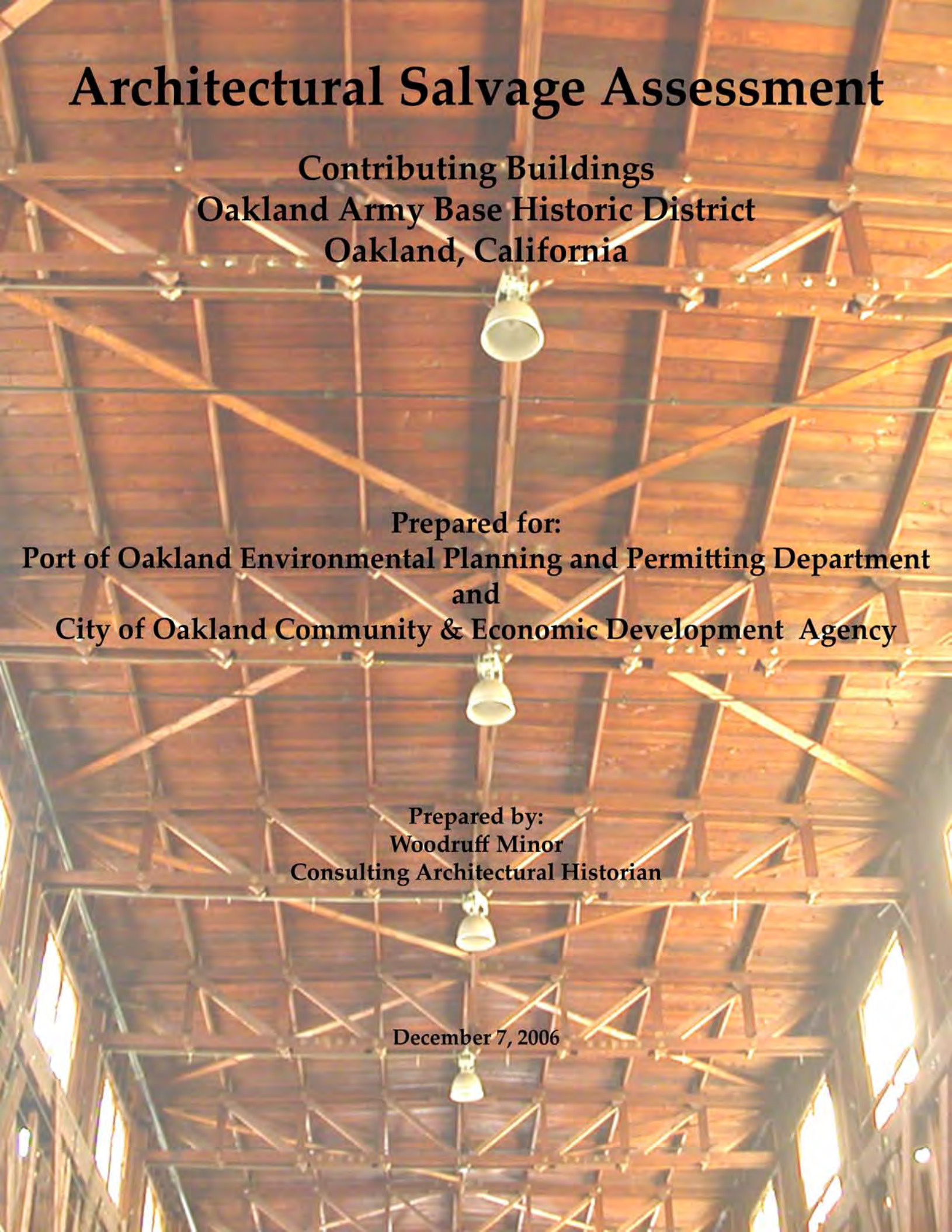
Architectural Salvage Assessment

Contributing Buildings
Oakland Army Base Historic District
Oakland, California



Prepared for:
Port of Oakland Environmental Planning and Permitting Department
and
City of Oakland Community & Economic Development Agency

Prepared by:
Woodruff Minor
Consulting Architectural Historian

December 7, 2006

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1. INTRODUCTION

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1.1 Statement of Purpose

This report assesses the architectural features and building components of the eighteen (18) contributing buildings within the Oakland Army Base (OARB) Historic District. Compiled for the Port of Oakland Environmental Planning and Permitting Department and the City of Oakland Community & Economic Development Agency, the report is intended to serve as a guide for salvage operations undertaken by the Port and the City pursuant to the demolition and/or deconstruction of district contributors within their respective jurisdictions. Overviews of the base's historical development and architectural characteristics provide a contextual backdrop for the building entries that follow. Recommendations for salvage are summarized in a chart accompanying the "Summary of Findings" subsection of the Introduction, and recapitulated in the Conclusion. The principal sections of the report—Historical Overview; Architectural Characteristics; and Documentation and Salvage Assessment—are illustrated with archival and contemporary photographic images grouped at the end of each section.

The report should be seen within the specific context of cultural resource management and mitigation—that is, as an assessment of salvage/reuse potential from the perspective of historical and architectural significance—rather than as a comprehensive statement about the salvage/reuse process. The findings and recommendations in this report will feed into the overall salvage and deconstruction efforts at the former Oakland Army Base.

The Port and City adhere to a broad-based salvage/reuse process derived from policy commitments to sustainable, "green" principles, and this study represents only one facet of that process. Within the broader context of sustainability, salvage operations will likely include building components and materials other than those recommended in this report. Although it is unlikely that historic buildings can be reused within the Port development area, it is conceivable that one or more buildings may be retained in whole or in part for adaptive reuse within the City's Gateway development area. Should reuse of a building within the historic district occur, care should be taken not to remove its historic features for salvage.

Several real-world parameters may constrain the salvage recommendations in this report. These issues, which do not fall within the scope of the report, include the technical feasibility of recommended salvage; the economic feasibility and marketing potential of recommended salvage; and any hazardous-materials remediation that may be associated with the salvage of specific architectural features and building components. The responsible agencies must assess these constraints on a case-by-case basis to determine the degree to which the recommendations in this report will be followed.

The report addresses the requirements of two mitigation measures in the Oakland Army Base Area Redevelopment Plan Environmental Impact Report (2003). Mitigation Measure 4.6-9 stipulates a program to salvage the timber posts, beams, trusses, and siding of the warehouses to be deconstructed**.** This measure also calls for either on-site reuse if feasible or sale into the recycled construction materials market. Mitigation Measure 4.6-15 stipulates a program to salvage specific architectural features and building components of any contributing structure within the OARB Historic District. This measure further stipulates that a professional architectural historian shall determine which features and components are to be retained. Taken together, these two mitigation measures clearly intend that the salvage assessment of architectural features and building components in the OARB Historic District be comprehensive and inclusive. The specific requirements of Mitigation Measure 4.6-9, which make reference to certain historical elements in some contributing buildings, are broadened under Mitigation Measure 4.6-15 to require an assessment of all historical elements in every contributing building.

This report represents a complete implementation of Mitigation Measure 4.6-15. The actual salvage and reuse program, as required under Mitigation Measure 4.6-9, will be completed as part of the overall salvage and deconstruction efforts by the City and the Port at the former Oakland Army Base. It should be noted that the interpretation of feasibility language contained in the latter mitigation measure will devolve upon the agencies responsible for demolition and/or deconstruction, and will likely be shaped by the technical, economic, and hazardous-materials constraints cited above. In short, this report assesses salvage solely from the perspective of architectural and historical significance; it does not assess the feasibility of doing so.

Value, or significance, has been assigned to architectural features and building components, based on the professional judgment of the consultant, informed by contextual study and on-site observation. In general, assessments of architectural significance derive from Criterion C of the National Register of Historic Places (NRHP) and the very similar Criterion C of the California Register of Historical Resources (CRHR). Pertinent Criterion C language as regards the Oakland Army Base Historic District is identical under both the NRHP and CRHR, i.e., architectural significance is based on "the distinctive characteristics of a type, period, or method of construction." In the case of the overwhelming majority of contributing buildings within the OARB Historic District, architectural significance reflects a *type* of construction (standardized, "temporary" Army construction); a *period* of construction (World War II); and a *method* of construction (wood-frame, notably heavy timber). In this instance, the type and period of construction serve merely to provide an architectural context for understanding the significance of a method of construction. Indeed, the salient significant quality of the architecture of the OARB Historic District is wood construction, and wood occurs throughout the building fabric of the district contributors, from structural frameworks to sheathing, cladding, windows, and doors. For this reason, wood elements (including, but not limited to, those listed in Mitigation Measure 4.6-9) are the focus of the salvage assessment recommendations in this report.

The report's author, Woodruff Minor, is an architectural historian and writer with over 25 years experience in a variety of contexts, including maritime history, military history, and on-site inspection of buildings for surveys, studies, nominations, and recordation. His published works include *Pacific Gateway: An Illustrated History of the Port of Oakland* (2000), which deals in part with the history of Oakland Outer Harbor and the Oakland Army Base. Mr. Minor produced the report as a subconsultant to G. Borchard & Associates (GBA) under the terms of a Master Services Agreement between GBA and the Port of Oakland. Julie Woodburn oversaw graphic design. Celia McCarthy, of the Port of Oakland Environmental Planning and Permitting Department, served as project manager, providing direction and technical assistance.

1.2 Oakland Army Base Historic District

Commissioned in 1941, the Oakland Army Base played a vital role over five decades as a military supply depot in times of war and peace. Throughout this period, the historic core of the base remained largely intact. In 1990, the California Department of Transportation first identified an Oakland Army Base (OARB) Historic District, which was formally determined by the State Office of Historic Preservation to be eligible for listing on the National Register of Historic Places. In 1994, the Army Corps of Engineers provided detailed documentation of the district according to the standards of the Historic American Engineering Record (HAER).

In 1995, the Defense Base Realignment and Closure Commission (BRAC) recommended that the Oakland Army Base be closed. The Oakland Base Reuse Authority (OBRA) was created to oversee the conveyance of the base from the Army; the property's transitional use**;** and its transfer to the Oakland Redevelopment Agency and the Port of Oakland. Following the cessation of military activity at the base in 1999, OBRA produced *Gateway to the East Bay: Final Reuse Plan for the Oakland Army Base* (2002). Under the terms of the Oakland Army Base Memorandum of Agreement (2003), the former base property, including the historic district, is to be shared by City and Port. Transfer of title occurred on August 7, 2006.

Situated at the northeast end of the former base, the OARB Historic District includes two subareas separated by Maritime Street, a thoroughfare that bisects the facility. The northeast (inland) section of the district contains 12 contributing structures historically associated with warehousing and maintenance. The northwest section, bordering the shoreline, retains six contributors associated with administrative and maritime uses. Together, these 18 contributing buildings—erected for the most part during World War II, although two are older—form the focus of this study.[1] The accompanying map shows the district's boundaries

[1] Five of the 23 contributors to the original OARB Historic District are not included in this study. The Administration Building (Building 1) has been demolished, and the Knight Rail Yard has lost integrity due to new highway construction associated with the Cypress Structure Project**.** The base's three extant wharves, also contributors to the district**,** are not covered by the mitigation measures stipulating this study.

and contributors, together with the jurisdictional boundaries of the Port of Oakland ("Port Development Area") and City of Oakland ("Gateway Development Area").

The northwest, shoreline subarea of the district originally included five wharves, five dockside transit sheds, a ship-repair complex of four buildings, and, farther inland, an administration and support group of at least seven buildings. Most of the maritime facilities have been demolished, including two of the wharves, all the transit sheds, three of the four ship-repair buildings, and, most recently, the sprawling Administration Building (Building 1), which enclosed 160,000 square feet (3.5 acres). Extant contributing structures in this subarea include a parking shed (Building 4), Cafeteria (Building 60), two office and support buildings (Buildings 85 and 90), a storehouse (Building 88), and a former ship-repair shop (Building 99). Two of these structures (Buildings 88 and 99) are remnants of a World War I shipyard constructed in 1918 and 1919; all other buildings in the subarea were erected in 1941 and 1942.

The district's northeast, inland subarea is dominated by the row of seven monumental "800 series" warehouses (Buildings 802, 803, 804, 805, 806, 807, and 808), each enclosing over 233,000 square feet (5.4 acres) of storage space. The row is adjoined on the north by a maintenance shop (Building 812), a pair of small warehouses (Buildings 821 and 822), and a box/crate factory (Building 823). The former Knight Rail Yard adjoins the warehouse row on the east, with a railroad engine maintenance shop (Building 991) to the north. Camp John T. Knight, a sprawling support and training facility for troops, occupied the southern end of the base on both sides of Maritime Street. The entirety of Camp Knight has been demolished, and the Knight Rail Yard has lost integrity; all other structures in the subarea, built between 1941 and 1944, are largely intact.

1.3 Methodology and Sources

The report was prepared in a two-part process involving a review of documents and archival material for contextual information, and a field survey resulting in written and photographic recordation of the 18 documented buildings. The review and survey were completed between June and October 2006. During the field survey, each building (or building type) was assessed for features and components deemed suitable for salvage, including potential reuse in an OARB "commemoration site."[2] The survey resulted in written and photographic documentation for each of the 18 contributing structures. Architectural features and building components that were assessed as suitable for reuse were digitally photographed and described in sufficient detail to enable architects, builders, and demolition/salvage crews to identify them in the field.

[2] The location and design of the "commemoration site" (stipulated under Mitigation Measure 4-6.2 of the Oakland Army Base Area Redevelopment Plan EIR) are yet to be determined.

In addition to drawings and photographs on file with the Oakland Redevelopment Agency and the Port of Oakland, the report relies on three earlier studies as primary sources of historical and architectural information. The *Historic Architecture Survey Report, Subarea D: Oakland Army Base*, prepared in 1990 by the California Department of Transportation, includes historical, architectural, and photographic documentation**.** The *Oakland Army Base Historic American Engineering Record* (HAER), prepared in 1994 by Hermann Zillgens Associates for the Army Corps of Engineers, contains descriptive and historical synopses of all contributory structures within the OARB Historic District, including photographs and copies of historic views and drawings. The *Oakland Army Base Historic Building Reuse Alternatives Report*, prepared for OBRA in 2002, focuses on six of these structures: Buildings 1, 60, 88, 99, 808, and 812. In addition to providing "an analysis of the physical suitability and cost of rehabilitating and reusing" these buildings, the report includes an overview of the base's early development and detailed descriptions and histories of the six subject buildings, including numerous photographs.[3] The contextual and descriptive sections in the current report are adapted largely from these studies.

All but one of the digital color photographs in the report were taken by the author over a five month period, from June to October 2006. The exception (Figure 3.7, June 2006) is gratefully included with the permission of Fee Munson Ebert (FME). All historic black-and-white photographs in the report are digital versions of originals preserved in the archives of the Oakland Army Base and the Port of Oakland.

1.4 Summary of Findings

Several recommendations concerning the salvage of architectural features and building components have emerged from this study. These recommendations are based on the principal finding of the study: due to the standardized, utilitarian design of most contributing structures within the Oakland Army Base Historic District, few specific features or components stand out individually. Salvage, in this case, has more to do with the reuse of materials than the retention of individual design elements. The following recommendations elaborate on this finding.

1.4.1 Wood is the predominant material of the district's contributing structures, and the preponderance of features and components recommended for salvage are wood, including:

- structural wood (posts, beams, and trusses)
- wood sheathing and exterior siding (walls)
- wood doors (industrial, sliding and hinged)
- wood-sash windows (fixed pane and double hung)

[3] The report was prepared by Nancy E. Stoltz, project manager; Ripley Architects, consulting architects; Rutherford & Chekene, structural engineers; Moffatt & Nichol, marine engineers; and Davis Landon Adamson, cost estimators.

1.4.2 As a means of assisting the agencies responsible for salvage operations, an expert should be retained to identify the type and quality of the wood/timber elements recommended for salvage in this report.

1.4.3 Other features and components that are unique within the district as a whole and that also are recommended for salvage include:

- architectural signage (Building 60)
- interior steel doors (Building 60)
- steel-sash windows (Building 88)
- structural steel (Building 99)
- wood floor (Building 99)
- overhead rolling crane (Building 812)

1.4.4 Except when noted above, the following features and components are not recommended for salvage within the historic architectural context: foundations, floors, plumbing, wiring, heating and ventilation equipment, roof decking and sheathing, non-industrial doors, interior finish (including floor/wall veneers, hardware, and fixtures), and altered building elements, such as aluminum windows, roll-up metal doors, and non-original exterior cladding. Such elements, however, may be salvaged within the broader parameters of the green recycling and prudent reuse processes adhered to by the Port of Oakland and City of Oakland.

Architectural features and building components recommended for salvage are summarized in the accompanying chart.

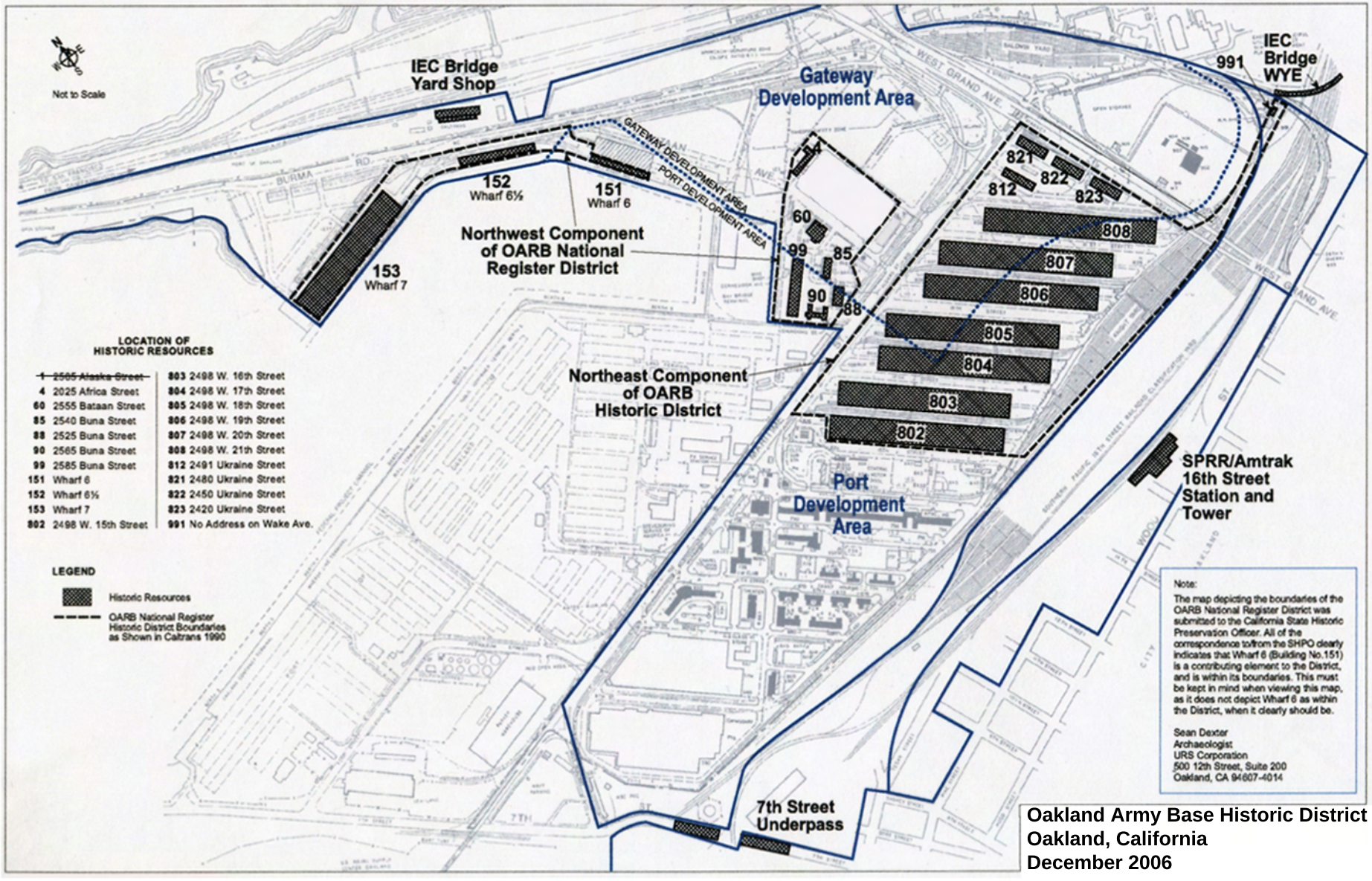
Salvage Assessment, Architectural Features and Building Components, Contributing Buildings, Oakland Army Base Historic District

Building No.	Original Use	Date	Architectural Features and Building Components										
			Structural wood: posts/beams/trusses	Wood wall sheathing	Wood wall siding	Wood doors	Wood-sash windows	Wood floor	Structural steel	Steel doors	Steel-sash windows	Crane	Signage
Building 4	Parking shed	1942											
Building 60	Cafeteria	1942	x							x			cx
Building 85	Storehouse	1942	x	x	x		x						
Building 88	Pattern shop/mold loft	1919	x	x							x		
Building 90	Office building	1941	x	x	x		x						
Building 99	Plate shop/mold loft	1918						cx	cx				
Building 802	Warehouse	1941-42	cx	x	x	cx	x						
Building 803	Warehouse	1941-42	cx	x	x	cx	x						
Building 804	Warehouse	1941-42	cx	x	x	cx	x						
Building 805	Warehouse	1941-42	cx	x	x	cx	x						
Building 806	Warehouse	1942	cx	x	x	cx	x						
Building 807	Warehouse	1942	cx	x	x	cx	x						
Building 808	Warehouse	1942	cx	x	x	cx	x						
Building 812	Maintenance shop	1944	cx	x	x							cx	
Building 821	Warehouse	1943	x	x	x	x							
Building 822	Warehouse	1943	x	x	x	x							
Building 823	Box/crate shop	1942	cx	x	x								
Building 991	Railroad engine shop	1942	x		x	cx	cx						

Note:

A square marked with an "x" indicates salvage potential.

A square marked with a "cx" indicates salvage potential with further potential for "commemoration site."



Oakland Army Base Historic District
Oakland, California
December 2006

2. HISTORICAL OVERVIEW

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Commissioned in 1941, the Oakland Army Base played an important role over a 50-year period as a supply depot and repair facility in World War II, the Korean War, the Vietnam War, and the Persian Gulf War (Desert Storm). Design and development of the base began in the spring of 1941, during the nation's mobilization for World War II, and was largely brought to completion by the summer of 1942**,** at the height of the war. It was one of four U.S. Army facilities in northern California—with Fort Mason in San Francisco, Fort McDowell on Angel Island, and Camp Stoneman on the Sacramento River—known collectively as the San Francisco Port of Embarkation (SFPE). In 1942, with the completion of major construction at Oakland, the facility was officially named the Oakland Army Base.

2.1 Site, Setting, Mission

With the Naval Air Station Alameda (1940) and the Naval Supply Center Oakland (1941), the Oakland Army Base formed part of a phalanx of military installations on the East Bay waterfront that opened on the eve of America's entry into World War II. The similar Army and Navy complexes on Oakland's western shoreline had identical missions: to funnel supplies to U.S. military operations in the Pacific. Rapidly built during wartime, both bases functioned as military ports, and both contained enormous warehouses, dockside transit sheds, and wharves served by rail lines, surface roads, and deepwater berths.

The principal difference between the two installations was that whereas the Navy base was a self-contained facility built from scratch, the Army facility combined new construction with existing industrial buildings on the site and also made use of the Port of Oakland's extensive Outer Harbor terminal complex.[1] A portion of the site was occupied by the remnant of a World War I shipyard, built in 1918–19 by the Union Construction Company; the Army incorporated two of the shipyard buildings, including a large plate shop and mold loft, into its installation.

Oakland was the largest and most complex of the SFPE cargo-handling facilities. One of the most fully integrated Army installations of its kind in the nation, the base combined various modes of transportation (ships, trains, and trucks) into a unified operation. The infrastructure included wharves, berths, a rail yard, tracks, roads, and storage yards. Trains and trucks brought in materiel from across the country to seven huge warehouses, each enclosing over five acres of floor space. Goods were transferred from the warehouses to dockside transit sheds in preparation for loading cargo ships. Ship repair shops were clustered near the shoreline, and miscellaneous other support facilities were scattered around the base. SFPE divisions housed at OARB during World War II included the Oversea

[1] The Oakland Army Base controlled the Port of Oakland's Outer Harbor terminals from 1941 to 1950, when they reverted to the Port. The Navy base, which closed in 1998, was razed and redeveloped by the Port with container terminals, an intermodal rail and truck facility, and a shoreline park.

Supply Division, Transportation Division, Water Division, and Training Division, and thousands of military personnel and civilian workers were required to operate the facility during wartime.

2.2 Design and Construction

Construction of the Oakland Army Base began under the direction of the Quartermaster Corps, one of two construction divisions in the Army at that time. Late in 1941, at the outset of America's entry into the war, these divisions were consolidated under the jurisdiction of the Army Corps of Engineers. According to HAER documentation, "At least initially, some 600 black troops of the 394th Quartermaster Battalion helped in construction of the Installation."

Several of the nation's largest engineering and building firms participated in the design and construction of Oakland Army Base. The Los Angeles firm of Bechtel-McCone-Parsons was awarded the initial architectural and engineering contract in March 1941, under the direction of the Office of the Constructing Quartermaster of the Army. In a report dated December 1, 1941, Bechtel-McCone-Parsons described the principal facilities planned for the site, which was referred to as the Port of Embarkation and General Depot. The Port of Embarkation facilities, located west of Maritime Street, consisted primarily of "ships' berths, apron wharves, transit sheds, and storage sheds." East of Maritime Street were the facilities of the General Depot, "principally . . . single-story permanent warehouses for the storage of Quartermaster, Engineer, Medical, Signal, Ordnance Corps . . . and other supplies." Seven enormous warehouses (commonly referred to as the "800-series" warehouses), along with a rail yard and other support facilities, comprised the General Depot.

The Army Port Contractors—a consortium composed of Bechtel-McCone-Parsons; MacDonald and Kahn, Inc.; Utah Construction Co., and W. A. Bechtel—commenced construction in June 1941. The work included excavating and hauling dirt and rock to the site, filling and grading the tidelands, driving hundreds of piles for structures, and dredging deepwater berths alongside existing shipping channels. As the site assumed shape, the consortium installed utilities, wharves, roads, a rail yard, miles of tracks, and a variety of buildings. By the time the base was commissioned, on December 8, 1941—the same day the United States declared war on Japan and Germany—a substantial amount of new construction had been completed.

2.3 Buildings of the Oakland Army Base Historic District

Two-thirds of the 18 contributing structures in the Oakland Army Base Historic District were built by the Army Port Contractors over the course of a single year—a concentrated burst of wartime activity extending from the summer of 1941 to the summer of 1942. Wharves, transit sheds, ship-repair facilities, administration and support buildings, rail facilities, and the row of seven "800 series" warehouses all date from this intensive first phase of construction. Only three of the district contributors (two small warehouses and a maintenance shop) were built later in World War II, in 1943 and 1944, while, as noted, two contributors (a storehouse and ship-repair facility) were remnants of a World War I shipyard incorporated into the base.

Following World War II, the base underwent continual change as facilities were upgraded and replaced, with substantial new construction in the 1950s and 1960s. The historic core of the installation remained largely untouched, however—the collection of historic structures comprising the Oakland Army Base Historic District.

Figure 2.1. Oakland's western waterfront as it appeared shortly after World War I, looking west to Yerba Buena Island and San Francisco. The shallow tidelands are bordered by the Southern Pacific Mole (left) and the Key Route Pier (right). The city bulkhead extends north from the mole to the Union Construction Company shipyard, with filling underway in city-owned tidelands behind the bulkhead. The water area shoreward of the bulkhead and shipyard, owned in part by the Southern Pacific Railroad, marks the site of the Oakland Army Base. (Port of Oakland Archives.)

Figure 2.2. By 1950, following World War II, Oakland's western waterfront was completely developed. Filled land along the bulkhead, developed in the 1920s and 1930s as the Port of Oakland's Outer Harbor Terminal, is adjoined by the Oakland Army Base, stretching between the SP Mole and the Bay Bridge (on the site of the Key Route Pier). Beyond the mole is Naval Supply Center Oakland and Naval Air Station Alameda, partly visible across the estuary. All three military facilities were installed during World War II. (Port of Oakland Archives.)

Figure 2.3. Looking east to the Port of Oakland's Fourteenth Street Unit, 1929. Additional transit sheds and warehouses would be added to the facility in the 1930s, making it the operational center of the Port's Outer Harbor Terminal. The World War I-era Union Construction shipyard adjoins the site (upper left). The partially filled tidelands in the distance would be developed in the 1940s as the Oakland Army Base. (Port of Oakland Archives.)

Figure 2.4. The former Union Construction Company shipyard, built in 1918–19, as it appeared in the late 1930s. The property by then had reverted to the Port of Oakland, which refurbished the buildings for various other industrial uses. This property later formed part of the Oakland Army Base. The large gabled building at the center of the complex, originally a plate shop and mold loft, became a ship-repair facility (Building 99). The low building (far right) was used variously as a garage, mess hall, and storehouse (Building 88). (Port of Oakland Archives.)

Figure 2.5. Receiving Gate of the Army Port Contractors, 1941. Under contract to the Army, this consortium of four private firms undertook all construction at the Oakland Army Base during the initial phases of construction, in 1941 and 1942. (Port of Oakland Archives.)

Figure 2.6. Looking southeast from Building 99 to a nearly finished row of "800 series" warehouses (Buildings 802–805), November 1941. These big warehouses were a major component of the first phase of construction at the Oakland Army Base. (Port of Oakland Archives.)

Figure 2.7. Looking north to the Administration Building (Building 1) under construction, 29 December 1941. (Oakland Army Base Archives.)

Figure 2.8. Building 1 nearing completion, 14 January 1942. These paired images, taken about two weeks apart, dramatize the speed of construction at Oakland Army Base during World War II. (Oakland Army Base Archives.)

Figure 2.9. Looking southeast over the Port of Oakland's Outer Harbor Terminal to the Camp Knight portion of the Oakland Army Base, 1953. This cantonment of "temporary" wartime structures was later replaced by new Port facilities and by new construction on the base. (Port of Oakland Archives.)

Figure 2.10. Oakland Army Base and Oakland Outer Harbor Terminal, 1947. This high-altitude view shows the full extent of the base's wartime development. Transit sheds and ship-repair buildings border the basin (left), adjoined by administration and support facilities. The warehouses and rail yard are clearly visible east of Maritime Street. Tucked behind the Port's Outer Harbor Terminal (then part of the base) are the orderly rows of Camp Knight, with a cluster of support facilities at the base's southeast corner. (Port of Oakland Archives.)

Figure 2.11. Looking south over the inland section of the Oakland Army Base, east of Maritime Street, 1970. This view takes in all of the contributors within the Northeast Component of the Oakland Army Base Historic District, with the exception of Building 991. In the foreground, next to the freeway, is the end-to-end row formed by Buildings 821, 822, and 823, adjoined by the similarly scaled Building 812. The staggered row of immense "800 series" warehouses extends to the south, bordered on the east by the Knight Rail Yard. (Oakland Army Base Archives.)

Figure 2.12. Looking east over the shoreline section of the Oakland Army Base, with "800 series" warehouses in background, 1974. This view takes in most of the contributors within the Northwest Component of the Oakland Army Base Historic District. To the left is the sprawling footprint of the now-demolished Administration Building (Building 1); across Bataan Avenue are the Cafeteria (Building 60) and the smaller Buildings 85, 88, and 90. Clearly visible in the foreground, behind the wharf-top transit shed, is the group of four ship-repair facilities~~;~~. Building 99, at the back of the group, is the only one of these five structures still standing. (Port of Oakland Archives.)

Figure 2.13. The Knight Rail Yard, as it appeared soon after completion, in June 1942. The view looks north. With its 17 parallel tracks, the yard could accommodate many trains simultaneously, allowing for large-scale freight-handling operations at Oakland Army Base. (Port of Oakland Archives.)

Figure 2.14. Dockside operations at Oakland Army Base during the Vietnam War, August 1965. Cargo handling ceased at the base in the 1990s. Though the wharves are still standing, none of the transit sheds are extant. (Oakland Army Base Archives.)

3. ARCHITECTURAL CHARACTERISTICS

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The Oakland Army Base was planned and built with great urgency in a time of all-out war. Construction began during the nationwide mobilization preparatory to World War II, and it was brought to completion following America's entry into that conflict. This meant that new buildings did not utilize rationed materials like steel (needed for ships, planes, ordnance, etc.) or time-consuming methods of construction, such as brick masonry or reinforced concrete (which also required steel). Conceived as functional envelopes for human activity, the buildings were neither elaborately styled nor richly detailed.

In sum, the twin parameters that drove the design and construction processes at Oakland Army Base during World War II were the availability of materials and speed of construction. Only in one older building—Building 99, with its steel frame—do we find an exception to the universal use of wood framing, although here too the design is functional, intended for industrial activities in a shipyard. A large number of buildings at the Oakland Army were considered "temporary" by Army standards, indicating that they were built according to standardized procedures of wartime design and wood construction.

The quality of wood used in wartime construction at the Oakland Army Base, particularly heavy timber construction, was of very high quality, due in no small part to the federal government's wartime acquisition of forestland in northern California, Oregon, Washington, and elsewhere in the West. It is quite possible that much of the wood came from first- or second-growth trees, primarily fir but likely including redwood and pine as well. Stoltz (2002) notes that drawings for the "800 series" warehouses indicate that the framing and structural members are select, structural-grade Douglas fir. She notes further that the exterior rustic siding and window sash on these warehouses appears to be redwood.

3.1 Foundations and Floors

Except for small and relatively light buildings like parking sheds, structures erected on the Oakland Army Base required concrete or timber piles to support and stabilize foundations on the reclaimed tideland site. Wharves, which bore the weight of transit sheds as well as cargo-handling equipment, and larger buildings like the "800 series" warehouses, utilized concrete piles. Smaller buildings used timber piles or a combination of concrete and timber piles, and the smallest had perimeter concrete foundations mixed with concrete footings.

Floors were constructed atop the perimeter foundations and footings. With few exceptions, floors were concrete slabs; when the floor level was above grade, infill material was used as a base. In some cases, floors had an asphalt-concrete finish, occasionally wood. In the most rudimentary structures, such as parking sheds and small storehouses, the floor might be compacted earth or gravel. In office and support buildings like the Administration Building and Cafeteria, wood was the standard floor finish.

3.2 Structural Frames

Wood framing was universal in the buildings constructed at the Oakland Army Base during World War II. In smaller structures like parking sheds (e.g., Building 4) and one-story office buildings (e.g., Building 90), standard wood-stud framing occurred. The larger shop buildings and warehouses, which incorporated wide spans in their interior planning, made use of rows of heavy timber posts to support trusses and girders for roofs that frequently included monitors, and wall framing was typically more substantial.

This is clearly seen in the "800 series" warehouses (Buildings 802–808), which utilize rows of heavy timber posts to support the timber girders of the broad side bays as well as the timber trusses of the wide central monitor. Even in relatively small shop buildings like Building 991, and in smaller warehouses, such as Buildings 821 and 822 (and the closely related 823), timber posts are utilized to support girders and trusses. The most concentrated occurrence of heavy timber construction on the base is found in the high, open interior of Building 812, a maintenance shop with double rows of bolted timber posts supporting the truss-work rails of a rolling crane as well as the superstructure of a lofty monitor with a tightly replicated series of timber trusses.

The sole exception to wood framing in the historic district (noted above) is Building 99, a steel-frame structure built during World War I as a plate shop and mold loft.

3.3 Sheathing

Walls and roofs of all but the smallest buildings were sheathed in wood. Wall sheathing typically consisted of diagonal boards, as is clearly seen in early construction photographs (e.g., Building 1 and Building 60) and, notably, in the unfinished interiors of the "800 series" warehouses and of Buildings 821–823. Roof decking could be diagonal, as in the "800 series" warehouses, or orthogonal, as in Building 812.

Various types of horizontal wood siding were lain over the sheathing as exterior cladding on walls, including rustic siding on the "800 series" warehouses and wider flush siding on Buildings 85, 90, 812, and 821–823. Building 1 and Building 60 had stucco veneers that contributed to their streamlined Moderne styling and their related functions as central administration/support facilities. Roofs were overlain with tar and gravel or built-up bituminous material.

3.4 Doors and Windows

The standard industrial door-type on warehouses and shop buildings of the Oakland Army Base was a large wood-frame panel suspended from tracks mounted on exterior walls. The panels were designed to roll horizontally back and forth to cover and uncover openings in the walls. This type of door occurs on all of the "800 series" warehouses, as well as most other warehouse and shop buildings on the base. The two sets of large, three-panel, hinged doors on the railroad engine shop (Building 991) are a unique type within the historic district.

Original windows on base buildings had wood sash with multiple small panes, or lights. In warehouses and shop buildings, most windows had fixed panes, including monitor clerestories, as seen in the "800 series" warehouses. The railroad engine shop (Building 991) retains a pair of unusually large fenestration panels on the sidewalls, each composed of 36 contiguous, 12-light windows. In office and support facilities, such as Buildings 85 and 90, double-hung windows were standard.

3.5 Interiors

Most industrial buildings on the Oakland Army Base had unfinished interiors wherein the structural frame, wall sheathing, roof decking, and concrete floors were left exposed. Non-industrial spaces, such as offices and dining halls, were finished with wood floors, gypsum wallboard, and suspended ceilings.

3.6 Alterations

The most common alterations to warehouses and shop buildings on the Oakland Army Base concern windows and doors. In some cases, wood-sash windows have been replaced or covered over with translucent fiberglass or plastic panels. In other cases, sliding wood doors have been replaced by roll-up metal doors. In non-industrial buildings, double-hung wood-sash windows have sometimes been replaced with aluminum-sash casements, and solid-core doors have often been replaced with hollow-core doors. The interior finish of offices and dining halls have been largely altered by the application of new flooring, new wall and ceiling veneers, and new fixtures. In a relatively few cases, on industrial and non-industrial buildings alike, the original exterior cladding of horizontal wood siding has been covered over with a veneer of asbestos-cement siding, scored plywood, or stucco.

Figure 3.1. Driving concrete piles for the base's east wharf (Wharf 6), adjoining the old Union Construction shipyard, November 1941. (Port of Oakland Archives.)

Figure 3.2. Construction underway on the south wharf and transit shed, October 1941. Note the tops of the regularly spaced concrete piles, providing support for decking and floors. (Port of Oakland Archives.)

Figure 3.3. Construction activity at Oakland Army Base, October 1941. In this view (looking north from Building 99), the wood frame of the Administration Building is going up, with diagonal wood sheathing partially in place. The filled land required piles to support foundations, and numerous timber piles are visible stacked on the ground. Workers can be seen around the piles that have been driven for the Cafeteria (Building 60), at left-center of image. (Oakland Army Base Archives.)

Figure 3.4. In this similar view, taken from the roof of Building 99 five weeks later, in early December, the Administration Building and Cafeteria have been enclosed with diagonal board sheathing. The tents may be those of the 394th Quartermaster Battalion, an African-American unit that assisted in the first phase of construction at Oakland Army Base. (Port of Oakland Archives.)

Figure 3.5. Close-up view of the Cafeteria (Building 60), looking west, late December 1941. The building is receiving a veneer of stucco over the diagonal board sheathing. (Oakland Army Base Archives.)

Figure 3.6. Looking east to warehouses under construction, November 1941. One or more sections remain to be built on the warehouse to the left. The exposed firewall partition, with diagonal board sheathing, is covered with scaffolding, and concrete footings are in place for the floors of the next section. The forms for the concrete loading dock are being inspected by two workmen (lower left), and workers (right) install windows atop the loading-dock canopy on the warehouse in shadow. (Port of Oakland Archives.)

Figure 3.7. Heavy timber construction, Building 808. The "800 series" warehouses utilize grids of timber posts to support the timber girders of the side bays and timber trusses in the central monitor.

Figure 3.8. Heavy timber construction, Building 812. The double rows of bolted timber posts support longitudinal, truss-work rails for an overhead crane as well as the elevated structure of the monitor, incorporating transverse roof trusses.

Figure 3.9. Doors on south loading dock, Building 806. Each of the "800 series" warehouses has 17 identical freight-handling bays arrayed along each side of the building. This representative view shows the exterior-mounted, sliding wood doors, clad in horizontal wood siding to match the exterior cladding of the walls. Note the fixed-pane, wood-sash windows over the canopy.

Figure 3.10. Sliding wood doors on north loading dock, Building 808. This typical view shows the diagonal sheathing of the interior side of the doors, mirroring the sheathing of the warehouse walls. Heavy wood doors suspended from metal tracks are used on all loading bays, as well as the entry bays at each end of the building.

Figure 3.11. Exterior-mounted, sliding wood door on south side of Building 821. Five such doors are hung along each side of Buildings 821 and 822. Note the horizontal wood siding, which is wider than that on the "800 series" warehouses.

Figure 3.12. Door detail, Building 991. The two pairs of hinged wood doors on the railroad roundhouse have diagonal sheathing and bolted iron strap hinges.

Figure 3.13. Freezer door in Cafeteria (Building 60). The interior of this building retains a number of hefty metal doors.

Figure 3.14. Manufacturer's plaque, freezer door, Cafeteria.

Figure 3.15. Multi-light, wood-sash windows survive in most buildings on the base, including more than 40 double-hung windows on Building 85.

Figure 3.16. Similar six-over-six double-hung windows can be found on Building 90, though most windows on this building have been replaced with aluminum sash.

Figure 3.17. Building 808, east end detail. Multi-light, fixed-pane, wood-sash windows are set into the walls at each end of the "800 series" warehouses as well as in rows above the canopies and along the monitors. This view also shows the generally good condition of the exterior wood siding on these buildings.

Figure 3.18. Steel-sash window, Building 88. The Port of Oakland's reconstruction of this World War I-era building probably included the addition of steel-sash windows, although they may form part of the original structure. Because of restrictions on the use of steel, all World War II-era buildings on the base have wood-sash windows.

4. DOCUMENTATION AND SALVAGE ASSESSMENT

4. DOCUMENTATION AND SALVAGE ASSESSMENT

Architectural documentation and assessment of the 18 contributing buildings to the Oakland Army Base Historic District is presented in this section. Each building (or in the case of replicated buildings, each building type) is described in terms of setting, form, structure, materials, plan, and integrity. Descriptions are followed by bullet points of architectural features and building components recommended for salvage, which are summarized in the chart in the Introduction.

4.1 Building 4

Documentation

Identified as an "Executive Parking Shed" on original drawings and completion reports, Building 4 was built in conjunction with the now-demolished Administration Building (Building 1), whose north wing faced across Africa Street. Both buildings were completed in February 1942. The shed later housed offices for vehicle inspection; a large parking lot adjoined the building on the northwest.

The utilitarian structure has a narrow rectangular footprint, 200 feet long by 23 feet wide, enclosing 4,600 square feet. The stud-frame walls originally sat on a perimeter concrete foundation; wood posts on concrete footings supported the trusses of the skewed gable roof. The floor was left unfinished, with gravel paving. The long south side was originally open, allowing automobiles access to 20 parking stalls.

Currently vacant and in poor condition, the shed was substantially altered in 1961, when it was converted into a vehicle inspection station. At that time, a concrete slab was added, the south wall was enclosed, the parking stalls were rebuilt as offices, exterior walls were covered with stucco, and a drive-through canopy was added to the north side of the building.

Salvage Assessment

No features or components recommended for salvage.

4.2 Building 60

Documentation

Completed in February 1942, in conjunction with the Administration Building (Building 1), which it faced across Bataan Avenue, Building 60 served as the base Cafeteria during the entire period of Army occupancy. It is currently vacant. The building faces northeast, with landscaping (trees, shrubs, and groundcover) by the front entrance. Since the removal of Building 1 for toxic remediation, the front of Building 60 has been fenced off.

The Cafeteria has a nearly rectangular footprint covering 13,256 square feet. A dining area occupies the high front of the building, with lower wings at the rear housing the kitchen and storage areas. The dining wing is 126 feet wide and 86 feet deep, enclosing 10,836 feet in a single high story. The rear wings, enlarged with additions, total 2,420 square feet. With the Administration Building, which it resembled, the Cafeteria was one of two "styled" buildings on the base. The streamlined, symmetrical form, banded windows, rounded canopies, and smooth stucco veneer derive from the Moderne style, a popular proto-modernist movement of the 1930s and 1940s. The upper case, sans serif letters affixed to the façade ("CAFETERIA") are also evocative of the style. A panel of wood-sash windows is set above the main entrance, with wood-sash windows at ground level on the sides.

The building is of wood construction, with a foundation of timber piles, a frame of posts, girders, and studs, and wide trusses spanning the dining hall. Walls are sheathed with diagonal boards overlain with stucco on the exterior. The wood roof is clad with built-up bituminous material. The interior includes foyers, a large dining hall with high ceiling, and low kitchens and storage areas at the rear. Freezers and lockers retains steel doors.

The building has been altered on the exterior by the enclosure of clerestory windows on the front wing. The interior has been altered with new finishes and fixtures.

Salvage Assessment

Features and components recommended for salvage:

- Façade signage
- Wood trusses
- Steel locker doors

4.3 Building 85

Documentation

Building 85 forms part of an administrative and support complex southwest of the now-demolished Administration Building and Cafeteria. Built as a storehouse in 1942, it was later used as a printing plant. The building is currently vacant.

The building is a gabled structure with a rectangular footprint measuring approximately 153 feet long by 60 feet wide, enclosing nearly 9,270 square feet. A wood-frame loading dock projects from the west side. Double-hung, wood-sash windows are arrayed along the sides and ends of the building, often grouped in pairs and threes. Small doorways are set into both sides of the building. Metal vents are arrayed on the slopes and ridge of the roof.

Building 85 is of standard wood-stud construction, with perimeter concrete foundation and footings for interior posts supporting roof trusses. Walls are sheathed with diagonal boards overlain with horizontal wood siding on the exterior. The wood roof is clad with asphalt shingles. The interior is predominantly open, with rows of posts. Four offices are partitioned at the north end.

The exterior is largely intact. The interior has been altered with new flooring, new wall veneer, new partitions, and a dropped ceiling with modern light fixtures

Salvage assessment

Features and components recommended for salvage:

- Wood posts and trusses
- Wood wall sheathing
- Exterior wood siding
- Wood-sash windows

4.4 Building 88

Documentation

Building 88 forms part of an administrative and support complex southwest of the now-demolished Administration Building and Cafeteria. With Building 99 (to the west), it was one of two structures on the base that predated the Army's acquisition and development of the site. When first built in 1919 as part of the Union Construction Company shipyard, Building 88 was a two-story structure containing a pattern shop and mold loft; in 1935, the Port of Oakland completed a reconstruction that transformed the building into a one-story storehouse. Under Army ownership, Building 88 served variously as a garage, mess hall, and storehouse.

The building has a rectangular footprint measuring approximately 145 feet long by 77 feet wide, enclosing around 11,000 square feet. The roof combines a hip with a shallow gable. Horizontal, fixed, steel-sash windows are arrayed along the sides and ends of the building. A six-panel sliding wood door is mounted on the north end of the building.

Building 88 has a heavy stud frame supporting massive bolted trusses that span the width of the building, without interior posts. The foundation is a concrete slab supported by timber piles with concrete caps. Walls are sheathed with horizontal boards overlain with horizontal wood siding on the exterior. The wood roof is clad with a mixture of built-up bituminous material and asphalt shingles. The interior is predominantly open.

The exterior has been altered in two principal ways. Vertically scored plywood veneer has been added over the original horizontal wood siding on the walls, and the doorway at the

south end has been enclosed, resulting in the removal of a sliding wood door similar to the existing door at the north end of the building. The interior has been altered by the addition of mezzanine floors and partitioned offices and restrooms at the south end of the building.

Salvage Assessment

- Wood trusses
- Wood wall sheathing
- Steel-sash windows

4.5 Building 90

Documentation

Building 90 forms part of an administrative and support complex southwest of the now-demolished Administration Building and Cafeteria. Identified on original drawings as the "General Field Office" of the Army Port Contractors, this was the first new building at the base when it opened in September 1941. It later served as an office annex to Building 1.

Building 90 has a U-shape footprint composed of three gabled wings; the front of the building faces south to Chunking Street, with two rear wings receding to the north. The main wing measures 142 feet long by 32 feet wide; the nearly identical rear wings measure 32 feet by 87 feet, and 32 feet by 91 feet. The building encloses a total of 10,336 square feet. The wings are lined with windows, but original double-hung, wood-sash windows survive only on the south wing. A small porch with doorway is set into the front of the building, and small doorways are also set into the ends and sides of the wings. A concrete vault projects from the west side.

Building 85 is of standard wood-stud construction, with perimeter concrete foundation. Trusses support the gable roofs. Walls are sheathed with diagonal boards overlain with horizontal wood siding on the exterior. The wood roof is clad with asphalt shingles. The interior consists primarily of central corridors serving offices; the west wing is largely open.

The exterior has been altered by the replacement of most wood-sash windows with aluminum sash, and by the reconfiguration of entries. The interior has been altered with new flooring, new wall veneer, new partitions, and a dropped ceiling with modern light fixtures

Salvage Assessment

- Wood trusses
- Wood wall sheathing
- Exterior wood siding
- Wood-sash windows

4.6 Building 99

Documentation

Building 99 is one of two structures on the base (with Building 88, to the east) that predates the Army's acquisition and development of the site. Erected in 1918 as the centerpiece of the Union Construction Company shipyard, the large two-story structure originally housed a plate shop in the high first story and a mold loft in the partial upper story. In 1937, the Port of Oakland refurbished the building for miscellaneous industrial uses, adding new doors and windows, among other changes. Under Army ownership, Building 99 initially formed part of the ship-repair complex alongside the base's east wharf area. The only extant structure from that complex, the building later served as a vehicle maintenance shop.

Building 99 has a rectangular footprint measuring approximately 422 feet long by 91 feet wide, with a stepped, gabled profile composed of a two-story section on the south and a shorter one-story section on the north. The building encloses about 38,500 square feet on its ground floor; about 22,000 square feet in the upper-level mold loft; and additional space on mezzanines. Large horizontal windows are arrayed on both levels of the walls, and large doorways are set along both sides and at the north end.

The building's steel frame incorporates a variety of columns, girders, and trusses, including flat trusses in the high first story and gable trusses in the mold loft and one-story section. The foundation is a concrete slab on concrete piles, with concrete footings under columns. Walls are formed from horizontal wood siding affixed to the steel frame. The roof is clad in built-up, mineral-surfaced material atop wood decking.

The interior is a complex space. The two-story section of the building contains a high first story, with partitions and mezzanines, as well as a mold loft extending the full width and length (about 240 feet) of the upper story. The loft, its wood floor encompassed by windows and surmounted by a skylight, sits high in the structure, tucked under the main roof trusses. The one-story section is a lofty space with skylight, trusses, and tall columns.

The building was extensively altered during Army occupancy. The wood siding of the walls has been covered with asbestos-cement panels. Windows have either been enclosed or covered with panels of green corrugated plastic, and roll-up metal doors have replaced the original sliding wood doors. The interior, however, retains a surprisingly high degree of integrity, particularly the mold loft.

Salvage Assessment

- Steel columns, girders, and trusses
- Wood floor in former mold loft

4.7 Buildings 802, 803, 804, 805, 806, 807, 808

Documentation

The seven immense buildings aligned along the east side of Maritime Street, known as the "800 series" warehouses, comprise the most impressive architectural grouping on the base. Adjoined on the east by the former Knight Rail Yard, the buildings are sited in parallel, in a staggered row, with long axes oriented roughly east to west; six of the buildings (802/803, 804/805, and 806/807) are sited in pairs. The placement of spur tracks and truck-loading areas was switched on adjacent buildings, thereby segregating train and truck operations within the complex.[1] The warehouses were built from a single set of drawings, and appear identical except for minor changes to fenestration on the end-facing façades. They were completed in two phases. Buildings 802–805, at the south end of the row, were brought to completion between November 1941 and February 1942. Buildings 806–808 were completed in June 1942. They remained in use as warehouses during the period of Army occupancy.

Buildings 802–808 are the largest structures in the OARB Historic District. Each rectangular building is 180 feet wide and 1,298 feet long, enclosing 233,640 square feet (5.4 acres). The tripartite design incorporates a central monitor, with a nearly flat gable roof, flanked by lower side bays with shallow-pitch shed roofs. A single large doorway is set into each end of the building, and seventeen smaller doorways are placed at regular intervals along each side elevation. All of these doorways, or loading bays, are served by pairs of sliding wood doors. Paired, wood-sash, multi-light windows are arrayed along the upper portion of the walls on the sides and ends of the building, and continuous bands of clerestory windows once extended along both sides of the monitory. Metal vents project above the ridgeline.

The heavy timber construction incorporates four longitudinal rows of timber columns on concrete footings, 22 feet on center, supporting trusses across the central monitor bay and timber girders over the flanking side bays. Wood purlins frame the wood decking of the roof, which is clad in built-up bituminous material. The stud-frame walls have diagonal wood sheathing overlain with horizontal wood siding on the exterior. Concrete loading docks 12 feet wide, sheltered by canopies, extend along each long side, providing access to the concrete-slab floor, which is approximately five feet above grade.

Each warehouse is divided internally into five sections by four transverse firewalls with diagonal wood sheathing and large central doorways. Except for the central section, which is 11 column-bays in length, the sections are 12 column-bays long. These sections are expressed externally by the firewalls projecting above the roofline. A longitudinal bay 52 feet wide—the width of the monitor—extends down the center of the building. Each side bay is 64 feet wide, consisting of two 32-ft. bays separated by a row of columns. Vertical clearance from the floor is approximately 18 feet, allowing for the stacking of goods. Offices

[1] Most spur tracks have been removed, and the warehouses are currently served solely by trucks.

are partitioned off at the westerly end of each warehouse (in Building 808, a partial mezzanine floor has been added over one of the offices).

The seven "800 series" warehouses retain a high degree of integrity, with alterations limited primarily to windows. Some wood-sash windows have been replaced with aluminum sliding sash, and the wood sash on some south-facing clerestory windows has been replaced or obscured by corrugated plastic panels. Otherwise, the warehouses are virtually unaltered on exterior and interior alike.

Salvage Assessment

- Wood posts, beams, and trusses
- Wood wall sheathing
- Exterior wood siding
- Sliding wood doors
- Wood-sash windows

4.8 Building 812

Documentation

Building 812 forms part of a group of four similarly scaled structures (with Buildings 821, 822, and 823) near the northeast corner of the historic district. The building is oriented northwest to southeast, parallel to the 821–823 row on the northeast and closely adjoining the northernmost of the "800 series" warehouses to the south. Originally known as the Ordnance Maintenance Shop, Building 812 was completed in 1944. It was originally used to maintain and repair weapons and ordnance of the rolling type, such as tanks and other heavy artillery, a function reflected in the design by a large monitor accommodating an overhead crane.

Building 812 is a variation on a standard Army Corps of Engineers design, with differences in size, cladding material, and door and window treatment. The building is 64 feet wide by 280 feet long, enclosing 18,345 square feet. It is built on grade, with rectangular footprint. The tripartite form includes a massive monitor, with a nearly flat gable roof, flanked by much lower, shed-roofed side bays. A large doorway is set into each end of the building, with smaller doorways and windows at varied intervals along the sides. The doorways were originally served by exterior-mounted, sliding wood doors (with rails concealed by an overhang). Original windows are 12-light, four-sash units, stacked and paired, which slide horizontally on interior rails. Metal vents project above the monitor ridgeline.

The building is of heavy timber construction, employing bolted wood columns and girders on a concrete slab. The structural system incorporates two longitudinal rows of doubled columns, 14 feet on center, supporting longitudinal trusses for an overhead crane as well as the high trusses of the monitor. Walls are composed of wood stud frames sheathed with

diagonal boards overlain with horizontal wood siding. The wood roof is clad with built-up bituminous material.

The interior is divided into three longitudinal bays by the two rows of paired columns. The high central aisle, illuminated by the monitor clerestory windows, is 32 feet wide. It extends nearly the full length of the building, curtailed only by a mezzanine floor at the westerly end (lit by a large, multi-sash window). A rolling bridge crane is mounted on a pair of massive timber rails that run the full length of the central aisle.[2] The lower side aisles, each 16 feet wide, have been partially enclosed by partitions.

Building 812 has received a number of alterations. Alternating panels of asbestos cement ("transite") and translucent fiberglass have been applied to the monitor. Metal roll-up doors have replaced the sliding wood doors, and most ground-floor windows now have aluminum sash. The interior appears intact apart from the addition of partitions in some side bays and the possible replacement of the original crane.

Salvage Assessment

- Wood posts, beams, and trusses
- Wood wall sheathing
- Exterior wood siding
- Rolling crane

4.9 Buildings 821, 822

Documentation

Buildings 821 and 822 form an end-to-end row with Building 823 near the northerly end of the former base. West Grand Avenue, surmounted by an elevated section of the I-880 freeway, closely parallels the row on the northeast. The row is oriented northwest to southeast, parallel to Building 812 on an adjacent site to the south. The "800 series" warehouses closely adjoin the row on the south.

Buildings 821 and 822 were built in 1943 according to a standard Army design; a single set of drawings was used for both structures. They served as warehouses for inflammable materials—they are called "inflammable warehouses" on the original drawings—and later provided storage for hazardous materials awaiting disposal. They appear to be unaltered.

Each of the identical warehouses measures 250 feet long by 80 feet wide, enclosing 20,000 square feet of storage space (less than one-tenth the size of the nearby "800 series" warehouses). Each building has a rectangular footprint and a gable roof. Five loading bays

[2] The building was designed for a 10-ton crane; it is currently equipped with a 5-ton Shepard Niles crane.

with exterior-mounted, sliding wood doors are set at regular intervals into each long side. Fenestration is limited to double-hung windows at the office end of each building. Metal vents project from the ridgeline.

The buildings are of heavy timber construction. The structural system incorporates two longitudinal rows of wood columns, 20 feet 10 inches on center, supporting parallel sets of flat trusses as well as transverse roof trusses. Walls are composed of wood stud framing sheathed with diagonal boards overlain with horizontal wood siding on the exterior. The wood roof is clad with built-up bituminous material. Concrete footings support a perimeter concrete foundation wall, and compacted fill within this wall underlies the asphalt-concrete floor, which is approximately four feet above grade. A concrete loading dock 10 feet wide, served by a ramp and sheltered by a canopy, extends along the north side of each building. Concrete stairs serve the office entries.

Each building is divided internally into two sections of equal size by a transverse firewall with diagonal board sheathing. Each longitudinal section is six column-bays long. The rows of columns are 40 feet apart, creating a longitudinal bay 40 feet wide down the center of each section, flanked by side "aisles" 20 feet wide. An office and bathroom is situated in one corner—the southeast corner of Building 821, and the southwest corner of Building 822, such that the offices face one other.

Salvage Assessment

- Wood posts, beams, and trusses
- Wood wall sheathing
- Exterior wood siding
- Sliding wood doors

4.10 Building 823

Documentation

Although its footprint and structural system are identical to 821 and 822, Building 823 differs in its façades, roof treatment, and floor plan. These differences derive from the building's program. Building 823 was erected in 1942 as a box factory and crate shop—its use during the entire period of Army occupancy. It is largely intact, except for the replacement of clerestory windows with translucent plastic panels and the early addition of a mezzanine floor at the west end of the building.

Building 823 is 250 feet long and 80 feet wide, enclosing 20,000 square feet. Like Buildings 821 and 822, it employs heavy timber construction, with the same arrangement of columns, 20 feet 10 inches on center, and the same type of foundation and walls. In appearance, the principal difference is the roof, which incorporates a wide monitor with clerestory windows. The façades also are less regular, combining a variety of window types with loading bays

served by sliding wood doors. The floor is approximately four feet above grade. Stairs and ramps serve the entries and loading bays; there is no loading dock.

The building is divided internally into three sections by transverse partitions with diagonal board sheathing. The largest section (identified on the drawings as the "box making room") occupies six column-bays at the center of the building. The former workshop occupies four column-bays at the west end; the former storeroom, three column-bays at the east end. Additional partitions within these sections create smaller rooms, including a former paint room in the storage area and a former stockroom in the workshop area. The asphalt-concrete floor is built up in some sections with layers of floorboards. As in Buildings 821 and 822, the rows of columns are 40 feet apart, creating a longitudinal bay 40 feet wide down the center of the building, flanked by side "aisles" 20 feet wide. Large wood trusses span the central bay to support the monitor.

Salvage Assessment

- Wood posts, beams, and trusses
- Wood wall sheathing
- Exterior wood siding

4.11 Building 991

Documentation

Building 991 occupies an isolated site at the far northeastern end of the former base; it is the only contributing building in the OARB Historic District located north of West Grand Avenue and I-880. Built in 1942 in conjunction with the Knight Rail Yard to the south, the building served as the base's repair and maintenance facility for locomotives. It was known variously as the Engine Switch Shop, Railroad Engine Shop, and Railroad Roundhouse. Spur tracks led from the rail yard to the shop, branching to enter the two service stalls in the building.

The building measures 80 feet long by 41 feet 6 inches wide, with a small (12-ft. by 13-ft.) shed-roofed addition at the southeast front corner, enclosing a total of 3,476 square feet. The building (minus addition) has a rectangular footprint and a shallow-pitch gable roof with monitor vent. Fenestration is based on units of 12-light, fixed-pane, wood-sash windows. Set into each sidewall is a large window panel composed of 36 windows in three stacked rows. A pair of smaller, square panels, each comprising nine windows, is set into the rear wall. The building's front is dominated by two sets of massive wood doors for the two service bays**.** Each set consists of two tall**,** hinged doors with crossed bracing, diagonal sheathing, and original iron hardware.

The building is of heavy wood-frame construction, employing wood columns on concrete footings. Four central posts as well as replicated series of angled braces on the sidewalls

support the roof beams and purlins. Walls have heavy wood studs overlain with horizontal wood siding on the exterior. The roof is clad in built-up bituminous material over wood decking. The interior is a unified space. The two service bays (one equipped with a pit) are separated by the central row of posts, with small partitioned rooms and a mezzanine at the northerly end of the building. Trackage survives in both bays.

Building 991 is largely intact. Asbestos-cement shingles have been added over the wood siding of the walls, and sheets of plywood cover the window panels on the side and rear walls**.** The above-mentioned addition projects to one side at the front of the building. The interior appears unaltered.

Salvage Assessment

- Wood posts and beams
- Exterior wood siding
- Hinged wood doors
- Wood-sash windows

Figure 4.1. Building 4 as it appeared in April 1942, shortly after completion. The 20-stall shed provided parking for executive staff in the nearby Administration Building. The view is to the north. (Oakland Army Base Archives.)

Figure 4.2. Now in poor condition, the vacant building has been altered by the enclosure of the parking stalls and the application of stucco to the walls.

Figure 4.3. Looking west to the newly opened Cafeteria (Building 60), late January 1942. The stucco veneer and Moderne styling harmonized with the Administration Building across the street. Compare this image with Figure 3.5, a parallel view taken about a month before the building opened. (Oakland Army Base Archives.)

Figure 4.4. The building as it appears today, vacant and fenced off. The view is to the south. Windows at the front and sides have been enclosed, and the interior is substantially altered.

Figure 4.5. Erected in 1942 as a storehouse, Building 85 was later converted into a printing plant, and is currently vacant. The view looks west.

Figure 4.6. Alterations to the interior of Building 85 include linoleum flooring, plasterboard walls, a dropped ceiling, and modern light fixtures. The timber posts are original.

Figure 4.7. Originally a two-story structure (insert), containing a pattern shop in the high first story with a mold loft above, the building was erected in 1919 as part of the Union Construction Company shipyard. It was reconstructed by the Port of Oakland in 1935 as a one-story storehouse. Under Army ownership, Building 88 served variously as a garage, mess hall, and storehouse. (Oakland Army Base Archives.)

Figure 4.8. This view looking northeast shows the veneer of vertical wood paneling that has been applied over the original horizontal wood siding of Building 88, as well as the steel-sash windows dating from World War I or the 1930s. The original doorway at south end of the building has been enclosed; the doorway at the north end is intact.

Figure 4.9. Massive timber trusses form a clear span in Building 88. This view also shows the partitioned rooms and mezzanine floors added at the south end of the building, occupying a small fraction of the interior space.

Figure 4.10. Truss detail, Building 88.

Figure 4.11. Opened September 15, 1941, Building 90 (foreground) was the first new building at the Oakland Army Base. It housed the General Field Office of the Army Port Contractors, later serving as an office annex to Building 1. This view, dating from May 1942, looks northeast over the front of Building 90 to Building 85 (center) and Building 88 (right), with the Administration Building (Building 1) and Cafeteria (Building 60) in the background. The rear extension on the west wing of Building 90 (left) was added in December 1941; it is no longer extant. (Oakland Army Base Archives.)

Figure 4.12. Rear view of Building 90, looking southwest. The exterior is intact except for the replacement of most windows with aluminum sash. Interior finish and fixtures have been largely altered.

Figure 4.13. Looking northeast to Building 99 in 1933, when the leased property reverted to the Port of Oakland. Built in 1918 as the centerpiece of the Union Construction Company shipyard, this large plate shop (high first story) and mold loft (partial upper floor) was refurbished by the Port in 1937 for various industrial tenants. The Army reused the structure as a ship-repair facility, later adapting it for use as a vehicle maintenance shop. (Port of Oakland Archives.)

Figure 4.14. Building 99, looking southwest. This view clearly shows the scale and the stepped, gabled massing of the structure. The exterior has been altered by the application of asbestos-cement panels over the original horizontal wood siding and the enclosure of windows with translucent plastic panels.

Figure 4.15. Former mold loft, Building 99. Spanned by steel trusses, this spacious room is encompassed by windows and capped by a skylight, now covered with translucent plastic. The floor is laid with diagonal boards.

Figure 4.16. Building 99 is the only steel-frame structure in the Oakland Army Base Historic District. This view shows the trussed steel columns and spindly trusses of the one-story section at the north end of the building.

Figure 4.17. This early view, looking east, depicts one of the "800 series" warehouses (probably 802) nearing completion in October 1941. The wood siding has been painted, but windows and doors are not yet installed. Framing and sheathing is in process on the warehouse to the left. (Port of Oakland Archives.)

Figure 4.18. Aerial view of partially completed row of "800 series" warehouses, early 1942. The view looks east. The warehouses shown (from right to left) are Buildings 802, 803, 804, and 805, at the south end of the row. The final three warehouses (Buildings 806, 807, and 808) would be completed at the north end of the row later that year. (Oakland Army Base Archives.)

Figure 4.19. West façade, Building 804. The tripartite form of the "800 series" warehouse is clearly seen in this representative view showing the wide central monitor flanked by lower side sections. Windows provide light on two levels; sliding wood doors serve the doorway.

Figure 4.20. South side of Building 806. Elevated loading docks with canopies extend along both sides of the "800 series" warehouses. Each dock is served by 17 doorways, or loading bays, with sliding wood doors. Rows of paired wood-sash windows surmount the canopies.

Figure 4.21. Building 808, east end. This view shows the central bay, with monitor, and flanking side bays. Note the ramped entry with sliding wood doors, as well as the wood-sash windows (limited to the upper level at this end of the building). The exterior is uniformly clad in horizontal wood siding.

Figure 4.22. Building 808, north loading dock. This view highlights the cantilevered form of the canopy and the horizontal wood siding of the walls.

Figure 4.23. Building 808, interior view of central bay. Wood trusses on heavy timber posts support the wide, window-lined form of the monitor.

Figure 4.24. Building 808, transverse view of interior. Natural lighting is provided by the monitor windows and the lower window row over the loading bays. Note how the bay is on axis with the aisle formed by the rows of columns.

Figure 4.25. Building 812, perspective view of west end and south side. The most prominent feature of the building—a bulky monitor accommodating a rolling bridge crane—has been altered by the application of asbestos and fiberglass panels.

Figure 4.26. Building 812, south side. Most windows have been replaced with aluminum sash, and sliding wood doors have been replaced with roll-up metal doors. Walls retain the original horizontal wood siding.

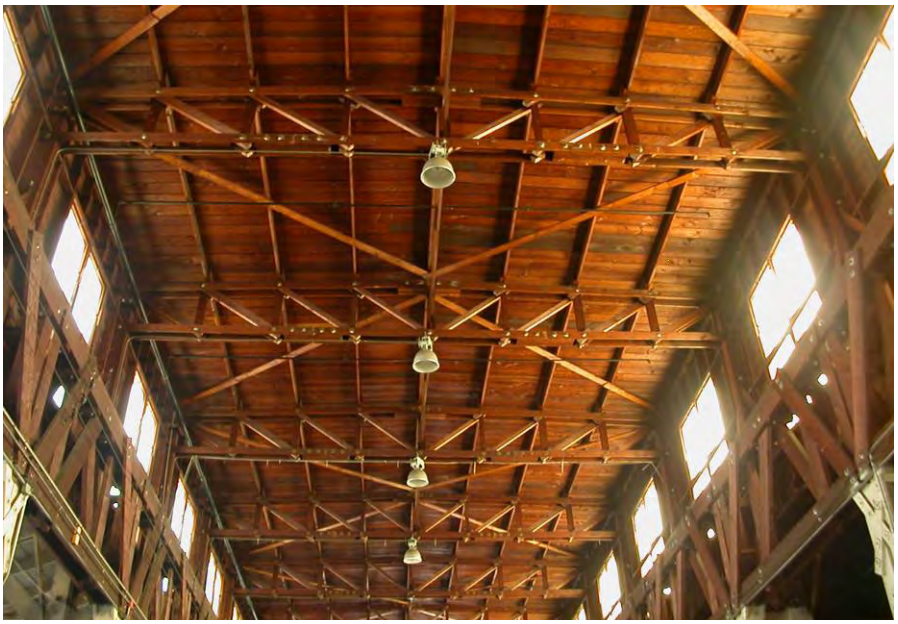

Figure 4.27. Building 812, interior view of monitor. Bolted wood trusses and purlins support the roof decking.

Figure 4.28. The double rows of heavy timber posts support truss-work rails serving a 5-ton rolling crane (visible in distance).

Figure 4.29. Building 821, perspective view looking east. Built in 1943, this warehouse is identical to Building 822 (partly visible, far right).

Figure 4.30. The heavy timber construction of Building 821 consists of two rows of timber posts supporting flat and gabled trusses.

Figure 4.31. Building 823, perspective view looking east. Though quite similar to Buildings 821 and 822, this former box factory was built a year earlier, in 1942, and incorporates a monitor in its design.

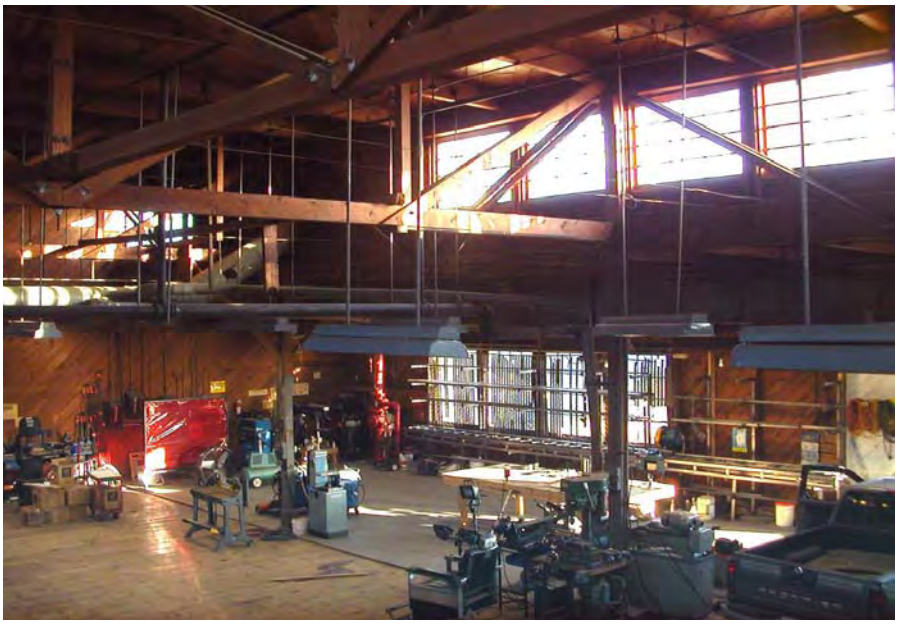

Figure 4.32. The heavy timber construction of Building 823 features large monitor trusses spanning the central bay. Note the diagonal board sheathing on the partition and sidewall.

Figure 4.33. Building 991, perspective view looking east, 1976. Built in 1942 in conjunction with the Knight Rail Yard, this building served as the base's repair and maintenance facility for locomotives. It was known variously as the Engine Switch Shop, Railroad Engine Shop, and Railroad Roundhouse. Spur tracks led from the rail yard to the shop, branching to enter two service stalls served by tall hinged doors. (Oakland Army Base Archives.)

Figure 4.34. The building is largely intact. Asbestos-cement shingles have been added over the wood siding of the walls, and sheets of plywood cover the large window panels.

Figure 4.35. Door detail, Building 991. Each door has three cross-braced panels with diagonal sheathing.

Figure 4.36. Building 991's two service bays (one equipped with a pit) are separated by a row of heavy timber posts running down the center of the floor, with several small partitioned rooms and a mezzanine at the far end. Note the intact window panels at the side and rear.

5. CONCLUSION AND RECOMMENDATIONS

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This study has been prepared to assist ongoing efforts by the City of Oakland and Port of Oakland to meet the requirements of Mitigation Measures 4.6-9 and 4.6-15 of the Oakland Army Base Area Redevelopment Plan Environmental Impact Report. Together, these two mitigation measures stipulate a program to salvage architectural features and building components within the Oakland Army Base Historic District. Mitigation Measure 4.6-15 further stipulates that a professional architectural historian shall determine which architectural elements should be retained. This report completes implementation of Mitigation Measure 4.6-15, while Mitigation Measure 4.6-9 will be completed as part of the overall salvage and deconstruction efforts by the City and the Port at the former Oakland Army Base.

To achieve the intent of Mitigation Measures 4.6-9 and 4.6-15, this study has undertaken a documentation and assessment of all contributing buildings within the OARB Historic District from the perspective of historical architectural significance. The architectural features and building components identified as worthy of salvage in this report should not to be construed as definitive. Within the broader parameters of the green recycling and prudent reuse processes adhered to by the Port and the City, salvage operations will likely include building components and materials other than those recommended for reuse in this report. Although it is unlikely that historic buildings can be reused within the Port development area, it is conceivable that one or more buildings may be retained in whole or part for adaptive reuse within the City's Gateway development area. Should reuse of a building within the historic district occur, care should be taken not to remove its historic features for salvage.

A major finding documented by this report is the overall use of standardized, utilitarian design in most of the World War II-era contributing structures within the Oakland Army Base Historic District, resulting in few architectural elements of individual distinction. As a result, the salvage of wood, the primary material in these structures, is deemed to be a greater salvage opportunity, in terms of inherent value and adaptability for generic reuse, than the recycling of particular architectural elements. It should again be emphasized that the report does not take into account the technical or economic feasibility of recommended salvage, nor does it address the remediation of hazardous materials. The responsible City and Port agencies must assess these constraints on a case-by-case basis to determine the degree to which the recommendations of the report will be followed.

Based on an architectural and historical assessment of the architectural features and building components of the contributing buildings of the Oakland Army Base Historic District, the following salvage opportunities are recommended:

5.1 Wood is the predominant material of the district's contributing structures, and the preponderance of features and components recommended for salvage are wood, including:

- structural wood (posts, beams, and trusses)
- wood sheathing and exterior siding (walls)
- wood doors (industrial, sliding and hinged)
- wood-sash windows (fixed pane and double hung)

5.2 As a means of assisting the agencies responsible for salvage operations, an expert should be retained to identify the type and quality of the wood/timber elements recommended for salvage in this report.

5.3 Other features and components that are unique within the district as a whole and that also are recommended for salvage include:

- architectural signage (Building 60)
- interior steel doors (Building 60)
- steel-sash windows (Building 88)
- structural steel (Building 99)
- wood floor (Building 99)
- overhead rolling crane (Building 812)

5.4 Except when noted above, the following features and components are not recommended for salvage within the historic architectural context: foundations, floors, plumbing, wiring, heating and ventilation equipment, roof decking and sheathing, non-industrial doors, interior finish (including floor/wall veneers, hardware, and fixtures), and altered building elements, such as aluminum windows, roll-up metal doors, and non-original exterior cladding. Such elements, however, may be salvaged within the broader parameters of the green recycling and prudent reuse processes adhered to by the Port of Oakland and City of Oakland.