Flour Co. Vallejo Mills Historic District Name of Property

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Figure 7: Manager's Residence after expansion, 1908, Vallejo Historical and Maritime Museum Collection.

### Sperry Flour Co. Vallejo Mills Historic District Name of Property

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Figure 8: Sperry Flour Mill from Mare Island with Mill and Warehouse Building center frame in front of Grain Elevator, Administration and Laboratory Building far left, Architect and Engineer, 1918.

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Figure 9: Sperry Flour Mill, Architect and Engineer, 1918.

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Figure 10: Sperry Flour Mill from under the conveyor bridge with Administration and Laboratory Building center frame behind railroad cars, Manager's Residence on the hill, and Company Garage left, 1920, Vallejo Historical and Maritime Museum Collection.

Sperry Flour Co. Vallejo Mills Historic District Name of Property Solano, California County and State



Figure 11: Sperry Flour Mill from hillside with Manager's Residence lower left, Grain Elevator and Mill center left with rooftop garden visible atop mill building, and tennis courts lower right, 1935, Vallejo Historical and Maritime Museum Collection.

# Sperry Flour Co. Vallejo Mills Historic District Name of Property



Figure 12: Administration and Laboratory Building and Grain Elevator with bulldozers at work during Feed Warehouse construction, 19 February 1947, Vallejo Historical and Maritime Museum Collection.

Sperry Flour Co. Vallejo Mills Historic District Name of Property



Figure 13: Feed Warehouse construction, 19 February 1947, 4 February 1947, Vallejo Historical and Maritime Museum Collection.

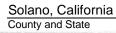
Sperry Flour Co. Vallejo Mills Historic District Name of Property

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Figure 14: Feed Warehouse construction, 26 march 1947, 4 February 1947, Vallejo Historical and Maritime Museum Collection.

Sperry Flour Co. Vallejo Mills Historic District Name of Property



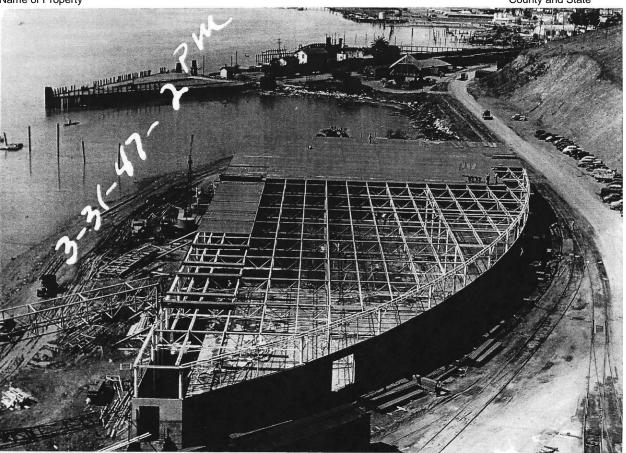


Figure 15: Feed Warehouse construction, 31 March 1947, 4 February 1947, Vallejo Historical and Maritime Museum Collection.

Sperry Flour Co. Vallejo Mills Historic District Name of Property

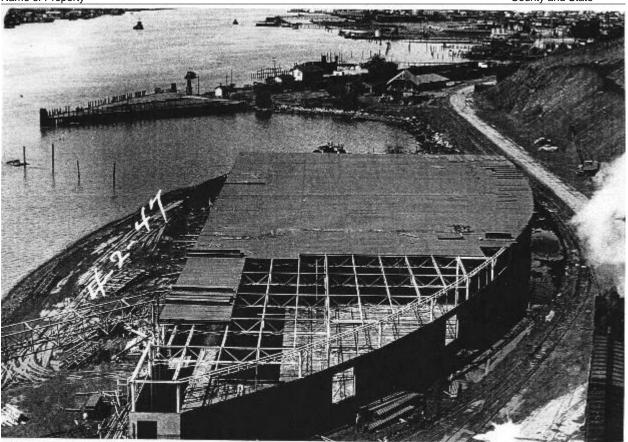


Figure 16: Feed Warehouse construction, 2 April 1947, 4 February 1947, Vallejo Historical and Maritime Museum Collection.



Figure 17: Newly completed Feed Warehouse construction, 30 April 1947, 4 February 1947, Vallejo Historical and Maritime Museum Collection.

Sperry Flour Co. Vallejo Mills Historic District Name of Property

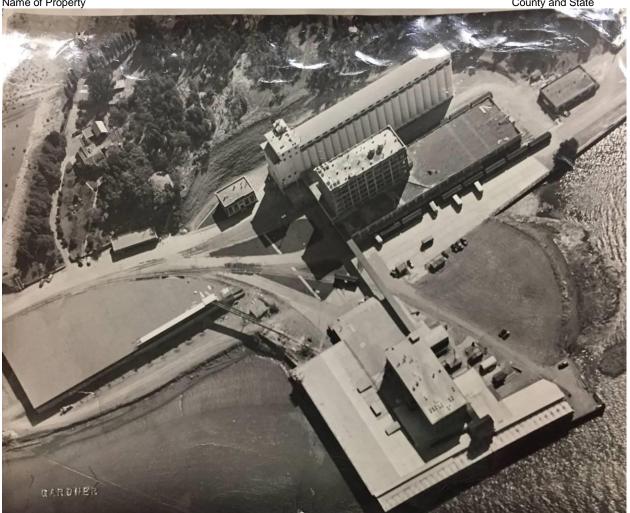


Figure 18: Undated aerial photograph of Vallejo Mills, 1947 - 1957, Vallejo Historical and Maritime Museum Collection.

Sperry Flour Co. Vallejo Mills Historic District Name of Property Solano, California County and State



Figure 19: Vallejo Mills, R.L. Copeland, 1977, Vallejo Historical and Maritime Museum Collection.

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.