WATERFRONT & COMMERCIAL REAL ESTATE DIVISION

LOS ANGELES WAREHOUSE NO. 1

REDEVELOPMENT AND ADAPTIVE RE-USE OPPORTUNITY

REQUEST FOR INTEREST

November 12, 2024

Ramp ID #218334

November 12, 2024

Prospective Respondent:

SUBJECT: REQUEST FOR INTEREST (RFI) FOR LOS ANGELES MUNICIPAL WAREHOUSE NO. 1 REDEVELOPMENT

The Waterfront & Commercial Real Estate Division (WCRED) of the City of Los Angeles Harbor Department (Harbor Department) is soliciting Statements of Interest (SOI) for the adaptive reuse of the existing Los Angeles Municipal Warehouse No. 1 for commercial and/or visitor-serving use. Based upon the SOIs received, the Harbor Department intends to develop a high-level adaptive re-use and redevelopment strategy that will be used for shaping and issuing a subsequent Request for Qualifications (RFQ) and Request for Proposals (RFP). Participation in this RFI phase of the process is important so that feasible use concepts can be properly considered by relevant stakeholders.

Guidelines for preparing the Respondent'(s) SOI are found in the information included in this Request for Interest (RFI). Respondents wishing to submit an SOI should follow the process and guidelines detailed in this RFI.

The schedule for this RFI will be as follows:

Action	**Important Dates**
RFI Published	November 12, 2024
Reservation Deadline for Site Tours	November 20, 2024
Site Tour Date	December 12, 2024
RFI Questions Due	January 15, 2025
Harbor Department Response to Questions	February 7 2025
SOI/RFI Responses Due	March 10, 2025
Interviews with Respondents	March 25-27, 2025
Community engagement	Approx. 2Q 2025
RFQ Phase	Approx. 3Q 2025
RFP Phase	Approx. 4Q 2025 - 1Q 2026

**All dates are subject to change.*

For questions regarding the scope or administrative nature of the RFI, please contact the Harbor Department by email at THerr@portla.org. Questions must be submitted by January 15, 2025, and will be answered in writing and posted on the Harbor Department's website and the Regional Alliance Marketplace for Procurement (RAMP), at www.rampla.org, no later than February 7, 2025. It is the responsibility of any respondents to review the Harbor Department's website for any RFI revisions or answers to questions prior to submitting a SOI in order to ensure completeness and responsiveness.

Please note that, prior to being awarded any contract with the Harbor Department, all contractors and subcontractors must be registered on the Regional Alliance Marketplace for Procurement (RAMP), at www.rampla.org. RFI respondents should be registered as well to ensure timely receipt of materials relating to any future phases resulting from this RFI.

Sincerely,

Tanisha Herr for

Tricia Carey
Director of Contract and Purchasing

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1. Introduction

1.1. Request for Interest (RFI) Overview

The Harbor Department is pleased to present the Los Angeles Warehouse No. 1 (Warehouse No. 1) redevelopment opportunity at the Port of Los Angeles (Port). The Harbor Department is soliciting Statements of Interest (SOI) for the redevelopment and adaptive reuse of the most iconic building at America's Port®, Warehouse No. 1 – the Port's original multi-story warehouse. The SOI being solicited is envisioned to generally consist of a narrative description that outlines the respondent's vision for adaptive reuse of the site including the overall best use of this property.

The approximately 480,000 square foot (sf) property is available for redevelopment, adaptive re-use and operation as a commercial and visitor-serving facility. Stunning and unmatched panoramic harbor views provide the ideal setting for a revitalized use at this location. The RFI represents the essential 'Idea Phase' effort allowing the Harbor Department, its stakeholders and policymakers to better understand the possibilities for proposals to redevelop Warehouse No 1.

This idea phase is envisioned to address two critical goals: (1) identifying and encouraging visitor-serving uses at the site; and (2) identifying the financial feasibility of Respondent's use concept(s). Potential illustrative uses include creative office, hospitality, dining, entertainment, food and other marine-related or visitor-serving adaptive commercial uses that preserve Warehouse No.1's Historic Resource stature, consistent with the Public Trust Doctrine. Notwithstanding the illustrative use examples, the Harbor Department is flexible and open to diverse, imaginative and thoughtful concepts presented during this Idea Phase.

Warehouse No. 1 is in the Outer Harbor area at the southern end of the Main Channel of the Port, which is located at 2500 Signal Street, San Pedro, California, 90731. The property features exceptional panoramic views, including views of the ocean from Catalina Island to south Orange County, San Gabriel and San Bernardino Mountains, Port's main shipping channel, Vincent Thomas Bridge, and Palos Verdes Peninsula. For more than a century, Warehouse No.1 has been the first building seen by vessels entering the LA Harbor.

Located at the LA Waterfront, Warehouse No. 1 is strategically located next to several current and future developments, which are briefly described in the list below:

- AltaSea. A unique public-private partnership and campus of innovation for ocean-related science, business, and education (further described in Section 4.3.1); and

- Port's West Harbor Development Project (formerly known as the San Pedro Public Market development project). A 42-acre, $250 million development lead by The Ratkovich Company and Jerico Development. The Harbor Department has invested over $95 million in infrastructure supporting the West Harbor development which will ultimately result in a modern and vibrant harbor-side entertainment district featuring a broad spectrum of retail, dining, and public attractions (further described in Section 4.3.2)

Completed in 1917 in response to the opening of the Panama Canal, Warehouse No. 1 served as the Port's only bonded warehouse, a function that was critical to Los Angeles' entry into international trade markets. Additionally, Warehouse No. 1 contributed to the Port's explosive growth in imports and exports after WWI. Also, it served a leading role in break-bulk cargo warehousing needs through the early 1960s, until cargo containerization revolutionized port operations.

Further, Crescent Warehouse Company operated a municipal and U.S. Customs bonded warehouse operation within the facility until early 2013. Currently, portions of Warehouse No.1 are still used by the Harbor Department as a storage facility. Today, the site remains in constant demand as a popular film production location for movies and TV shows including Scorpion, Veep, Lethal Weapon, Sneaky Pete, Animal Kingdom, Rug Rats and LA's Finest.

As a symbol of the Port's growth into America's largest trade gateway, Warehouse No.1 is a landmark building, listed in the National Register of Historic Places (#00000386)[1] with the US Department of Interior and is also recognized as a California State Historical Landmark (No. 2709). More detailed information about the site is in Section 5 below.

1.2. RFI Objective

This RFI represents the first step in developing plans and approaches to preserve, rehabilitate, and adaptively re-use Warehouse No. 1. The objective of this RFI is to provide the Harbor Department with economic and real-world input and ideas on visitor-serving use profiles that will attract the capital necessary to revitalize, redevelop, adaptively-re-use and economically spur this iconic asset.

The responses to this RFI will assist in shaping and defining the use concepts and parameters that will be evaluated in a planned second step, the Request for Qualifications (RFQ) phase. A planned final Request for Proposals (RFP) stage would represent the third step in the overall process, with the ultimate goal of entering into a long-term agreement with a successful RFP respondent.

1.3. Agreement Structure

Warehouse No.1 is a site at the Port of Los Angeles, which is held in trust by the Harbor Department for the citizens of the State of California under the State Tidelands Act. Therefore, the Harbor Department anticipates using a long-term agreement for this redevelopment/reuse opportunity (noting a 66-year term is the current maximum allowable under the City of Los Angeles Charter and the Harbor Department's Statutory Trust Grant.) Although the Harbor Department is flexible and open to diverse, imaginative and thoughtful concepts presented during this Idea Phase, in general, redevelopment uses must be consistent with both the Tidelands Trust and its Historic Resource designation. Such uses could include a mix of creative office, hospitality, and other marine-related or visitor-serving adaptive commercial uses that preserve Warehouse No.1's historic character. It is important to note, long-term residential uses are not compatible with the Tidelands Trust, along with strictly commercial uses lacking any nexus with maritime commerce, marine-related education or recreation, or visitor-serving purpose. However, commercial uses that are considered outside the traditional parameters of the Public Trust have been considered when a significant amount of historic preservation is expected, and the overall project furthers the goals of the Tidelands Trust. Evaluating the trust consistency of a proposed project that is outside

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National Register of Historic Places
[1] *https://npgallery.nps.gov/GetAsset/e481ca56-63cc-4644-8ade-d0112f390dd3/*

the parameters of commerce, navigation, fisheries, open space and environmental protection is a complex process that varies from project to project and is dictated by the unique characteristics of a particular project and the public's trust needs at that particular site.

Although the Harbor Department's goal is to utilize a long-term agreement for the site, the RFI itself does not represent the anticipated process to identify or select a potential successful respondent, which shall be further evaluated and selected through the separate RFQ and RFP processes described in Section 1.2 above. The Harbor Department will neither formally rank, score, or otherwise evaluate responses; nor will the Harbor Department use the responses to create a pool for potential future solicitations.

1.4. Private Capital Investment

This historic structure will require substantial capital investment. It is anticipated that alterations to retrofit the building for seismic, life/safety, and structural upgrades, as well as to adapt the building for re-use under historic guidelines will be required. The ultimate redevelopment concept must generate revenues and be adequately self-sufficient to attract the private capital necessary to fund the redevelopment costs. As the public lessor, the Harbor Department can offer flexible agreement terms and aid in navigating the regulatory and stakeholder input process. Developers should investigate the availability of potential Tax Incentives for Preserving Historic Properties[2]. This is not required as part of the SOI but will be a part of the analysis of subsequent RFQs and RFPs.

2. Site Tour and Questions

2.1 Site Tour

The Harbor Department will conduct a non-mandatory site tour for interested parties on December 12, 2024, starting at 10:00 AM, at Warehouse No.1, 2500 Signal St., San Pedro, CA 90731. To RSVP please click the link here. All respondents should RSVP no later than 3:00 P.M. on November 20, 2024.

2.2 Questions

Respondents who seek additional information and have questions regarding this RFI are invited to email questions to therr@portla.org by January 15, 2025. All questions will be answered in writing and posted on the Harbor Department's website and the Regional Alliance Marketplace for Procurement (RAMP), at www.rampla.org, on February 7, 2025.

3. The Port of Los Angeles[3]

The Port, Southern California's gateway to international commerce, is located in San Pedro Bay, just 20 miles south of downtown Los Angeles. The Port is located at the southerly terminus of the Harbor (I-110) Freeway, leading directly from Downtown Los Angeles to the Port and providing excellent regional accessibility. As the busiest container port in North America, the

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Tax Incentives for Preserving Historic Properties
[2] https://www.nps.gov/tps/tax-incentives.htm
The Port of Los Angeles
[3] https://www.portoflosangeles.org/

Port not only sustains its competitive edge with record-setting cargo operations, but is also known for its groundbreaking environmental initiatives, progressive security measures and diverse recreational and educational facilities.

The Legislature granted the City of Los Angeles filled and unfilled sovereign Public Trust lands pursuant to Chapter 656, Statutes of 1911, and Chapter 651, Statutes of 1929, as amended, known as the Port of Los Angeles. The Port is operated and managed by the City of Los Angeles Harbor Department (Harbor Department), under a state Tidelands Trust. The Harbor Department manages the tidelands trust in accordance with the Public Trust Doctrine and the City's statutory trust grant to promote maritime commerce, navigation, fisheries and public access to the waterfront, water-dependent or visitor-serving related, including commerce, navigation, fishing, as well as water-oriented recreation, visitor serving uses and environmental protection.

Management of the Port is governed by a five-member Board of Harbor Commissioners (Board) appointed by the Mayor and confirmed by the Los Angeles City Council (City Council). As a proprietary and self-supporting department, the Harbor Department is not supported by taxes. Instead, Port revenue is derived from fees for shipping services such as dockage, wharfage, pilotage, storage, property rentals, royalties, and other Port services, which are segregated from general City funds. Considered a landlord port, the Harbor Department leases property to tenants who develop, operate, and manage cargo, passenger, freight, boating, recreational and commercial visitor-serving facilities.

The Port of Los Angeles is America's premier port and has a strong commitment to developing innovative, strategic and sustainable operations that benefit Southern California's economy and quality of life. North America's leading seaport by container volume and cargo value, the Port of Los Angeles facilitated $292 billion in trade during 2023. San Pedro Bay port complex operations and commerce facilitate one in nine jobs in the five-county Southern California region.

Under the current Port Master Plan, adopted in 1980, comprehensively updated in 2014 and updated in 2018, the Port's vital cargo operations and handling facilities are focused primarily on Terminal Island to the East and other locations which are buffered from the neighboring residential communities of San Pedro and Wilmington. An important Port Master Plan goal of increasing public access to the waterfront has been achieved through deindustrializing waterfront property in Wilmington and San Pedro and allowing for the creation, development, and expansion of visitor-serving facilities on the LA Waterfront.

4. The LA Waterfront[4]

Set against the picturesque backdrop and bustling commercial activity of the Port of Los Angeles, the LA Waterfront includes more than 400 acres of land adjacent to 8 miles of prime waterfront and boasts historic Los Angeles Harbor landmarks, such as the welcoming Vincent Thomas Bridge, Angel's Gate Lighthouse, and the iconic Warehouse No. 1. The Harbor Department funds and maintains the LA Waterfront and remains committed to preserving and enhancing public access to the waterfront by connecting visitors and local harbor communities

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The LA Waterfront

[4] https://www.lawaterfront.org/

with recreational and commercial attractions that expand and diversify the Port's position as a premier source of economic vitality for the region.

The 2009 San Pedro Waterfront EIR further refined the development vision for this area, which extends south along the Main Channel from the Vincent Thomas Bridge and includes the World Cruise Center and Catalina Channel Express terminals, downtown San Pedro, the West Harbor development, the Southern Pacific Slip, and commercial fishing fleet, with its southerly end at City Dock No. 1 - the site of AltaSea, and Warehouse No. 1. To the west is the Outer Harbor, slated for future expanded cruise operations, the Cabrillo Way Marina and commercial development pads, and the former San Pedro Boatworks site at Berth 44 which is the development site for a new modern boatyard. To the far west are picturesque recreational marinas, yacht clubs, office/commercial space, a restaurant and Sportfishing landing, and a 226 key first-class hotel. There are approximately 2,077 recreational boat slips in the San Pedro Waterfront area, and 3,721 recreational boat slips throughout the Port of Los Angeles.

4.1. Visitor Attractions[5]

The LA Waterfront includes miles of public promenades and walking paths, acres of open space offering scenic views, visitor attractions and one of the largest water features in Los Angeles. Through its public and private partners, the LA Waterfront is home to the Cabrillo Marine Aquarium, Crafted at the Port of Los Angeles and Brouwerjii West, the DoubleTree by Hilton San Pedro, the Battleship IOWA museum, West Harbor, Harbor Breeze Cruises, Catalina Express, 22nd Street Landing Restaurant and Sportfishing and AltaSea at the Port of Los Angeles. A unique destination to play, dine, shop, and explore, the LA Waterfront currently attracts approximately 2 million visitors annually. For more information, visit https://www.lawaterfront.org.

4.2. Public Access Investment Plan[6]

Over the past 20 years, the Harbor Department has invested over $700 million to enhance public access infrastructure along the LA Waterfront. In 2015, the Harbor Department created the Public Access Investment Plan (PAIP) as a 10-year budgetary guideline expected to allocate approximately $400 million for continued infrastructure investment, operations, and development of the LA Waterfront. The PAIP ties community infrastructure investments to 10% of the Harbor Department's annual operating income. From 2005 to 2025, the Harbor Department expects to invest over $1 billion in waterfront capital development, programming, and maintenance. The PAIP provides a predictable, transparent, and sustainable investment strategy that builds public access infrastructure, strengthens community engagement, and increases visitors through programming and events – all with the goal of attracting private sector investment along the LA Waterfront.

4.3. San Pedro Development Projects

As described above in the previous section, the Harbor Department has committed to substantial additional public investment, with several major private and nonprofit developments

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Visitor Attractions and the LA Waterfront

[5] *https://www.lawaterfront.org/visit*

Public Access Investment Plan

[6] *https://www.portoflosangeles.org/references/2023-news-releases/news_041323_paip*

currently underway that will add further private investment to the LA Waterfront. Combined, West Harbor and AltaSea are expected to represent more than $200 million in private investment capital by 2025. The Harbor Department is also investing more than $100 million in these projects through infrastructure upgrades, which are both anticipated to complete their initial phase of construction by 4Q 2025 / 1Q 2026 almost doubling annual visitation to the LA Waterfront at full build-out and generating up to 1,400 new jobs. The following subsections further describe the PAIP commitments to-date, which include substantial infrastructure investments in the San Pedro public/private development projects that have attracted significant private sector capital.

4.3.1. AltaSea at the Port of Los Angeles[7]

AltaSea is a unique 35-acre public-private ocean institute and blue-tech innovation campus. AltaSea's mission is to accelerate scientific collaboration, facilitate job creation, build upon existing strong community relationships and inspire the next generation for a more sustainable ocean. In August 2018, AltaSea took full possession of three warehouses with deep-water dock access, Buildings 58, 59 and 60, as well as a one-acre parcel next to Building 58. In June 2024, AltaSea's Berth 58 Center for Innovation opened as part of a $30 million renovation of three historic waterfront warehouses[8,9]. This opening represents a 120,000-sf completion of the 180,000 SF warehouse development. The ocean research center will be home to researchers from University of Southern California (USC), University of California, Los Angeles (UCLA) and Caltech, as well as famed oceanographer and explorer Dr. Robert Ballard, credited with discovering the underwater wreckage of the Titanic.

In addition to the above tenants, AltaSea has integrated other tenants and partners including, but not limited to, Vertical Oceans, California Department of Fish and Wildlife, and Pacific Mariculture[10]. AltaSea is also now addressing critical current educational needs through its Project Blue program providing a safe distance-learning environment for students. AltaSea partners including Diane Kim of Holdfast Aquaculture, and Rusty Jehangir of Blue Robotics are delivering high-quality, digestible educational content for science-inclined students in middle and high school as a part of the program.

4.3.2. West Harbor[11]

This exciting new visitor-serving commercial center is slated to open in 2025 on the 40-acre former Ports O'Call site. The West Harbor will be a world-class waterfront destination, comprised of 42 acres, situated along the main channel of the Port of Los Angeles and set against the backdrop of North America's busiest working port. West Harbor will provide a vibrant, family-friendly shopping, dining, entertainment, and recreational destination that will connect historic downtown San Pedro to the LA Waterfront, bringing jobs and economic opportunities to the surrounding harbor community. West Harbor will feature expansive public spaces; diverse

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AltaSea at the Port of Los Angeles

[7] https://altasea.org/

AltaSea Center for Innovation Ribbon Cutting on May 29, 2024

[8] https://drive.google.com/file/d/16o07wVt1lqbqVxs8qlnYKldca8aKygYK/view

AltaSea's Berth 58 Center for Innovation Grand Opening

[9] https://altasea.org/event/altaseas-ribbon-cutting-of-berth-58/

AltaSea's Partners

[10] https://altasea.org/partners/

West Harbor

[11] https://www.westharborla.com/

entertainment, dining, and retail offerings; access to historical centers and museums; a proposed 6,200-seat open-air amphitheater promoted by Nederlander; and more—providing an authentic and one-of-a-kind Southern California port experience. Planned in multiple phases, phase 1A of the project is an 82,000-sf prefabricated metal building, re-vamped outdoor area, and infrastructure and parking. West Harbor is being developed through a joint venture between The Ratkovich Company and Jericho Development[12].

4.3.3. Town Square & Promenade[13]

In January of 2020, the Harbor Department officially broke ground on the $53.7 million LA Waterfront town square and promenade project, which will connect San Pedro's Downtown Harbor to the future West Harbor development. Features of the 1.9-acre, 30-foot-wide promenade and four-acre town square will include "harbor swings," public seating, landscaping, hardscaping, signage, architectural finishes, handrails, and lighting. In response to growing tourism and visitors to the LA Waterfront, the project will include construction of public restrooms as well.

4.4. Future Developments[14]

The future projects, identified below, include initiatives that will build on existing and proposed modes of mobility as a foundation to create a network of well-connected, multi-benefit spaces that are accessible and safe for all state-wide visitors seeking to enjoy an authentic LA Waterfront.

4.4.1. Boatyard at Berth 44

The Harbor Department is currently in negotiations with a developer for the proposed private development, construction and operation of a state-of-the-art boatyard to serve Southern California's recreational and commercial boaters. Additionally, the Harbor Department is currently in the California Environmental Quality Act (CEQA) assessment process. A Notice of Preparation/Initial Study was released in January 2024[15].

4.4.2. Cabrillo Way Marina Commercial Development Opportunity

The Harbor Department is currently in advanced negotiations with a developer for the privatization of the Cabrillo Way Marina recreational boating improvements and the development of the Cabrillo Way Marina Commercial Development pads, which was previously approved for approximately 90,000 sf of commercial development under the 2009 San Pedro Waterfront EIR[16], with the anticipated goal of entering into a long-term agreement in 2025.

West Harbor Fills Out on San Pedro Waterfront

[12] https://la.urbanize.city/post/west-harbor-development-fills-out-san-pedro-waterfront

Port Of Los Angeles Celebrates Phase I Completion Of The $36 Million Town Square & Promenade Project

[13] https://www.portoflosangeles.org/references/2021-news-releases/news_102121_townsquare

Development Opportunities at the LA Waterfront

[14] https://www.lawaterfront.org/invest/development-opportunities

Port of Los Angeles Releases Initial Study, Notice of Preparation For Proposed Boatyard At Berth 44

[15] https://www.portoflosangeles.org/references/2024-news-releases/news_011124_nop_b44_boatyard

2009 San Pedro Waterfront EIR

[16] https://www.portoflosangeles.org/environment/environmental-documents

4.4.3. Outer Harbor Cruise Terminal

The Harbor Department released an RFP[17] in 2024 for the construction and operation of a combined modern cruise terminal and event space in the Outer Harbor.

4.4.4. San Pedro Residential Development Activity

Due to its location, favorable economic conditions, and pro-development community climate, San Pedro has experienced a renaissance of residential development, which include a mix of affordable and market-rate units. In the past five years, 570 multifamily units were delivered in San Pedro, and there are more than 1,700 units that are currently under construction[18]. While not part of the Harbor Department's jurisdiction, this residential activity adds to the burgeoning economic vibrancy of San Pedro and the LA Waterfront.

It is worth noting that One San Pedro[19], which is estimated for completion in 2037, is the most significant residential development coming to the area. Over the next decade, it will provide 1,600 new mixed-income residential units, as well as ground-floor retail and community amenities. The 1,600 units are a mix of for-sale and rental dwellings, with more than 1,000 marketed as affordable. The development has five acres of open space and 90,000 square feet of ground-floor retail. Other amenities include space for community services like childcare, business incubation, and health care. The development will also boast an integrated network of walking and biking paths.

5. Site Description and Considerations

5.1. Warehouse No. 1 Site and Building Characteristics[20]

Located in the Outer Harbor area at the southern end of the Main shipping channel, Warehouse No. 1 is one of the largest and most prominent structures at the Port of Los Angeles. The reinforced board-formed concrete structure is 6 stories tall (68 feet high) with 480,000 sf of interior space. A building footprint of 500 x 160 feet (80,000 sf) sits on an overall site consisting of approximately 125,000 sf, or approximately 2.9 acres.

Both massive in size and detailed in design, the Neoclassical building features lions-head gargoyle down spouts and an iconic water-tower atop the building that makes it instantly recognizable to millions. The ground floor was designed to accommodate 24 internal freight cars for quick movement of shipments to the wharves. The first floor is 14'-6" in height and the remaining floors have 10'-0" floor to ceiling heights. A basement roughly 5 feet below grade has a 7'-9" floor to ceiling height. Principal access is located on the north end of the building and

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Cruise Terminal Development and Operations RFP

[17] *Final RFP*

San Pedro's Waterfront Connectivity Plan

[18] *https://www.lawaterfront.org/invest/current-port-projects/san-pedro-connectivity-plan*

HACLA Commissioners give key sign off to Rancho San Pedro redevelopment

[19] *https://la.urbanize.city/post/hacla-commissioners-give-key-sign-rancho-san-pedro-redevelopment*

Port of Los Angeles Warehouse No. 1

[20] *https://www.youtube.com/watch?v=GUUONvDZgt8*

includes a concrete ramp and loading docks on either side of the ramp. The site is paved and includes 50 parking spaces located on its north, east and west sides.

Address:	2500 Signal Street, Los Angeles, CA 90731
Assessor Parcel No:	7440-037-902
Building Area:	480,000 sf
Land Area:	≈125,000 sf (2.9 acres +/-)
Zoning:	M3
Existing Use:	Warehouse/Office
Parking Spaces:	50 +/-
Rail Served:	No
Year Built:	1917
Construction Type:	Reinforced Concrete over pile system on fill
Specific Plan Area:	Port of Los Angeles - Port Master Plan
Council District:	15

5.2. Structural Conditions

The structure, completed in 1917, is situated on man-made fill in the Los Angeles Harbor at the southern end of the East Channel, in an area subject to high seismic risk. In 2007, A Seismic Retrofit Preliminary Geotechnical Investigation was prepared by Diaz Yourman & Associates. This report evaluated retrofitting the structure to FEMA 2000 standards for Historic Buildings. Additionally, a Structural Feasibility Study performed in 2007 by Miyamoto International, Inc. evaluated the structural system and modifications necessary to create a new, usable space with an occupancy and functionality other than the current heavy storage use. The structural evaluation for the renovation feasibility study was based on meeting Basic Safety Objective (BSO) rehabilitation goals developed per FEMA 356 and was anticipated to conform with 2007 California Building Code requirements.

These and other reports and analysis including renovation cost estimates (2007), structural testing and a proposed architectural concept, along with original plans for the building dated September 10, 1915 “M.D. No. 1 – Warehouse No. 1” created by the Harbor Department, are available for informational purposes in the Cloud Data Room, which is described in Section 5.9, below.

5.3. Environmental Assessment under CEQA

The adaptive reuse of Warehouse No. 1 was contemplated in the Port Master Plan. However, it was not assessed in the 2009 San Pedro Waterfront EIR, as the redevelopment of the City Dock No. 1 area of the LA Waterfront was programmatically addressed as “institutional uses” with details to be developed later in a focused 2012 project EIR, with CEQA Addenda in 2013 and 2017. The 2009 San Pedro Waterfront EIR only described Warehouse No. 1 as receiving public access from “the Waterfront Promenade that would extend to the south toward City Dock No. 1, along the edge of the Main Channel providing access to Warehouse No. 1.” Warehouse No. 1 was considered for adaptive reuse as a potential location for a Red Car Museum, in a CEQA Alternative which was ultimately rejected in favor of the 2009 San Pedro Waterfront EIR. With the Waterfront Promenade access and burgeoning developments at Alta Sea, Warehouse No. 1 is now ready to begin the redevelopment proposal solicitation process. Ultimately the project will require a new Environmental Impact Report (EIR), that will consider its status as a national registered historic landmark.

5.4. Historic Resource Status

As a symbol of the Port's growth into America's largest trade gateway, Warehouse No.1 is a landmark building, listed in the National Register of Historic Places (#00000386)[21] with the US Department of Interior and is also recognized as a California State Historical Landmark (No. 2709). The designated status allows use of the California State Historic Building Code[22], which provides alternative permitting regulations for the rehabilitation of original or restored elements and features. Redevelopment of the property will need to comply with the Secretary of the Interior's Standards for Rehabilitation[23] and be subject to the California Environmental Quality Act (CEQA) through the EIR process.

5.5. California State Lands Commission - Public Trust Doctrine

The Legislature has given the California State Lands Commission authority over California's sovereign lands – lands under navigable waters. These are lands to which California received title upon its admission to the Union and that are held by virtue of its sovereignty. These lands are also known as Public Trust lands. The Commission administers Public Trust lands pursuant to statute and the Public Trust Doctrine – the common law principles that govern use of these lands. These principles include Public Trust Lands are owned by the public and held in trust for the people by government and cannot be bought and sold like other state-owned lands. As a result of the State's Tidelands grant of the Port of Los Angeles to the City described in Section 3 above, the Harbor Department holds Warehouse No. 1 in trust for the benefit of the people of the state of California consistent with the State Tidelands Grant and Public Trust Doctrine, and is also subject to the above Public Trust restrictions against sale of Port land and must act as a trustee for statewide benefit.

Under the Public Trust Doctrine, uses are limited to those that promote public trust purposes, which are generally limited to maritime commerce, fisheries, navigation, water-dependent or marine-related education and recreation, visitor-serving facilities and environmental preservation. Uses that are generally not permitted on Public Trust lands are those that are not Trust use-related, do not serve a public purpose, and can be located on non-waterfront property, such as residential and non-maritime related commercial and office uses. The most flexibility in allowable Trust uses is reserved for those that satisfy Trust goals of providing public access, services and/or programming to visitors from throughout the state of California.

Public Trust uses have evolved over time through additional state legislative grants to modify allowable uses as public needs change. Initially, Public Trust uses were limited to maritime commerce, navigation and fishing, but in recent decades have been expanded by judicial decisions and said statutory grant amendments to include water-oriented recreation, retention as open space and habitat protection for wildlife and plant preservation and for scientific study and visitor-serving amenities. Obvious Public Trust uses include ports, wharves, docks, marinas, buoys, commercial and sport fishing, boating, swimming, open space and wildlife refuges.

National Register of Historic Places

[21] https://npgallery.nps.gov/GetAsset/e481ca56-63cc-4644-8ade-d0112f390dd3/

California State Historic Building Code

[22] http://ohp.parks.ca.gov/?page_id=21410

Secretary of the Interior's Standards for Rehabilitation

[23] https://www.nps.gov/tps/standards/rehabilitation/rehab/stand.htm

Less obvious, but nonetheless appropriate, Public Trust uses include commercial and industrial facilities that by their very nature require locations on the water or directly adjacent to the water. These include warehouses, power plants, oil and gas production facilities and pipelines. Other Public Trust uses are those that are ancillary or incidental to the use and enjoyment of Public Trust lands. They support Public Trust uses or provide accommodation for these uses and include hotels, restaurants, visitor-serving establishments and parking facilities. More difficult issues arise when trying to decide whether commercial and retail establishments primarily serve visitors to the waterfront or local residents; or whether recreational venues have a sufficient connection to water to enhance the public's use and enjoyment of the water. Purely residential uses such as condominiums or apartments would not be an allowable use for the Port of Los Angeles, nor would a project use consisting of purely local-serving retail or offices.

Evaluating the trust consistency of a proposed project that is outside the parameters of maritime commerce, navigation, fisheries, open space, and environmental protection is a complex process that varies from project to project and is dictated by the unique characteristics of a particular project and the extent to which it satisfies Public Trust objectives at that particular site.

In prior analyses of trust consistency, the Commission has considered historic preservation of maritime structures as falling within the range of appropriate public trust uses when significant public trust uses and public access, including access to view historic maritime structures, are incorporated into the project, and when the project meets the standards for rehabilitation and guidelines for rehabilitating historic buildings as set forth by the Secretary of the Interior. As previously stated, evaluating the trust consistency of a proposed project that is outside the parameters of commerce, navigation, fisheries, open space and environmental protection is a complex process that varies from project to project and is dictated by the unique characteristics of a particular project and the public's trust needs at that particular site.

5.6. Potential Adaptive Re-Uses

The Harbor Department anticipates that feasible uses for Warehouse No. 1 may include water-dependent uses, arts, culture and museum uses, entertainment, education, maritime (excursion and leisure) uses, entertainment, assembly, parks and open space, hospitality, historic preservation, and visitor-serving retail use concepts. Given the size of the building, it is possible that the highest utility for the site would derive from a mix of complementary uses. Interested parties with compatible uses and/or variable pertinent past experience are encouraged to team up to explore such alternatives.

5.7. Port of Los Angeles Regulatory Framework

All operations within the Port of Los Angeles Harbor District are subject to the State Tidelands Trust, the California Coastal Act, and the City of Los Angeles Charter provisions, among other laws. As a proprietary department of the City of Los Angeles, the Harbor Department handles certain planning, zoning, and permitting requirements, including issuance of Coastal Development Permits (CDP)s under oversight by the California Coastal Commission. Additionally, the Harbor Department would be the lead agency under any project environmental assessment performed under the California Environmental Quality Act (CEQA).

The Harbor Department’s planning efforts center around the long-range Port Master Plan, which guides the future development of the Port consistent with the Provisions of the California

Coastal Act. An expanded commercial use for Warehouse 1 has already been included in the existing Port Master Plan[24], which will aid in streamlining the entitlement process.

5.8. Federal Historic Preservation Tax Incentive Program

The Federal Historic Preservation Tax Incentives Program[25] encourages private sector rehabilitation of historic buildings and is one of the Nation's most successful and cost-effective community revitalization programs.

The program is administered by National Park Service and the Internal Revenue Service in partnership with State Historic Preservation Offices. California's Office of Historic Preservation[26] (OHP) Architectural Review and Incentives Unit administers the Federal Historic Preservation Tax Incentives Program and provides consultation and architectural review based on conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties[27] (Standards)

Planning Successful Rehabilitation Projects[28] provides guidance on interpreting and applying the Standards, windows, interior treatments, new additions and related new construction, modern requirements and new technologies and materials, and functionally-related complexes.

5.9. Due Diligence Documents

Applicable documents and plans available to Respondents to assist in the formulation of their SOIs will be provided by the Harbor Department on www.Rampla.org. Documents include but are not limited to: (1) Seismic Retrofit Preliminary Geotechnical Investigation, (2) Structural Feasibility Study, and (3) potential building plans and cost estimate.

6. Request for Interest (RFI) Objectives

The primary objective of this RFI is to identify, gather initial input, and understand interested parties' vision to advance Warehouse No. 1's successful redevelopment. Key considerations and objectives of the Harbor Department are to:

- Fulfill Historic Resource rehabilitation/redevelopment requirements;
- Provide for an adaptive re-use(s) that conforms with Public Trust and Statutory Trust Grant requirements; and
- Conceptually generate revenues sufficient to justify the project redevelopment costs.

Port Master Plan
[24] https://www.portoflosangeles.org/about/port-master-plan
Federal Historic Preservation Tax Incentives Program
[25] http://www.nps.gov/tps/tax-incentives.htm
California's Office of Historic Preservation
[26] https://ohp.parks.ca.gov/?page_id=29847
Secretary of the Interior's Standards for the Treatment of Historic Properties
[27] http://www.nps.gov/tps/standards.htm
Planning Successful Rehabilitation Projects
[28] http://www.nps.gov/tps/standards/applying-rehabilitation/successful-rehab.htm

Rather than proceeding with a formal RFQ/RFP process initially, this RFI step has been included to create an iterative process in which interested developers and/or users may submit potential concepts that can be considered for viability and refined in subsequent stages along the way. This approach will minimize efforts spent by all parties on non-viable approaches and will allow for more optimal subsequent formal RFQ/RFP processes.

The Harbor Department invites SOI responses from developers, community groups and organizations, business owners, entrepreneurs, education and cultural institutions, potential tenants/users, and stakeholders for the maritime, commercial, and visitor-serving uses described above. Ideally, this process will facilitate collaboration and partnership between developers and potential tenants/users. All potential respondents, including, but not limited to, developers, business operators, and other stakeholders are encouraged to team up in order to maximize the viability of their use and vision.

Harbor Department staff will use the Statements of Interest received to formulate promising high-level adaptive re-use and redevelopment strategies. The resulting viable strategies may help form the basis for issuing the subsequent RFQ/RFP.

SOI responses should be based on experience and include a level of detail and be sufficient to support the initial feasibility analysis of the proposed concept.

7. Statement of Interest Guidelines

7.1. Statement of Interest Submission

To be a part of the planning phase of this Redevelopment Opportunity, please submit one (1) electronic copy in a single PDF file (20 MB maximum) of your Statement of Interest (SOI) on or before 3:00 p.m., March 10, 2025 to Tanisha Herr at therr@portla.org.

Respondents are solely responsible for the timeliness of their submittals. As such, respondents are cautioned to budget adequate time to ensure that their SOIs are delivered at the location designated at or before the deadline set forth above.

7.2. Statement of Interest Content

Submissions should be organized in the format outlined below. The body of the SOI should be no more than ten (10) 8.5 x 11 pages (in PDF format - 20MB max.), including planned concepts and other attachments.

All SOIs shall provide the following in the indicated format:

- **Section A - Letter of Transmittal**

- **Section B – Firm/Team Identity Statement**
  - A concise Statement of Firm Identity (Developer, Tenant, Institution) that describes the respondent's identity.

- **Section C - Conceptual Vision**
  - A narrative description that outlines the vision for adaptive reuse including the overall best use of property and targeted demographic customer base.

- **Section D – Thoughts and Advice for Harbor Department**
  - Any thoughts and advice you wish the Harbor Department to consider when: (1) identifying and advancing the vision for this Redevelopment Opportunity; and (2) carrying out the RFQ/RFP phase of the project to select the optimal partner to advance this redevelopment.

- **Section E – Conceivable Financial Capability and Resources Pro Forma (Optional)**
  - A high-level outline of the potential financial pro forma of adaptive uses displaying funding strategy for the proposed adaptive reuse of Warehouse No. 1.

Each submission should take the following factors into consideration:

- Does the use concept have the potential to satisfy the 3 primary redevelopment project requirements?
  1. Preservation and rehabilitation according to historic Resource guidelines;
  2. Conformity with acceptable Public Trust and Statutory Trust Grant uses; and
  3. Financial feasibility supporting redevelopment project costs.

Respondents will be contacted for in-person interviews with Harbor Department staff, to allow each party to further explain and gain knowledge regarding the Redevelopment Opportunity and Respondent’s proposed concept/vision. Although the SOI and interview will not be graded; it will allow Harbor Department learn from each Respondent and ensure this redevelopment opportunity is advanced as optimally as possible.

8. Future RFQ and RFP Phases

Respondents who have the relevant experience necessary for developing and bringing their concepts to market are encouraged to participate in this RFI phase as well as the subsequent planned RFQ/RFP phases. Such experience would include development and financing of extensive specialty-commercial, hospitality, retail, or other active visitor-serving uses and/or industrial conversion real estate development experience. Ultimately, the Harbor Department seeks demonstrated creative and innovative approaches to the development and/or operation of adaptive reuse projects. It is the intent at the conclusion of the RFQ phase that a limited number of development concepts and potential operators will be identified as having the relevant experience necessary to fulfill the redevelopment goals for Warehouse No. 1. Therefore, it is anticipated that participation in the final RFP phase will generally be limited to a select group of participants; typically, no more than three (3) to five (5) participants will be invited to participate in the RFP phase.

Once a firm or team has been selected through the subsequent RFP process, the Harbor Department anticipates entering into negotiations of an appropriate long-term agreement. The RFP stage will require the submittal of detailed and precise economic terms and development timetables relating to the respondents’ proposed redevelopment plans. The terms of an agreement are subject to the discretion and approval of Harbor Department management and the Board. Agreement recommendations are subject to the approval of the Board and City Council.

In order to ensure a transparent overall process, a discussion of all completed and responsive SOI submissions will be included after a corresponding lease for the subject property is approved by the Board and City Council.

9. General Information and Limitations

The issuance of this RFI and the submission of a SOI by any respondent, or the acceptance of such SOI by the Harbor Department does not obligate the Harbor Department in any manner. The Harbor Department reserves the rights to:

- Amend, modify or withdraw this RFI;
- Revise any requirements of the RFI;
- Request supplemental statements of information from any RFI respondent;
- Accept or reject any or all SOIs;
- Extend the deadline for submission of SOIs; and
- Hold discussions with or without any respondent.

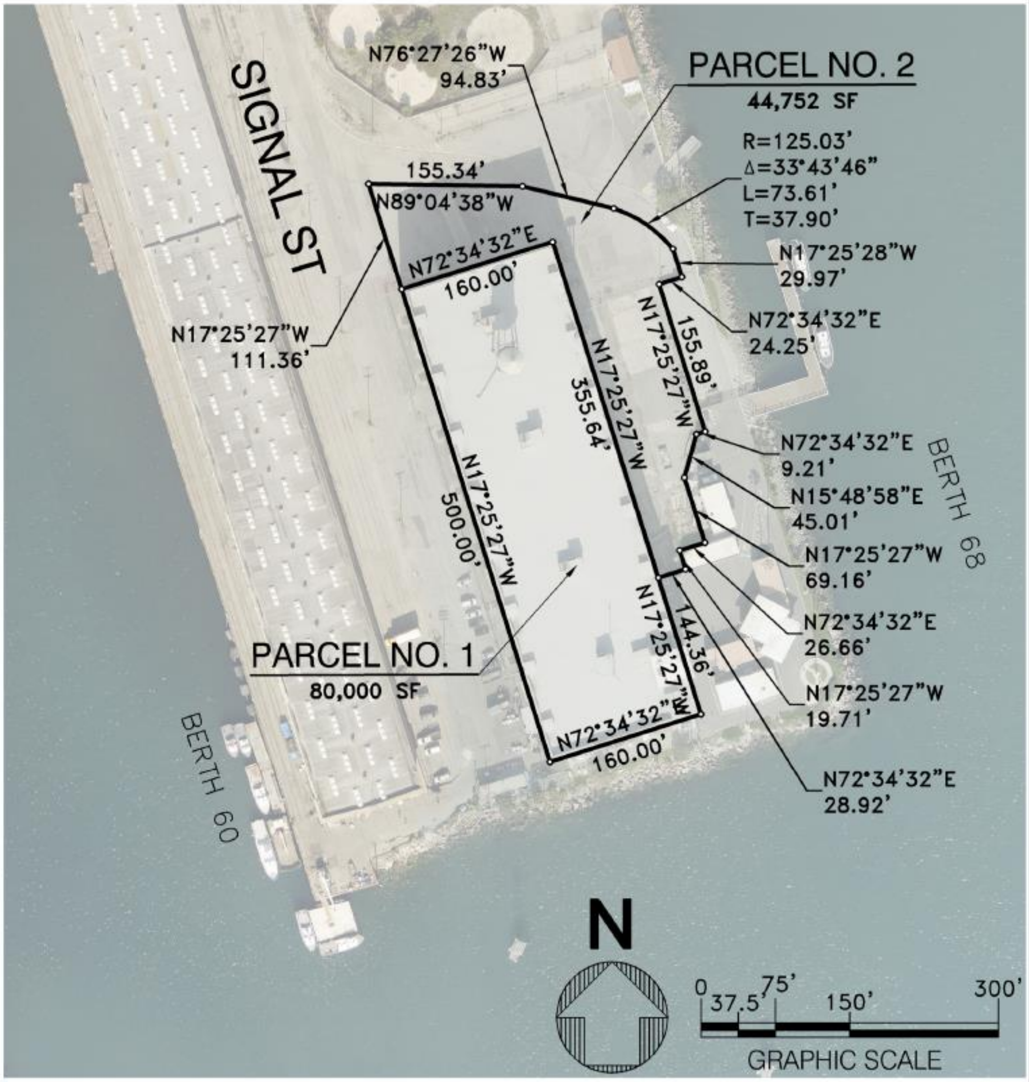
Respondents are advised that any information submitted as part of this Request for Interest will ultimately become public information and may be released without further notification after a corresponding lease is approved by the Board and City Council. Any information that the Respondent wishes not released at the end of this process should not be submitted with the SOI.

The right to include or exclude any and all SOIs shall, in every case, be reserved by the Harbor Department, as shall the right to waive any informality in the SOIs when to do so would be to the advantage of the Harbor Department. The Harbor Department will issue a summary report of SOI responses to the Harbor Department’s website after a corresponding lease is approved by the Board and City Council.

APPENDICES

Appendix A – Aerial of Warehouse No. 1

Appendix B – Permit Map of Warehouse No. 1



NOTES:

1) NO SUBSTRUCTURES ARE SHOWN ON THIS DRAWING. ACCURATE SUBSTRUCTURE INFORMATION MUST BE OBTAINED FROM LESSEES AND L.A.H.D. ENGINEERING RECORDS.

2) HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83), CALIFORNIA COORDINATE SYSTEM, ZONE 5, FEET.

3) ALL DISTANCES SHOWN ON THIS DRAWING ARE GRID DISTANCES. TO OBTAIN A REASONABLE REPRESENTATION OF THE GROUND DISTANCE, DIVIDE THE DISTANCE HEREIN BY THE AVERAGE SCALE FACTOR OF 1.000076.

SCALE: AS SHOWN
DRAWN: P. HOANG
CHECKED: C. SAR
DESIGNED: P. HOANG
ENGR/ARCH

CHIEF OF DESIGN
ASSISTANT CHIEF OF HARBOR ENGINEER
CHIEF HARBOR ENGINEER 3-21-23 DATE

PERMIT MAP - AUTHORITY NO. TBD

WAREHOUSE NO. 1

THE PORT OF LOS ANGELES
ENGINEERING DIVISION
425 S. PALOS VERDES STREET SAN PEDRO CA 90731-3309

DRAWING NUMBER
DRAFT

DWG: N:\cad\Project\R.O.W LEASE\Unsigned Drawings\Warehouse No 1.dwg USER: hayashir
DATE: Aug 9, 2023 9:04am XREFS:BOFY-PIER 0068205 IMAGES:Li_6477_1715b L6_6477_1720as
POLAPRO5_VER.1_12/96

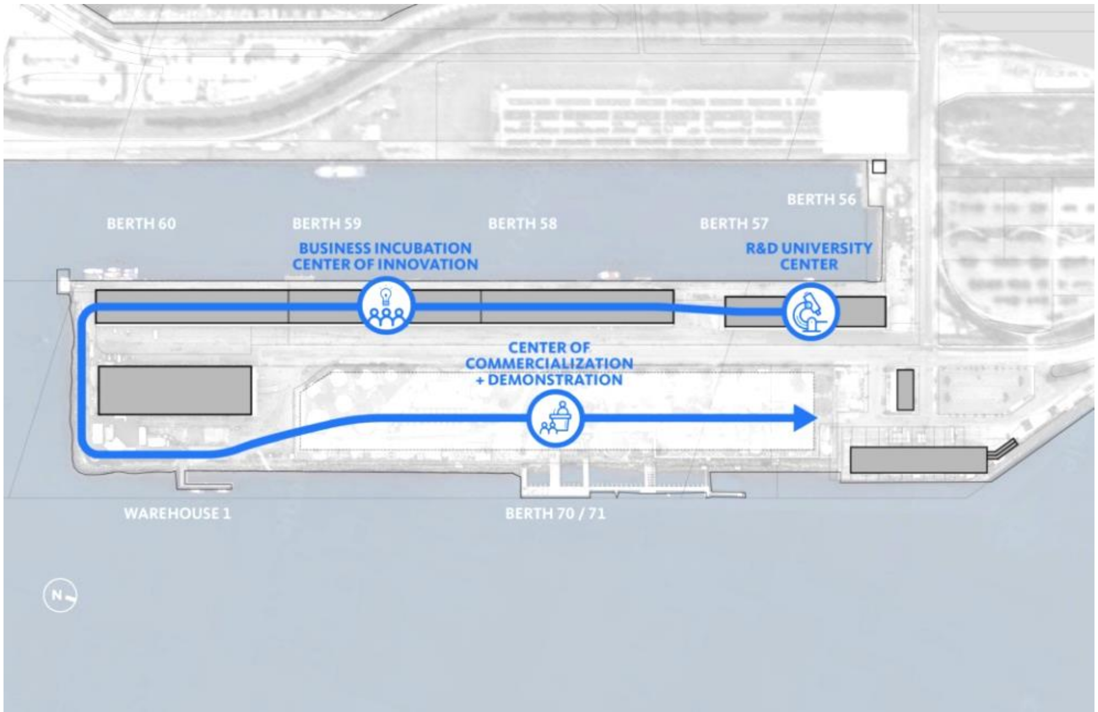
Appendix C – Vintage Photo of Warehouse No. 1

Appendix D – Vintage Aerial of Warehouse No. 1

Appendix E – Rendering of West Harbor

Appendix F – Aerial Rendering of West Harbor

Appendix G – Concept Drawing of AltaSea at the Port of Los Angeles



THE PORT OF LOS ANGELES

AMERICA'S PORT

Introduction to the LA Waterfront

AGENDA

- Overview of LA Waterfront
- Public Access Investment Plan
- Development Projects
- AltaSea
- Warehouse No. 1 Opportunity

CARGO AND VISITOR SERVING PORT

THE PORT
OF LOS ANGELES

LEGEND

🟨	Public Access Usage
🟧	Cargo Usage

VISITOR SERVING AMENITIES

THE PORT OF LOS ANGELES

- Over 400 acres of waterfront
- 15 marinas
- 3,736 recreational vessel slips and dry docks
- 25 miles from Downtown
- One-hour boat ride from Catalina Island
- 2 million+ visitors a year
- 1,000,000 revenue cruise passengers
- 200+ cruise ships annually
- Nearly 100 public events including LA Fleet Week

VISITOR-SERVING WATERFRONT STRATEGY

Build Infrastructure

Activate Waterfront

Attract Visitors & Private Investment

PUBLIC ACCESS INVESTMENT PLAN

- PAIP adopted in 2015
- 10-year budgetary guideline for public access investment
- Based on 10% of annual Port operating income
- Community input timeline 2015, 2019 and 2025

COMMITMENT TO CONTINUED INVESTMENT

$600M

Investment
Existing

$400M

2015-2025
Investment via PAIP

INCREASED INVESTMENT ALLOCATIONS

$200 M

INITIAL ESTIMATE

30%

$262 M

ACTUAL REVENUE

Port Success

=

Community Investment

RESULTS – DEVELOPMENT DISTRICT

THE PORT OF LOS ANGELES

RESULTS - LEVERAGED DEVELOPMENT

THE PORT
OF LOS ANGELES

Site Plan.


Town Square
Courtesy Dock
North Park
Phase 1C
Phase 1B
Berth 78
Phase 1A
Outdoor Concert Venue
Fisherman's Slip

New 1A Tenants


KING & QUEEN CANTINA EXPANSION

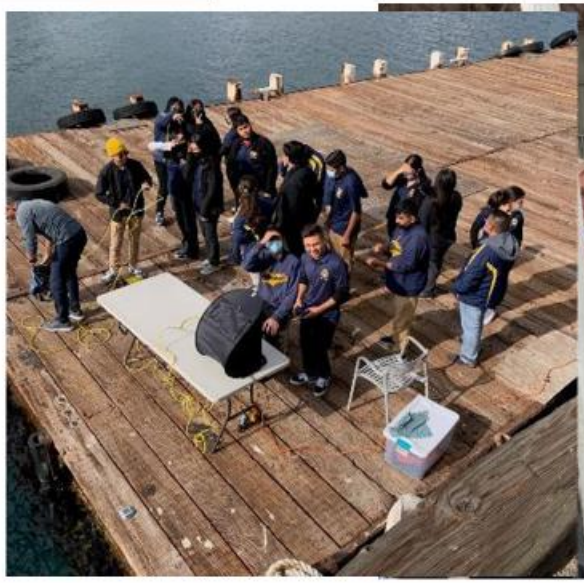
North Park.

NORTH PARK

Eight acres of outdoor recreation tenants, park, and leisure spaces directly on the waterfront

ALTASEA AT THE PORT OF LOS ANGELES

Public Engagement Throughout the Campus Integrated with Our Partners for Hands-On Learning



CABRILLO WAY MARINA

CABRILLO WAY MARINA

CRUISE TERMINAL DEVELOPMENT

CRUISE TERMINAL DEVELOPMENT

THE PORT
OF LOS ANGELES

OUR
FUTURE
IS
BLUE

AltaSea

AT THE PORT OF LOS ANGELES

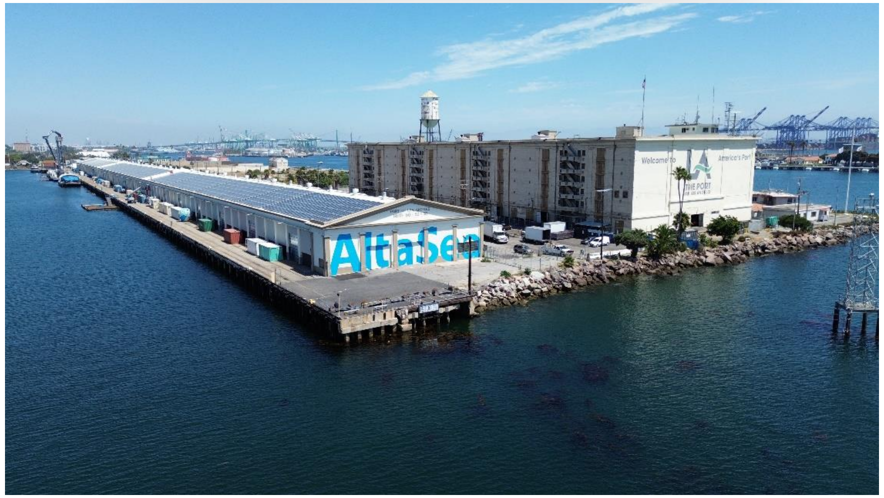
Bull kelp, Great Southern Reef, Australia
Credit: Stefan Andrews / Ocean Image Bank

ABOUT US

Founded in 2014, AltaSea is a non-profit ocean-focused science, business, and education center. Located at the Port of Los Angeles— AltaSea is uniquely positioned to place Southern California at the global center of the Blue Economy.

OUR MISSION

AltaSea at the Port of Los Angeles is dedicated to accelerating scientific collaboration, advancing an emerging blue economy through business innovation and job creation, and inspiring the next generation, all for a more sustainable, just, and equitable world.



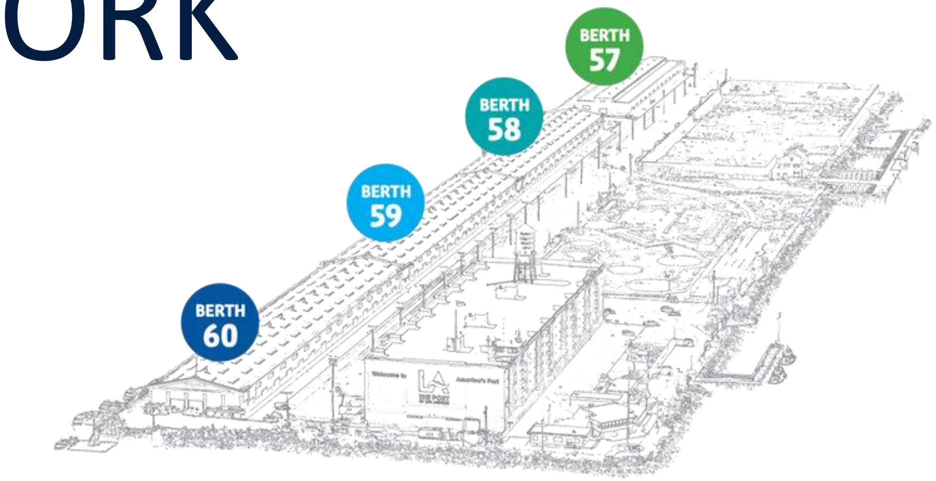
OUR VISION

We will turn to the ocean to develop and scale up rapid solutions for some of the planet’s most pressing challenges, such as climate change, energy supply, and global food security–and prepare today’s generation of students for future careers in science, technology, engineering, business and ocean-related industry professions.

WHERE WE WORK

World Class Location

AltaSea is a unique public-private venture redeveloping 35 acres of historic dockland at the Port of Los Angeles into a world-class oceanographic campus dedicated to ocean-based climate solutions at scale. Our exceptional site has proved ideal for research labs, ocean-based businesses, docks for exploration vessels, and space for educational programs focused on Ocean STEM and workforce pathways initiatives.

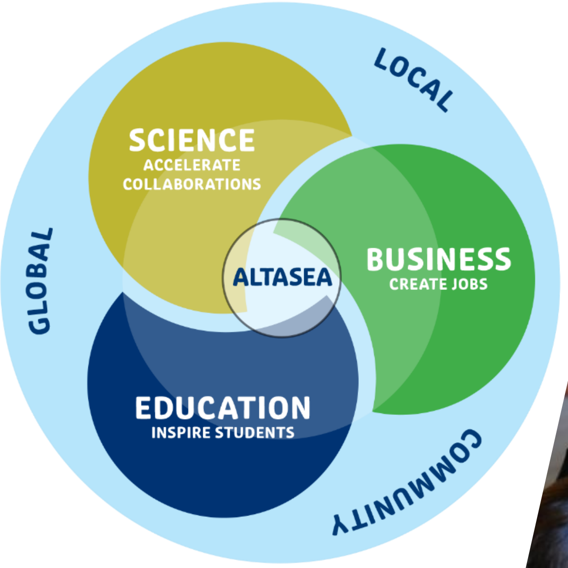


35	acres of land with over half creating the West Campus
180K	square feet of research and development space dedicated to the Blue Economy (Berths 58-60)
45K	square feet of science and education space (Berth 57)
3K	linear feet of deep-water dock space for exploration vessels and research barges ten minutes from open ocean

WHAT WE DO

ALTASEA IS A UNIQUE MODEL FOR OCEAN-RELATED SOLUTIONS.

Through a bold plan conceived in concert with the community, AltaSea is making a lasting mark on the future of Los Angeles and the planet. The emphasis on creating public-private collaborations sets the organization apart. It is from these intersections that innovation is born, and from innovation comes groundbreaking impact.



Science

AltaSea convenes and supports the world's finest marine scientists as they conduct breakthrough research and discover solutions addressing energy supply, climate change and global food security.

Business

AltaSea nurtures new and existing businesses that commercialize scientific breakthroughs and emerging technologies to create ocean-related products, services and jobs.

Education

AltaSea ignites passion and learning with pioneering programs that teach children and adults the critical role that the ocean has for our planet.

FOCUS CLUSTERS

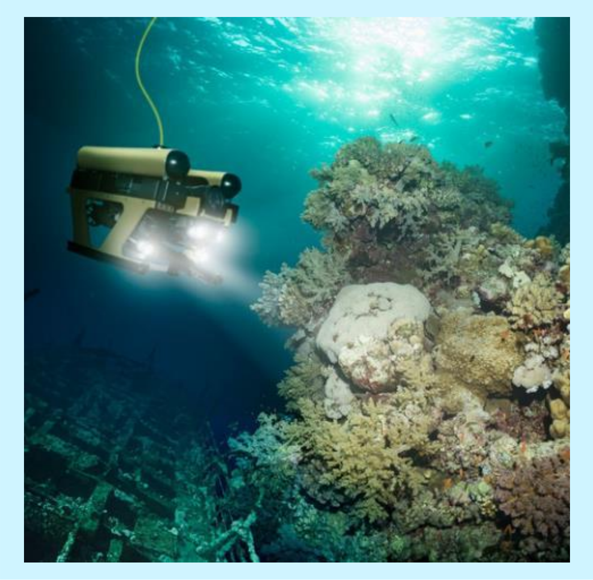
AltaSea will create focal points of collaboration by initially focusing on the oceanic fields of Regenerative Aquaculture, Renewable Energy, and Blue Technology & Underwater Robotics. This approach allows a cluster of business, science and education to be formed at AltaSea around each category.

REGENERATIVE AQUACULTURE

- On-land Aquaculture
- Open Ocean Aquaculture
- Food Production
- Kelp Extraction Products

RENEWABLE ENERGY

- Carbon Capture
- Energy Storage
- Hydrogen Energy
- Wave, Tidal, and Wind Energy



BLUE TECH & UNDERWATER ROBOTICS

- Data Acquisition
- Deep-water Monitoring
- Maritime Security
- Robotic Innovation

THE BLUE ECONOMY

Building Equitable Economic Impact

The challenges of climate change, food insecurity and oceans that are increasingly polluted and stripped of resources can be remedied by harnessing the ocean's resources through the Blue Economy: the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystems.

Conservative predictions indicate that the value of the Blue Economy, estimated at $1.5 trillion annually, will double by 2030.

- Los Angeles Blue Economy (current)
    - Over 200,000 jobs
    - Over $34 billion in total economic output
- California Blue Economy (current)
    - Over 1 million jobs
    - Over $143 billion in total economic output

PUBLIC ENGAGEMENT

AltaSea’s public engagement program includes themed bi-monthly Open Houses, and an exhibition program initiated this year with a display of indigenous knowledge of the ocean ecosystem.

Most inspiring of all, in our ten short years we have initiated a movement to promote ocean-based solutions to the challenges facing our economy and our environment. AltaSea’s unique business, science, and education model is rapidly being replicated around the world, beginning with Hugo Neu’s campus in Kearney, New Jersey.

OCEAN STEM

INSPIRING THE NEXT GENERATION

AltaSea’s K-12 programs educate students about the Blue Economy, an initiative to protect the ecosystem of the ocean and turn to it as a resource for solving challenges such as climate change, energy supply, and food security.

Student Engagement

- K-12 Learning: In and Out of School
- Field Trips
- 10-week High School underwater robotics, marine energy, and aquaculture course

Teacher Engagement

- Ocean STEM Professional Development
- Teacher Training Workshops

Public Engagement

- Open Houses
- Exhibition Program

EDUCATION

AltaSea's education activities are primarily focused on building capacity for Ocean STEM education & opportunities for under resourced, underserved, and underrepresented students.

Elementary

Middle School

High School

WORKFORCE DEVELOPMENT

The Workforce Development Program Goals are to

1) Create equitable and accessible pathways to blue economy careers, starting with early learning that continues into high school and college internship and training opportunities
2) Provide paid ocean STEM / blue economy internships for LA area students, expanding the number of students placed in internships by at least 50% each year
3) Partner with organizations to place (and track) trained workers and/or provide business incubation and acceleration services.

Post-Secondary Student & Adult Career Engagement

- Internships
- Apprenticeship

Flexible Blue Economy Research Space

The ‘Flex Labs’ program is being developed to support post-secondary student researchers and other collegiate research teams seeking temporary facilities for ocean-related research and development.

Certificate / Training Programs, Collegiate Engagement, and Professional Development

- Blue Economy and Climate Action Pathways (BECAP)
- Aquaculture Certificate and A.S. – SMC and virtual
- Hydrogen Energy Certificate – LA Harbor College & Commercial Partners

ECONOMIC DEVELOPMENT

Public Advocacy

This effort aims to connect industry with policy, fostering an environment where these sectors can thrive while addressing sustainability and equity concerns.

Tenant Recruitment & Support

180,000 square feet of renovated warehouse space will be available at the AltaSea campus. Currently more than twenty tenants, ranging from a business advisory firm, bank, university researchers and several early-stage blue business (mCDR, off-shore infrastructure, kelp seed bank, and more).

Business Hub

Networking opportunities and bespoke introductions for the entrepreneurs in our ecosystem are ad-hoc, arising from the mixing of tenants, partners, and staff through the course of business operations.

Blue Sustainable Economy Alliance

The Blue Sustainable Economy Alliance (BlueSEA) is a network of ports and port-based hubs (such as AltaSea), working together to advance the sustainable development of the ocean economy in their respective locations.

DEEP BLUE DECADE: BlueSEA

AltaSea's Deep Blue Decade: Blue Sustainable Economy Alliance

After the success of our first decade, we now seek to find climate solutions globally and improve the quality of life worldwide. We must radically increase support for blue economy technologies, rapidly scale their impact, and build the workforce necessary to meet the climate challenges.

AltaSea Alliance: Ports of Call

AltaSea's network is currently working with organizations in following ports:

Africa	Durban
Latin America	Rio de Janeiro
Central East Asia	Shanghai
East, Southeast Asia & Oceania	Singapore
North America	Los Angeles, Kearny (NYC-adjacent)
Europe	Barcelona, Athens, Oslo
South & West Asia	Mumbai (Karanja Port)

AltaSea
AT THE PORT OF LOS ANGELES

BE PART OF THE DEEP BLUE DECADE!

AltaSea's Accomplishments

225,000	Square Feet in Operation
18,419	Students Served
102	Interns & Mentors Completed Programs
31,477	AltaSea Visitors
3,000	Linear Feet Wharf Operations
4	Active BlueTech Test Beds

PUBLIC ADVOCACY

Connecting Industry and Policy

- **SB 605 California State Wave and Tidal Energy Bill**
  - Sponsored by AltaSea
  - Supported by Wave and Tidal Energy Coalition
  - On-going engagement with the California Energy Commission
- **Sustainable Aquaculture Initiatives**
- **Marine Carbon Management Advocacy**
  - SB 308 Coalition – Aiming to set targets for carbon removal in California in the coming years

ECO
Environment, Community, Opportunity
EQUITY

VECTIS DC

ENERGY GLOBAL

Home News Magazine Webinars Spotlight interviews Events Whit

Home / Other renewables / 25 Sep 23 / California Senate Bill 605 passed unanimously

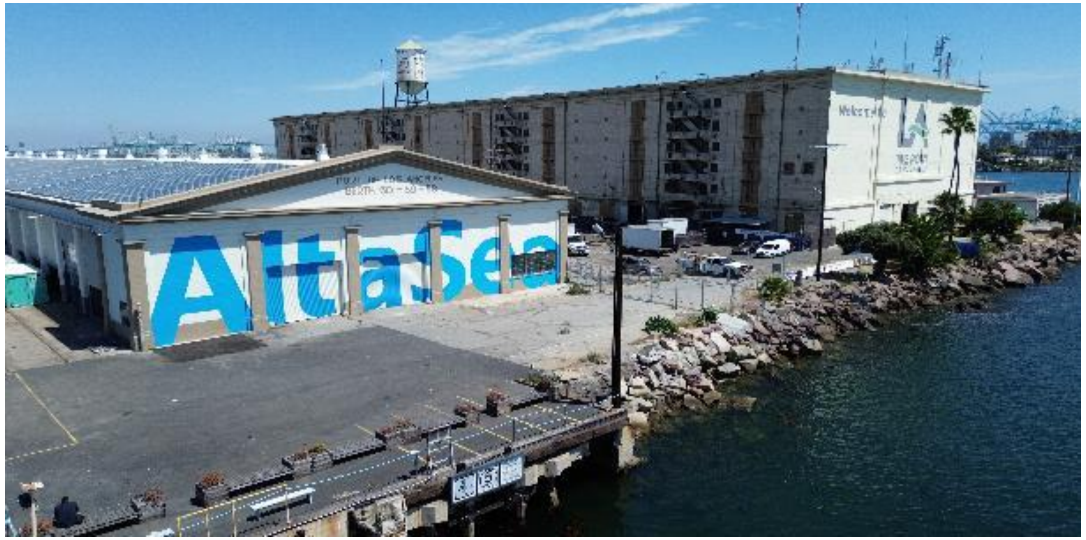
California Senate Bill 605 passed unanimously

Berths 58-60
CENTER FOR INNOVATION

Governor Arnold Schwarzenegger Dedicating 2.2MW Solar on Berth 58-60 (April 2023)

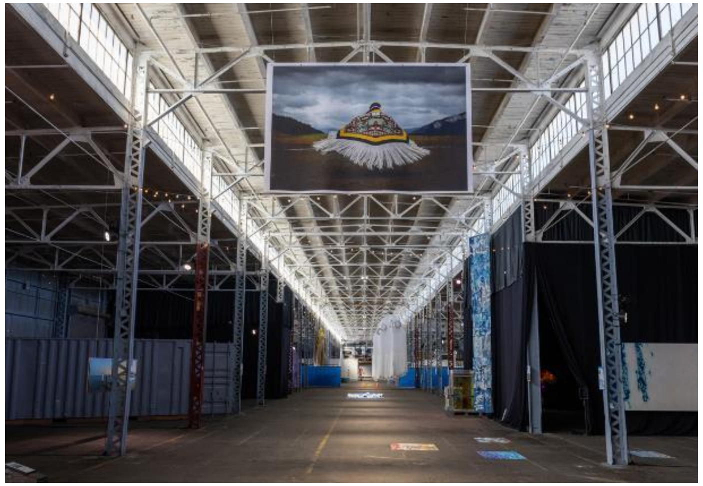
FOLLOW THE PROGRESS

Berths 58-60
WHARF RENOVATED



Berth 57 CENTER OF EDUCATION & ENGAGEMENT

Opening Summer 2026



ALTASEA TEAM


Terry Tamminen
CEO & President


Jenny Krusoe
COO & Executive VP


Steve Rochman
Interim CFO


Robin Aube
Director of Advancement


Natasha Berendzen
Director of Advancement Services


Jade Clemons
Director of Economic & Workforce Development


Alan Hill
Director of Education


Meredith Brooks
Sr. Program & Grants Manager


Daniel Brumer
Legal Councel

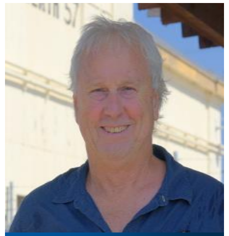

Alex Cornejo
Sr. Manager of Communications


Rosa Delgado
Finance Manager


Kim Ellis
Database & Research


Shonella Nicholson
Accounting Clerk


Matthew Kim
Instructor


Charlie Flint
Instructor


Walter Flores
Facilities Manager


Janet Parga
Ocean Pathways Coordinator


Michelle Raymond
Executive Administrator


Angie Reed
Sr. Operations Manager

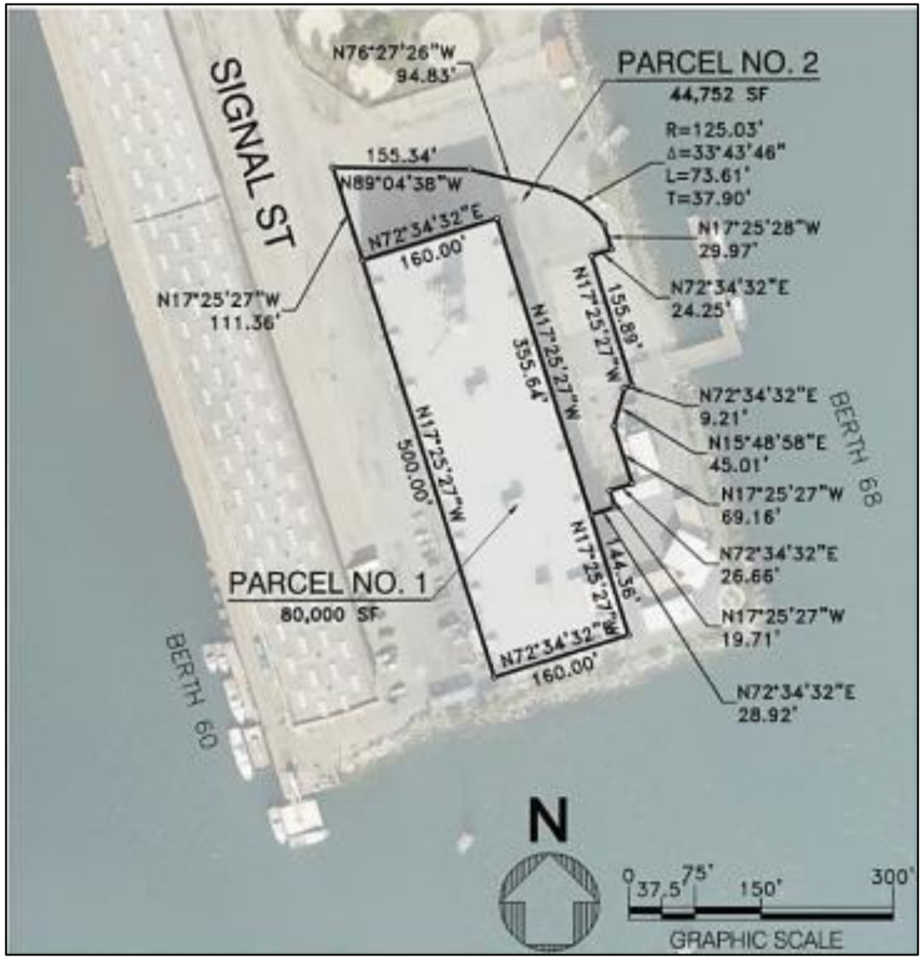

Frankie Velador
Custodian


Emily Vidovich
Communications & Development Coordinator

WAREHOUSE NO. 1
REDEVELOPMENT & ADAPTIVE RE-USE OPPORTUNITY

BUILDING & SITE CHARACTERISTICS

Element	Description
Building Area	• 480,000 Square Feet
Building Footprint	• 500 Feet x 160 Feet
Stories	• 6
Basement *(Height)*	• ≈8 Feet • ≈5 Feet below grade
First Floor *(Height)*	• ≈15 Feet
Remaining Floors *(Height)*	• 10 Feet
Land Area	• ≈125,000 Square Feet (≈2.9 Acres)
Parking Spaces	• ≈50



REDEVELOPMENT & ADAPTIVE RE-USE OPPORTUNITY

There are three main steps:

1. The RFI represents the first step in providing the Harbor Department with economic and real-world input and ideas on visitor-serving use profiles that will attract the capital necessary to revitalize, redevelop, adaptively-re-use and economically spur this iconic asset.

2. The RFI responses will assist in shaping and defining the use concepts and parameters that will be evaluated in a planned second step, the Request for Qualifications (RFQ) phase.

3. A planned final Request for Proposals (RFP) stage in the third step of the overall process, with the ultimate goal of entering into a long-term agreement with a successful RFP respondent.

RFI OBJECTIVES

Key considerations and objectives of the Harbor Department are to:

- Fulfill Historic Resource rehabilitation/ redevelopment requirements
- Provide for an adaptive re-use that conforms with Public Trust and Statutory Trust Grant requirements
    - *E.g., creative office, hospitality, dining, entertainment, food, and other marine-related or visitor serving uses*
- Conceptually generate revenues sufficient to justify the project redevelopment costs

WATERFRONT & COMMERCIAL REAL ESTATE DIVISION

LOS ANGELES WAREHOUSE NO. 1

REDEVELOPMENT AND ADAPTIVE RE-USE OPPORTUNITY

REQUEST FOR INTEREST

DUE DILIGENCE DOCUMENTS

as of December 19, 2024

CONTENTS

DEVELOPMENT ASSESSMENT:
CABRILLO WAY MARINA PADS & HISTORIC WAREHOUSE NO. 1

Final Report

Development Assessment: Cabrillo Way Marina Pads and Historic Warehouse No. 1

Source: Google Maps and Economic & Planning Systems, Inc.

Prepared for:

The Port of Los Angeles

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In association with:
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March 30, 2018
EPS #164028

The Economics of Land Use

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1. OVERVIEW AND SUMMARY OF FINDINGS

Overview and Acknowledgements

Economic & Planning Systems, Inc. (EPS), in conjunction with subconsultant partners Allan D. Kotin & Associates (ADK&A) and Spectra Company (Spectra), was retained by the Port of Los Angeles (POLA) to conduct this analysis of two Port-owned sites in the LA Waterfront Area: Historic Warehouse No. 1 and the land-side pads and parking area totaling 12 acres at Cabrillo Way Marina.

The purpose of the study is twofold: 1) to assess the development opportunity and economics at two Port-owned sites in the Outer Harbor Area on the LA Waterfront: and 2) to recommend an ownership and management structure for the Cabrillo Way Marina that supports development of the pads while also optimizing marina operations. The Port is expecting to embark on a developer solicitation process for development and operation of the subject sites with this analysis informing the order and some of the parameters of the solicitation process.

This Study is the outgrowth of a previous project conducted by EPS in 2016 on behalf of Los Angeles City Council District 15 (CD 15) and the City Economic and Workforce Development Department (EWDD) called *LA Waterfront Site Development Feasibility Analysis.* The 2016 study assessed the development potential of a broad number of publicly owned sites in the LA Waterfront Area. The current study incorporates and where necessary updates findings from the 2016 Study.

The study featured the following analytical process:

1. Gather primary source material through site visits and interviews with developers, brokers, and community stakeholders. Interviewees included: Amanda Kedy, Ratkovich Company; Jenny Krusoe, AltaSea; Wayne Blank, Crafted; Mike Galvin and Michael Cham, Port of LA; Steven Genton, The Genton Group; Philip Tondreault, Westrec; Kevin Ketchum, California Yacht Marina; Greg Schem, Marina Del Rey Boatyard

2. Gather secondary source materials including socioeconomic and market data from the Census, CoStar, Trulia, and ESRI; regulatory documents including the LA Waterfront EIR; independent studies including AltaSea 2017 Business Plan, studies from the Marine Recreation Association, the LAEDC, Proforma Advisors, Kosmont Company; and general news and business literature searches.

3. Synthesize data to identify and prioritize potential uses and ownership structures based on: Tidelands Trust allowances; site location, size, and complementary adjacencies; viability in today's and/or future market; analysis of comparable ownership and operating structures.

4. Assess financial feasibility of priority uses in the near-term under current market conditions and longer-term given trends and influence of LA Waterfront project pipeline.

5. Discuss the interaction between policy and market considerations as they affect both timing issues and the possible future solicitation process

The report includes six chapters and Appendices:

1. Overview and Summary of Findings
2. Market Context
3. Cabrillo Way Marina Opportunity Assessment
4. Cabrillo Way Marina Financial Feasibility Analysis
5. Cabrillo Way Marina Operation and Management
6. Warehouse No. 1 Financial Feasibility Analysis

Key Findings

Below is a topline summary of the study's key findings.

1. ***AltaSea and San Pedro Public Market, representing over $400 million in private investment, could transform market conditions in the Outer Harbor area.*** AltaSea, a maritime innovation center and think tank, is expected to occupy 35 acres along City Dock #1. San Pedro Public Market, a retail/entertainment destination, is being planned for the 35-acre Ports o' Call site. Both projects should complete Phase 1 construction in the 2021-2023 time frame with full build-out expected by 2028-2030. The two projects are estimated at build-out to almost double annual visitation to 4.4 million visitors and generate up to 1,100 new full-time jobs to the waterfront area. AltaSea will have the largest impact on Warehouse No. 1 and Cabrillo Way Marina Pad opportunities due to its location: Warehouse No. 1 is surrounded by the AltaSea project area on two sides, and the Cabrillo Way Marina pads are 1,000 feet from the planned AltaSea "front door."

2. ***Developer solicitation processes, initially for the Cabrillo Way Marina, will provide important insights into development options and development community interest.*** The Port intends to build on the success of the San Pedro Public Market and AltaSea projects as well as the catalyzing effect of its substantial financial investments in public and community benefits. The Cabrillo Way Marina and its land-side pads and Warehouse No. 1 are the next logical Port properties for development with a private partner. This analysis has concluded that, due to market conditions and feasibility prospects, the Cabrillo Way Marina would be the next logical property to seek this new partnership. The Warehouse No. 1 property could then follow as market conditions allow. While the development economics for both properties are challenging, the process of finding the right partner, developing a plan, and entitling the effort takes time, and in the meantime prospects will improve. A development partner will be important to these pre-development efforts.

3. ***Landside development potential at the Cabrillo Way Marina Pads varies between modest short-term opportunities for marina-supporting retail and office and longer-term potential for higher-density marine-related office, retail, marine-specialty services, and hospitality uses.*** The Outer Harbor area, where the Cabrillo Way Marina Pads are located, is isolated and dominated by wharfs and water channels that separate it from other areas with higher day population and residential density. AltaSea and San Pedro Public market could eventually help transform market conditions on the waterfront longer-term, but short-term impacts will be limited. Consequently, short-term uses for the marina pads will likely be those that complement and benefit from operation of the Cabrillo Way Marina, such as food and dining amenities for provisioning excursions. Financial feasibility

analysis indicates that while current rents are not high enough to support this development, with reasonable market appreciation and/or a creative ground lease arrangement that encourages near-term development, such a Phase 1 program can be viable. Longer-term, with expanded Outer Harbor visitation and area employment, additional uses could include maritime-related office to accommodate companies spun off from AltaSea, specialized boat-yard-related trades and vendors, a hotel, and possibly even a dedicated megayacht berthing and servicing facility.

4. ***Both cost and market impediments constrain the near-term opportunity to redevelop Warehouse #1, although the Port may be able to overcome these through a creative ground lease structure designed to help equalize the cost of adaptive reuse to new construction.*** Demand for new development at Warehouse No. 1 is tied to the successful launch of AltaSea and, to a lesser degree, San Pedro Public market. Based on published development schedules, Phase 1 of these projects could be complete by 2023. By then, hotel and/or creative office demand may be sufficient to overcome today's weak San Pedro office market and surplus supply of hotel beds. Current market rates suggest that a hotel rather than a creative office use may achieve market feasibility more quickly. Regardless of the preferred use or uses, rehabilitation and reuse of Warehouse No. 1 presents a cost challenge that, if the site is to be directly competitive with new construction, will require some form of subsidy to offset the cost differential. Tidelands Trust restrictions on uses place constraints on office uses and tenants, limiting demand and achievable lease rates. A long-term effort to work with the State Lands Commission to determine the potential for flexibility concerning ground lease terms and uses that could support public trust goals should be considered.

5. ***The developer solicitation process for Cabrillo Way Marina must address short- and longer-term goals for Cabrillo Way Marina and be framed to attract participation from teams with both marina operating and landside development expertise.*** The Port should reach out to and encourage proposals from large national full-service marina operators and landside developers with experience partnering with marina operators. An RFQ/RFP process will assure the thoroughness and transparency the Port requires. In order to expedite the negotiation and address the unique market environment, applicants should be instructed to prepare a phased program that considers both short-term opportunities centering on marina-supporting uses and longer-term opportunities that capitalize on an outer harbor transformed by AltaSea and San Pedro Public Market.

6. ***A consolidated leasehold combining responsibilities and rights for marina operations and landside development offers the best approach to realizing future potential at Cabrillo Way Marina.*** Separate waterside and landside leases tend to work best when the marina is a relatively small and/or independent operation within an overall development, and specialized expertise is required to develop the high-value landside uses. A consolidated leasehold, on the other hand, is preferable when the land-side and water-side uses are mutually supporting and interdependent. The market opportunity facing the Cabrillo Way Marina conforms more closely with the latter condition. Marina-supporting uses that complement marina operations are the best near-term market opportunity for the otherwise isolated Outer Harbor area. In addition, marina-supporting uses may provide landside amenities to boaters and visitors that are necessary for the Cabrillo Way Marina to become a

more competitive and differentiated marina destination. Finally, a consolidated leasehold will require the Port to sell the landside and waterside improvements to the master lessee, which may provide a revenue stream the Port can use to further catalyze the development process as necessary.

7. ***New hotel development in the Outer Harbor area likely depends first on the establishment of an employment node at AltaSea and/or a popular regional destination at San Pedro Public Market.*** Of the two primary flag hotels in San Pedro, the Crowne Plaza has performed better due to a more central location, which allows it capture demand from general Port activity, Long Beach Convention Center overflow, and the cruise business. The DoubleTree, on the other hand, suffers from a location on the southern edge of the Outer Harbor area where visitor traffic is relatively low. Consequently, DoubleTree occupancy rates have generally underperformed area averages. Future hotel development potential in the Outer Harbor thus likely depends on a substantial boost in tourism and business visitation and, to a lesser degree, on a return to cruise passenger volumes last seen in the mid-2000s. Successful completion of the San Pedro Public Market and AltaSea projects and associated complementary development could generate such demand in the future.

8. ***AltaSea could eventually boost a weak office market in San Pedro by creating a new employment node that would generate demand for complementary office uses, either for established marine-oriented concerns or new businesses incubated at AltaSea.*** San Pedro functions predominantly as a bedroom suburb for out-commuters, and it does not currently have a strong office market. Furthermore, modest office rents and high vacancies provide little short-term incentive for new office development. Finally, because Warehouse No. 1 and the Marina Pads are located within Tidelands boundaries, any office tenants at these sites would have to engage in marine-related business, which limits occupancy to a subset of total potential users. However, the appealing Outer Harbor location offers a source of differentiation and interest. Successful operation of the proposed AltaSea could create a new employment node, which could generate new demand for complementary office uses, either for established marine-oriented concerns or new businesses incubated at AltaSea.

2. MARKET CONTEXT

This chapter provides an overview of the development trends and market conditions that inform development opportunities in the Outer Harbor Area for the Cabrillo Way Marina Pads and Warehouse #1. The chapter includes an overview of the LA Waterfront Project vision, a description of Sources of Demand, a consideration of Tidelands Boundaries, and market assessments of office, hotel, and retail opportunities.

LA Waterfront Project

Since 2004, the Port of Los Angeles has been engaged in a multi-year planning and investment process to revitalize portions of the San Pedro and Wilmington waterfronts for non-industrial uses. Called the LA Waterfront Project, the initiative aims specifically to:

- link downtown San Pedro with the waterfront;
- enhance visitor- and community-serving commercial opportunities;
- provide open space and event space;
- promote non-vehicular access and circulation;
- maintain cruise terminal competitiveness;
- create economic opportunities for the surrounding area; and
- grow in a sustainable fashion.

Funding for the LA Waterfront initiative as described by the Port's *Public Access Investment Plan* (2015) comes from a dedication of 10 percent of annual Harbor Department Operating Income. To date, a number of LA Waterfront projects have been completed totaling approximately $333 million in public and private investment, as shown on **Exhibit 1** and **Exhibit 2**. While the investment to date is considerable, it has been spread over a wide area stretching from the southeastern tip of San Pedro to the southern edge of Wilmington, as shown in **Exhibit 3.** Consequently, investment impacts have been distributed as well, and a "critical mass" of improvements necessary to transform the LA Waterfront into a popular destination has not yet been achieved.

The Outer Harbor area, where the Cabrillo Way Marina Pads and Warehouse No. 1 are located, is at the southern and most isolated end of the waterfront area. Much of the Outer Harbor land area occupies long wharves that terminate on the ocean, access is by secondary streets with low traffic counts, and water channels and an elevated embankment further impede circulation. A number of visitor amenities exist in the Outer Harbor area, including the Cabrillo Way Marina Aquarium, the Doubletree Hotel, the Cabrillo Beach Youth Watersports Center, Crafted marketplace, Brouweij West, and four marinas totaling 2,093 wet slips (of which the Cabrillo Way Marina contributes approximately 740), but none of these attractions individually or collectively has catalyzed major visitation.

The LA Waterfront project pipeline, consisting of approximately $650 million in proposed investment contains two major projects that may potentially transform Outer Harbor market conditions and induce demand for complementary development. These are San Pedro Public Market (Phase 1) and AltaSea (Phase 1), which are described further below.

Exhibit 1 LA Waterfront Development Projects: Completed and Pipeline

Project	Type	LA Waterfront Sub-Area	Budget	Public/ Private	Status	Delivery
Pipeline						
San Pedro Public Market (Phase 2)	Commercial	Downtown	TBD	Private	Pre-Plan	*2028*
Alta Sea Phases 2 and 3	Commercial	Outer Harbor	$263,620,000	Private	Pre-Plan	*2028*
Avalon Promenade and Gateway Project	Mobility	Wilmington	$14,900,000	Public	Planning	*2022*
Alta Sea Phase 1	Commercial	Outer Harbor	$165,000,000	Private	Construction	*2022*
San Pedro Public Market (Phase 1)	Commercial	Downtown	$100,000,000	Private	Construction	*2020*
Ports O' Call Promenade and Parking	Open Space	Downtown	$32,900,000	Private	Planning	*2020*
Town square at Sixth St. and Harbor Blvd.	Open Space	Downtown	$4,100,000	Public	Design Docs	*2019*
Wilmington Waterfront Promenade	Open Space	Wilmington	$52,700,000	Public	Design Docs	*2019*
Sampson Way/7th St. Realignment	Mobility	Downtown	$14,800,000	Public	Construction	*2018*
New Red Car Stations and Re-alignment	Mobility	All San Pedro	TBD	Public	Planning	*TBD*
Completed						
Avalon Freight Services Terminal Facility	Commercial	Cruise Center	NA	Private	Completed	2016
Brouwerij West	Commercial	Outer Harbor	NA	Private	Completed	2016
Downtown Harbor and Town Square	Open Space	Downtown	$47,400,000	Public	Completed	2014
Wilmington Marina Parkway	Open Space	Wilmington	$1,200,000	Public	Completed	2014
CRAFTED	Commercial	Outer Harbor	$6,000,000	Private	Completed	2012
Catalina Sea and Air Terminal	Commercial	Cruise Center	$4,300,000	Private	Completed	2012
USS Iowa	Commercial	Downtown	$8,500,000	Private	Completed	2012
Cabrillo Marina	Commercial	Outer Harbor	$125,000,000	Public	Completed	2011
Wilmington Waterfront Park	Open Space	Wilmington	$55,000,000	Public	Completed	2011
22nd Street Park	Open Space	Outer Harbor	$10,500,000	Public	Completed	2010
Warehouse 1 Outlook	Open Space	Outer Harbor	$400,000	Public	Completed	2009
Gateway Plaza and Fanfare Fountains	Open Space	Cruise Center	$16,300,000	Public	Completed	2008
Harbor Boulevard Parkway Promenade	Open Space	Downtown	$23,400,000	Public	Completed	2005
Los Angeles Cruise Ship Promenade	Open Space	Cruise Center	$14,000,000	Public	Completed	2004
World Cruise Center	Commercial	Cruise Center	$21,000,000	Public	Completed	2003
Public Investment to Date			$314,200,000			
Private Investment to Date			$18,800,000			
Pipeline Planned Public Investment			$86,500,000			
Pipeline Planned Private Investment			$561,520,000			
Total (rounded)			**$980,000,000**			

Sources: Port of Los Angeles, AltaSea Business Plan, public record news reports

Exhibit 2 LA Water

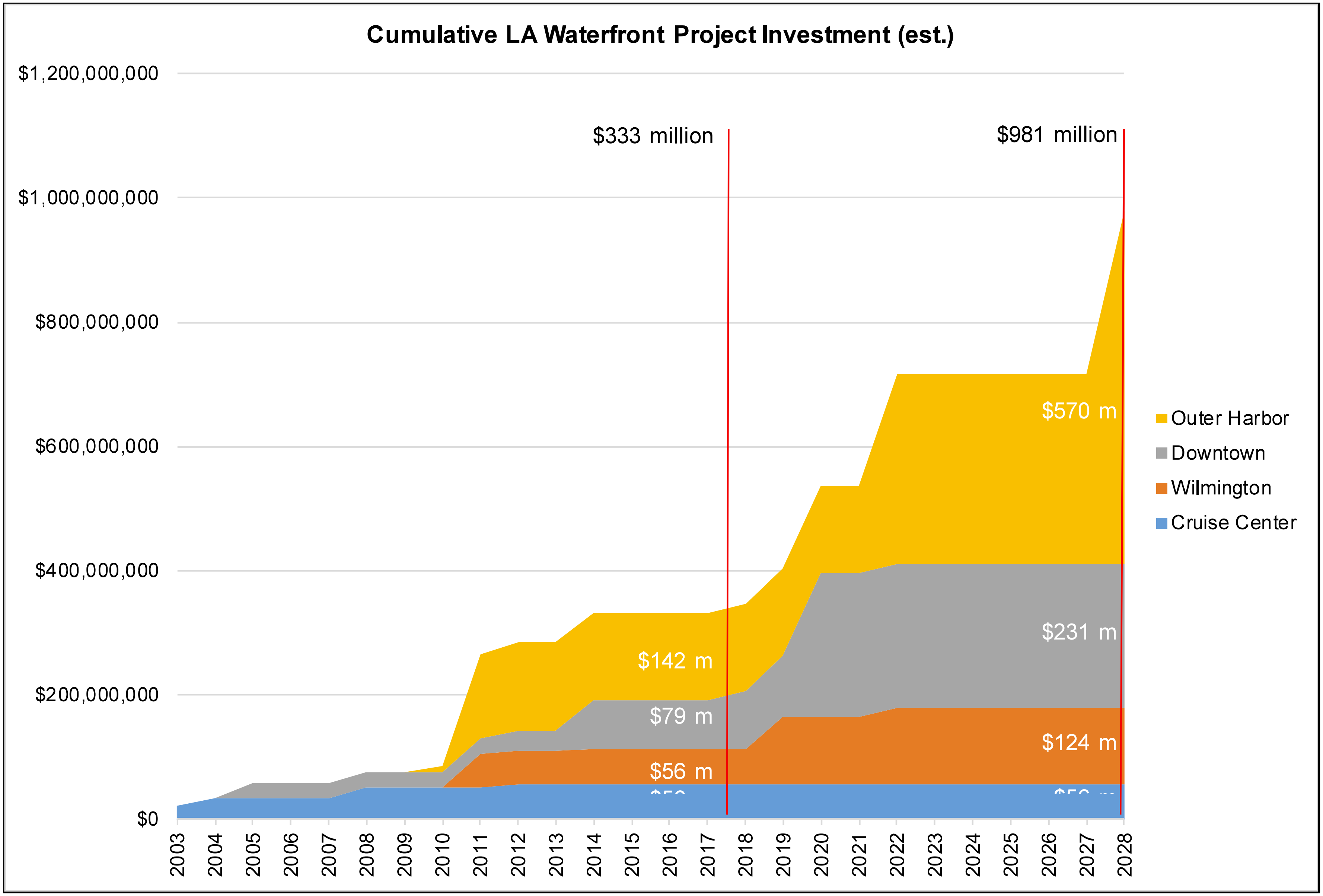
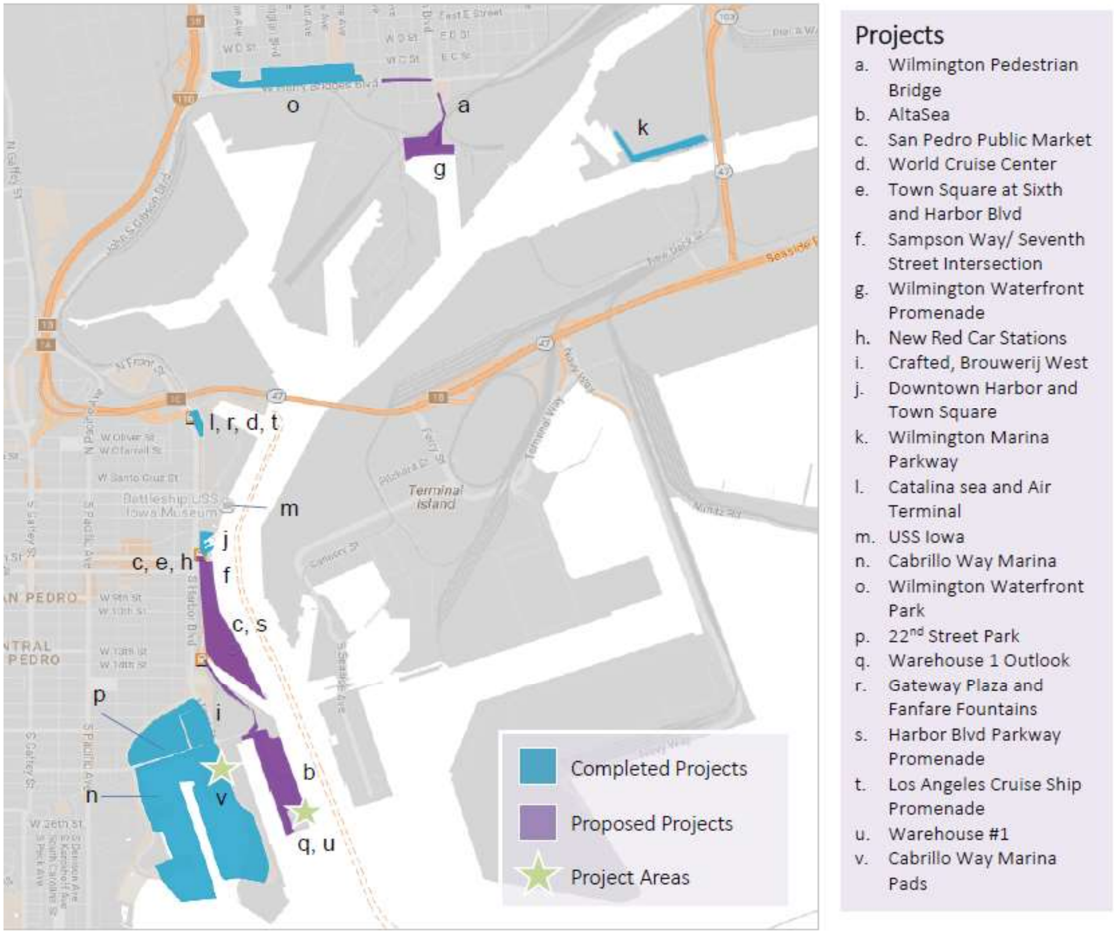


Exhibit 3 Selected LA Waterfront Development Projects



Source: EPS

AltaSea

The proposed AltaSea project is a multi-tenant urban marine and innovation center that would occupy 35 acres of land and water at the Port's City Dock No. 1 site, Berths 56-60 and Berths 70-71. The project program is expected to take place over multiple phases, with Phase 1 currently under way anticipating approximately 250,000 square feet of commercial space, as shown on **Exhibit 4**. Phase 2, which could add 150,000 more square feet, is in the pre-planning stage. (For the AltaSea Program description, see **Exhibit 4**, and for the development site plan, see **Exhibit 5**.)

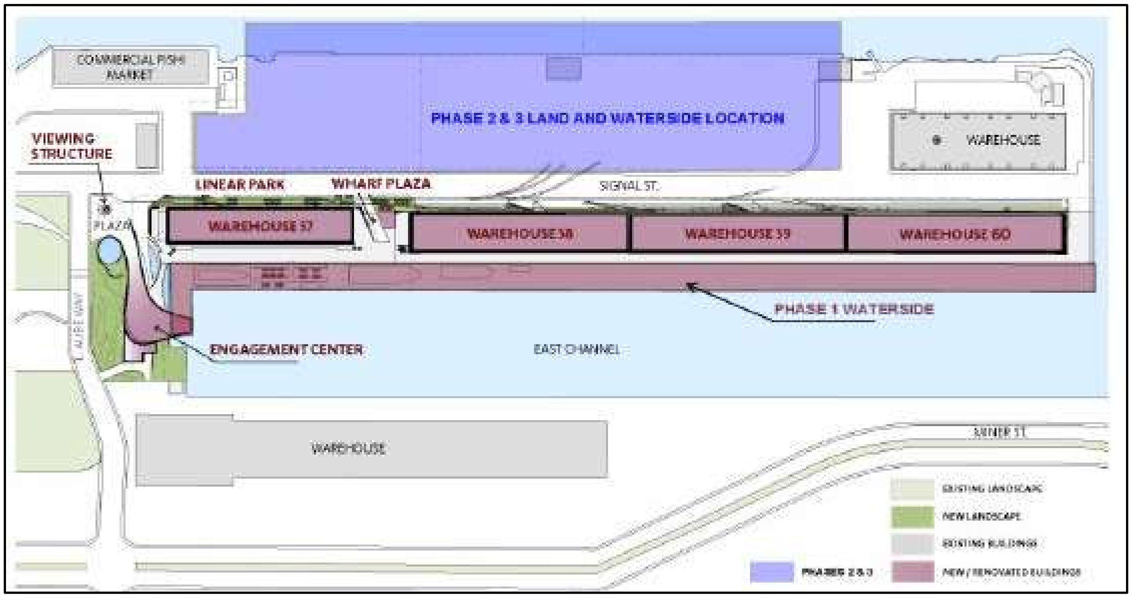
Development potential for Warehouse No. 1 is highly contingent on the AltaSea development plan. Both projects are located on City Dock No. 1, with Warehouse No. 1 occupying the very southern-most end of the wharf. AltaSea Phase 1 will redevelop structures to the west of Warehouse #1, and Phase 2 will occupy the area north of Warehouse No. 1. Consequently, AltaSea employment, visitation, and parking demand may have a large influence on compatible and complementary uses for Warehouse No. 1. AltaSea could also directly influence development potential for the Cabrillo Way Marina Pads, which are located less than 1,000 feet from AltaSea's "front door" at the corner of Miner Street and 22nd Street.

Exhibit 4 AltaSea Development Program and Phases

Phase and Project	Uses	Sq.Ft.	Estimated Investment[1]			Build-Out	
			AltaSea	POLA	Total	Start	Complete
Phase 1A		180,000	$15,000,000	$6,000,000	$21,000,000	2017	2020
Restoration of Warehouses 58, 59, 60	R&D Hub						
Wharf Plaza/Education Pavilion	Open Space						
North Façade of Warehouse 57							
Phase 1B		50,100	$39,600,000	$18,620,000	$58,220,000	2017	2020
Restoration of Warehouses 57	SCMI Science Hub						
Leonard Aube Way re-alignment							
12 Slips							
Phase 1C		20,700	$50,300,000	$12,040,000	$62,340,000	2020	2023
Engagement Center at Berth 56	Learning Center Exhibit Space						
SUBTOTAL PHASE 1		**250,800**	**$104,900,000**	**$36,660,000**	**$141,560,000**		
Phases 2 & 3							
New Construction at Berth 70	Marine Research	117,400				TBD	TBD
	Conference Center		$196,000,000	$0	$196,000,000		
New Construction at Berth 71	Marine Research	33,100				TBD	TBD
SUBTOTAL PHASE 2		**150,500**	**$196,000,000**	**$0**	**$196,000,000**		
TOTAL		**401,300**	**$300,900,000**	**$36,660,000**	**$337,560,000**		

(1) Amended and Restated Lease No. 904 (8/2017)

Exhibit 5 AltaSea Development Program Site Plan



Source: AltaSea

When complete, the AltaSea campus is expected to support marine-related research, provide classrooms for graduate and post-graduate education, offer "incubator" facilities for marine-related commercial ventures, and feature a range of visitor-supporting amenities, including a programmed engagement center, as shown in **Exhibit 6.**

Exhibit 6 AltaSea Engagement Center Conceptual Design

Source: Gensler

Initial tenant commitments for Phase 1 include:

- Dr. Robert Ballard's Ocean Exploration Trust (OET) engages in pure ocean exploration from the Exploration Vessel (E/V) Nautilus.

- Blue Robotics designs and manufactures systems to make marine robotics accessible to a wide market.
- Boeing Advanced Technology Programs (ATP) operates the Echo Voyager unmanned sub.
- Boys & Girls Club of Los Angeles Harbor will relocate to office space at Alta Sea.
- Braid Theory, Inc. is a management consultancy specializing in collaborative approaches to product development, marketing, and delivery.
- Catalina Sea Ranch specializes in shellfish aquaculture.
- The La Kretz Blue Economy Incubator will focus on technology companies creating new business models connecting to the ocean.
- Seatrec is a renewable energy concern spun off from NASA/JPL and Caltech.
- Southern California Marine Institute represents a strategic alliance of 23 major universities, colleges, and foundations in Southern California with marine science programs.[1]
- Space X, a private rocket-maker and operator, uses berths at Alta Sea to park and handle recovered space equipment.

San Pedro Public Market

The Proposed San Pedro Public Market (SPPM) is a retail and entertainment destination to be located on 40 acres of land and water where Ports O' Call Village (a dated retail/restaurant destination that opened in 1963) currently resides. The SPPM team L.A. Waterfront Alliance (LAWA), made up of The Ratkovich Co. and Jerico Development, recently completed a 50-year ground lease arrangement with POLA and is expected to begin construction in 2018 with a 2021 target date for opening of Phase 1.

The SPPM program, as shown on **Exhibit 7** and **Exhibit 8**, is expected to be a regional attraction featuring a mix of restaurant, retail, office space, and open space totaling 168,600 square feet. Phase 2 of the project, which could add another 131,400 square feet, will commence when market support materializes but is tentatively expected for opening in the 2028-2030 time frame.

LAWA investment in Phase 1 is expected to total as much as $100 million. POLA has committed an additional $52 million for infrastructure including the Harbor Boulevard and Seventh Street

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[1] SCMI members include nine universities from the California State University System representing the Ocean Studies Institute (Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona, San Bernardino and San Marcos) and the combined marine resources of the University of Southern California, Wrigley Institute for Environmental Studies, University California Los Angeles, and Occidental College, Los Angeles Community College District, The Bay Foundation, and NOAA National Marine Fisheries Service West Coast Region.

realignment (just completed) and public access areas including the promenade, town square, and a public landing for recreational boaters.

Exhibit 7 San Pedro Public Market Program

Item	Phase 1	Phase 2
Program (Sq.Ft.)		
Restaurant	100,000	TBD
Retail	38,600	TBD
Office	30,000	TBD
Total	168,600	131,400
Open Space/Activity (ac)		
City Park (ac)	4.3	TBD
Discovery Amusement Area (ac)	6.4	TBD
Promenade (Sq.Ft.)	73,200	
Parking (spaces)		
Surface	1,900	TBD
Structured	0	TBD
Timing		
Construction Start	2018	2025?
Operation	2021	2028?

Source: SPW Watefront EIR Project Addendum, May 2016

Exhibit 8 San Pedro Public Market Phase 1

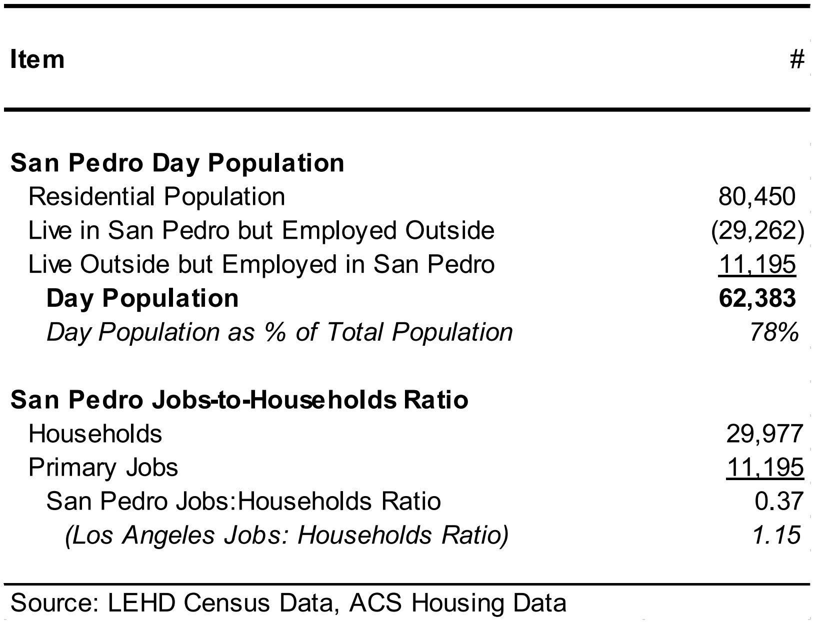
Source: SPW Waterfront EIR Project Addendum, May 2016

Sources of Demand

San Pedro and the Outer Harbor area are currently characterized by low residential and day population density. As noted above, much of the immediate trade area around Warehouse No. 1 and the Cabrillo Way Marina Pads is made up of water. Current uses in the Outer Harbor area, including marine-related warehousing, boat storage, and recreational marina services are low visitation and low-employment uses.

In addition, San Pedro currently functions largely as a commuter suburb, which means many more residents commute out for work than commute in, resulting in a day population that falls to 78 percent of the residential population, as shown on **Exhibit 9**. A corollary measure is the low jobs-to-households ratio of 0.37 in San Pedro, which is 68 percent lower than the City of Los Angeles ratio of 1.15. (Note: this day population figure does not include the approximately 1,000 positions at the City of Los Angeles Harbor Department. However, because most of the industrial Port facilities and workforce are located across the Main Channel and require the Vincent Thomas Bridge for access, circulation between this workforce and the visitor-serving uses in San Pedro is somewhat impeded.)

Exhibit 9 2014 San Pedro Day Population and Jobs Concentration



Item	#
San Pedro Day Population	
Residential Population	80,450
Live in San Pedro but Employed Outside	(29,262)
Live Outside but Employed in San Pedro	11,195
Day Population	**62,383**
Day Population as % of Total Population	*78%*
San Pedro Jobs-to-Households Ratio	
Households	29,977
Primary Jobs	11,195
San Pedro Jobs:Households Ratio	0.37
(Los Angeles Jobs: Households Ratio)	*1.15*

Source: LEHD Census Data, ACS Housing Data

Low day and residential populations show that organic demand for local services is limited, and that new demand must be induced through catalytic development. With $152 million in public and private investment scheduled for Phase 1 of San Pedro Public market and $338 million scheduled for AltaSea (Phases 1 and 2), the Outer Harbor Area could become both a significant regional retail/entertainment destination and employment node. Conservatively estimated, these improvements could increase annual visitation by 1.9 million and full-time employment by an estimated 1,100 by 2030, as shown in **Exhibit 10.** Commercial area could grow as much as 198 percent, from 355,000 to 1,056,000 square feet, with notable increases in retail/restaurant and office/lab space, as shown on **Exhibit 11**. Consequently, potential uses on the Cabrillo Way

Marina pads and at Warehouse No. 1 should seek to complement rather than compete with this expected new commercial space.

Exhibit 10 LA Waterfront Estimated Visitation, Employment, and Residential Growth

Item	Status	Total	% *Unique*[1]	Unique by Year[1]			
				2015	2020	2025	2030
Visitation							
AltaSea[2]	Pre-Constr.	250,000 /year	*100%*	0	62,500	200,000	250,000
San Pedro Public Market[3]	Pre-Constr.	4,053,000 /year	*75%*	0	1,063,913	1,975,838	3,039,750
Brouwerij West[4]	Existing	190,000 /year	*35%*	0	66,500	66,500	66,500
Existing Uses[5,6,7,8,9,10]	Existing			2,492,484	1,048,734	1,048,734	1,048,734
Crafted[5]	Existing	117,000 /year	*75%*	87,750	87,750	87,750	87,750
San Pedro Marinas[6]	Existing	54,720 /year	*95%*	51,984	51,984	51,984	51,984
Cabrillo Marine Aquarium[7]	Existing	300,000 /year	*75%*	225,000	225,000	225,000	225,000
World Cruise Center[8]	Existing	560,000 /year	*95%*	532,000	532,000	532,000	532,000
Battleship Iowa[9]	Existing	160,000 /year	*95%*	152,000	152,000	152,000	152,000
Ports o' Call[10]	Existing	1,925,000 /year	*75%*	1,443,750	0	0	0
Subtotal (rounded)				**2,490,000**	**2,240,000**	**3,290,000**	**4,400,000**
# new from 2015					*-250,000*	*800,000*	*1,910,000*
% growth from 2015					*-10%*	*32%*	*77%*
Full-Time Employees (FTE)							
AltaSea[2]	Pre-Approval	570 FTE		0	250	500	570
San Pedro Public Market[11]	Pre-Approval	522 FTE		0	174	348	522
Brouwerij West[12]	Existing	54 FTE		54	54	54	54
San Pedro[13]	Existing	11,195 FTE		11,195	11,195	11,195	11,195
Subtotal (rounded)				**11,200**	**11,700**	**12,100**	**12,300**
# new from 2015					*500*	*900*	*1,100*
% growth from 2015					4%	8%	10%
Residential Population							
San Pedro[14]	Existing	79,316 residents		79,316	79,316	79,316	79,316
Pipeline Residential Projects[15]							
Holland Parters Project	Construction	656 residents		0	656	656	656
Omninet Project	Pre-Approval	700 residents		0	700	700	700
Nelson One	Pre-Approval	119 residents		0	119	119	119
LaTerra Project	Construction	42 residents		0	42	42	42
High Park	Grading	1,183 residents		0	394	1,183	1,183
Subtotal (rounded)				**79,320**	**81,230**	**82,020**	**82,020**
# new from 2015					*1,910*	*2,700*	*2,700*
% growth from 2015					2%	3%	3%

(1) Source: EPS estimate of unique visitors.

(2) Sources: Based on Kosmont rate of 700 sq.ft./FTE

(3) Source: Ports o' Call Redevelopment Financial Analysis, "Optimum Scenario," Proforma Advisors. EPS averaged high, low estimates, distributed 35%/65%/100%

(4) Source: EPS est. based on 13,500 non-brewery sq.ft. generating $350/Sq.Ft. (a benchmark for moderate profitability) and $25/patron avg. spending.

(5) Crafted Source: 2013, http://www.sanpedrobeacon.com/2014/03/21/crafted-brouwerij-west-to-transform-warehouse-nine-into-beer-and-foodie-destination/

(6) San Pedro Marina visitation: EPS Estimate: 1,900 slips, 80% @ 6 visits/year/slip, 20% @ 24 visits/year/slip, 3 visitors/visit

(7) Cabrillo Marine Aquarium Source: Ports o' Call Redevelopment Financial Analysis, Proforma Advisors.

(8) World Cruise Center Source: Port of Los Angeles

(9) Battleship Iowa Source: Ports o' Call Redevelopment Financial Analysis, Proforma Advisors, based on June 2013 - May 2014 recorded visitation

(10) Ports o' Call Source: Ports o' Call Redevelopment Financial Analysis, Proforma Advisors, average of high and low estimates.

(11) Source: Ports o Cal Redevelopment Finacial Analysis, "Optimum Scenario" recommendation, Proforma Advisors. Distributed by EPS over two build-out phases

(12) Source: EPS estimate of 1 employee per 500 square feet of commercial area

(13) Source: LEHD On the Map for 2014. (Assumed inclusion of Crafted, Cabrillo Marina, World Cruise Center, Battleship Iowa, and Ports o' Call)

(14) Source: 2008-2012 U.S. Census American Community Survey 5-Yr Estimate.

(15) Sources: LA City Council District 15, news literature surveys for project descriptions. EPS assumes 1.75 residents per new unit.

Exhibit 11 Pipeline Commercial Inventory Growth in Outer Harbor Vicinity

	Square Feet					**Hotel Keys**	
Project	Retail/ Restaurant	Office/Lab	Specialty Marina/ Other	Hotel	Total		**ETA**
Existing[1]							
Brouwerij West	30,000	0	0	0	30,000	0	existing
CRAFTED	30,000	0	0	0	30,000	0	existing
22nd St Landing	10,000	0	*10,000*	0	20,000	0	existing
DoubleTree Hotel	0	0	0	165,732	165,732	226	existing
291 W 22nd St Cabrillo Landing	0	9,351	0	0	9,351	0	existing
210 Whalers Walk Berth # 31	7,216	0	0	0	7,216	0	existing
200-300 Whalers Walk - Cabrillo Marina	0	0	77,814	0	77,814	0	existing
Cabrillo Beach Yacht Club 211 W 22nd	0	0	14,400	0	14,400	0	existing
Total Existing	**77,216**	**9,351**	**102,214**	**165,732**	**354,513**	**226**	
Pipeline[2]							
San Pedro Public Market (Phase 1)	138,600	30,000	0	0	168,600	0	*2020*
Alta Sea (Phase 1)	0	230,100	20,700	0	250,800	0	*2022*
Subtotal Phase 1	**138,600**	**260,100**	**20,700**	**0**	**419,400**		
Pipeline increase over existing	*179%*	*2782%*	*20%*	*0%*	*118%*		
San Pedro Public Market (Phase 2)[3]	161,400	0	0	0	131,400	0	*2028*
Alta Sea (Phase 2,3)[3]	5,000	72,750	72,750	0	150,500	0	*2028*
Subtotal Phase 1+2	**305,000**	**332,850**	**93,450**	**0**	**701,300**		
Pipeline increase over existing	*395%*	*3560%*	*91%*	*0%*	*198%*		
POTENTIAL TOTAL (rounded)	**382,216**	**342,201**	**195,664**	**165,732**	**1,055,813**	**226**	

(1) Existing supply based on property records and EPS map take-off estimates.
(2) Pipeline supply based on public information regarding AltaSea and San Pedro Public Market development plans
(3) Allocation by use: EPS estimate

Tidelands Restrictions

Both the Cabrillo Way Marina Pads and Warehouse No. 1 are located in the Tidelands area and are subject to Tidelands Trust restrictions. The Trust area is defined as the portion of the shore covered and uncovered by the daily ebb and flow of the tides. Permissible uses in the Tidelands Trust area are generally interpreted to mean maritime in nature and/or visitor-serving uses. The restriction generally excludes residential uses and non-marine-related office businesses and limits the duration of ground leases.

In some places such as San Francisco, the Port has been able to work with the State Lands Commission and Legislature to obtain longer ground leases and a broader range of uses for specific waterfront development projects. This section summarizes some of the public trust rules and provides some general information on the San Francisco waterfront. It draws substantively from documents prepared by the Port of San Francisco.

Public Trust Doctrine

The California State Lands Commission ("SLC") administers public trust lands not granted to local agencies and oversees the activities of local grantees. As summarized in a Port of San Francisco January 2013 memorandum, the use, transfer, and leasing of public trust lands are governed by a broad set of rules and determinations, including, but not limited to:

- The California Constitution prohibits the sale to private interests of all tidelands fronting on a waterway used for navigation and within 2 miles of an incorporated city.
- The Legislature may also terminate the public trust in tidelands and lift the prohibition on sale if it finds that: the subject property has been filled as part of a highly beneficial program of harbor development, is no longer needed for trust purposes, and constitutes a relatively small portion of the lands granted to the local agency.
- Common law, as reflected in California court decisions, places certain limits on the permissible uses of trust property. Legal opinion letters drafted by the California Attorney General and advice letters from and resolutions adopted by the SLC and its staff provide guidance in the interpretation of the common law trust restrictions.
- The California legislature, in the exercise of its trust authority, may prohibit or allow certain uses on trust lands.

The SLC specifically has indicated that:

"Uses of trust lands, whether granted to a local agency or administered by the State directly, are generally limited to those that are water dependent or related, and include commerce, fisheries and navigation, environmental preservation and recreation. Public trust uses include, among others, ports, marinas, docks and wharves, buoys, hunting, commercial and sport fishing, bathing, swimming and boating. Public trust lands may also be kept in their natural state for habitat, wildlife refuges, scientific study, or open space. Ancillary or incidental uses, that is, uses that directly promote trust uses, are directly supportive and necessary for trust uses, or that accommodate the public's enjoyment of trust lands, are also permitted."

Trust law generally recognizes restaurants, hotels, and visitor-serving retail as appropriate ancillary uses that further public enjoyment of waterfront areas. Generally, local-serving uses (such as a grocery store) that do not require a waterfront location and private uses such as housing are prohibited on public trust property.

Port of San Francisco Waterfront Development Projects

The Port of San Francisco provides an interesting case study and potential precedent for the LA Waterfront. For several decades, the Port of San Francisco has been pursuing opportunities for waterfront development that support public access and provide opportunities for new development that could also help subsidize the substantial capital investments required to service the piers, many of which are in dilapidated condition. All of the projects that have been approved and completed represent individual projects with unique conditions and circumstances.

As the Port of LA continues to make substantial pubic investment in its waterfront and seeks increase visitation, use, and investment, examples from the Port of San Francisco are worth considering. Some of these individual projects have been granted the opportunity to incorporate land uses outside of the typical tidelands-permitted (including general office) along with substantially longer ground lease terms.

- **Projects Justified by Expanding Visitation**. In recent years, Pier 1 (*2001*), The Ferry Building (*2003*), Piers 1½-5 (*2007*), and the Exploratorium at Pier 15 (*2013*) have been successfully rehabilitated and reopened for public enjoyment, meeting Secretary Standards.

- **Special Legislation for Cases Where the Public Trust is Not Well Served**. In Senate Bill 815 (2007), the Legislature found that certain lands within Port jurisdiction, including Seawall Lot 330, have been cut off from San Francisco Bay by the Embarcadero roadway, have ceased to be useful for the promotion of the public trust. Accordingly, the Legislature freed Seawall Lot 330 from the use requirements of the public trust and the Burton Act trust through the year 2094. The Legislature further authorized the Port to enter into non-trust leases for Seawall Lot 330 for periods up to 75 years. Pier 70, another major development project on the San Francisco waterfront involving the adaptive reuse of a number of historic buildings, was also covered by special legislation, and allows for a 99-year ground lease. Planned uses include for the 69-acre site include between 1,500 and 3,000 housing units, substantial office/R&D space, and significant investments in public spaces and other community benefits.

- **Proposed Waterfront Land Use Plan Revisions to Help Finance Waterfront Infrastructure.** The Port of San Francisco is now updating its Waterfront Land Use Plan. As part of this update, it is evaluating the role that longer ground leases could play in supporting substantial investments in the historic finger piers, bulkhead buildings, and other critical infrastructure investments. Such investments could help ensure the integrity of the waterfront, but also address other issues, such as sea-level rise and resiliency. Port of San Francisco staff are working closely with the California State Lands Commission and have preliminary identified categories that reflect ways in which investments could deliver Trust benefits.

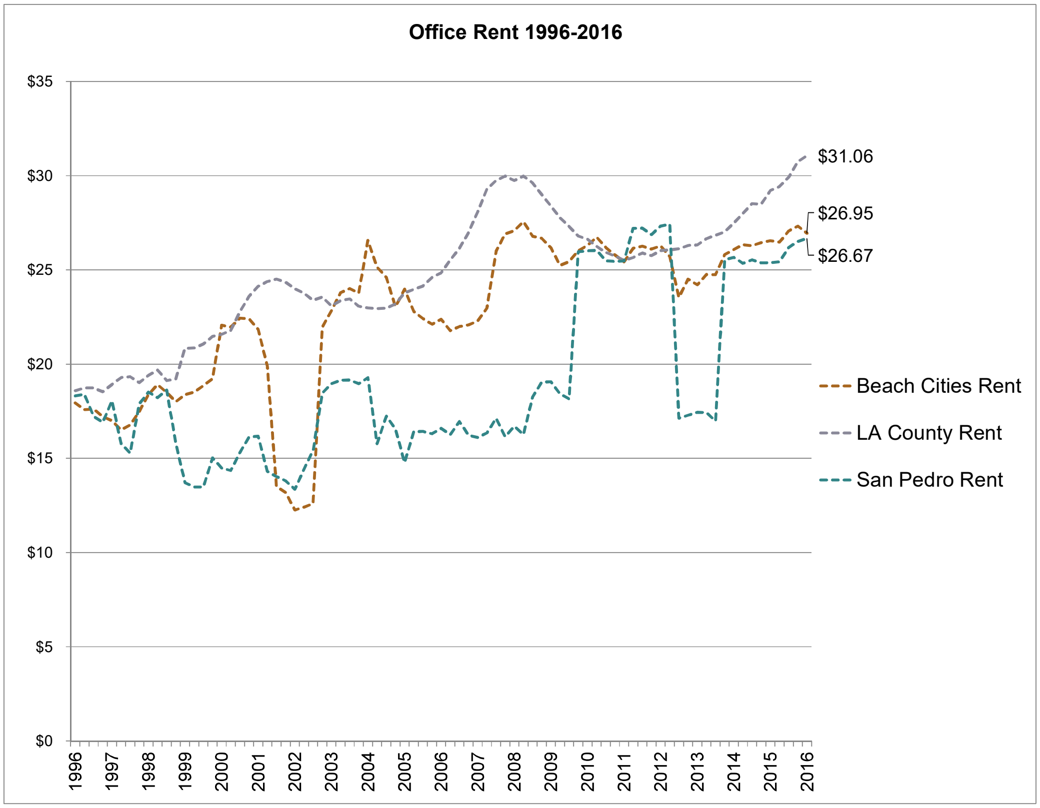
Office Market Opportunity

San Pedro is a minor office market player, as the city functions primarily as a residential suburb for out-commuters to locations north, northwest, northeast, and east. As noted above in **Exhibit 9**, the day population of 62,000 workers reflects a daily net outflow of 18,000 working residents (29,000 out-commute, 11,000 in-commute), which decreases the San Pedro day population to 78 percent of its residential population.

Consequently, San Pedro office performance has historically underperformed both LA County and the Beach Cities submarket, which is made up of Manhattan Beach, Redondo Beach, Hermosa Beach, Palos Verdes, Rolling Hills, San Pedro, Wilmington, and portions of neighboring cities in the area between the waterfront, State Highway 1, and Rosecrans Boulevard.

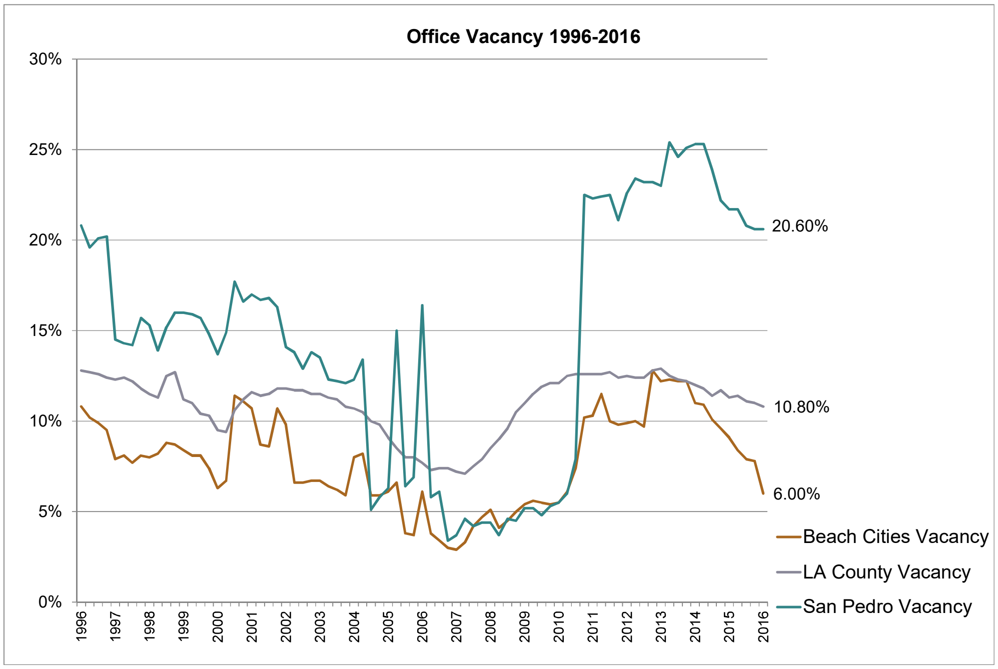
As shown in **Exhibit 12,** San Pedro rents between 1996 and 2016 have been historically lower than County and Beach Cities submarket averages. Likewise, San Pedro office vacancies, as shown in **Exhibit 13**, have been historically higher than the County's, especially in recent years since the Recession. Furthermore, since 2000, San Pedro's office inventory contracted by 15 percent compared to a 1 percent decline in the Beach Cities and 6 percent increase in LA County, as shown in **Exhibit 14**. Finally, existing San Pedro office inventory is aging with only two small office buildings totaling 6,400 square feet constructed since 2000.

Exhibit 12 San Pedro and Beach Cities Office Rent 1996-2016



Source: CoStar and EPS

Exhibit 13 San Pedro and Beach Cities Office Vacancy 1996-2016



Source: CoStar and EPS

Exhibit 14 Office Market Performance and Inventory

	San Pedro	Beach Cities[1]	LA County
Performance[2]			
Gross Rent Per Sq.Ft.	$2.22	$2.25	$2.59
Vacancy Rate	20.6%	6.0%	10.8%
12 Mo. Net Absorption (Sq.Ft.)*	7,879	196,387	4,727,812
% of Total Inventory	0.7%	3.4%	1.1%
Sale Price Per Sq.Ft.*	$242	$287	$331
Inventory			
2Q2016	1,156,749	5,788,952	430,639,094
San Pedro Share	100%	20%	0.27%
2000	1,359,268	5,869,478	407,951,649
San Pedro Share	100%	23%	0.33%
Inventory Change 2000-1Q16	(202,519)	(80,526)	22,687,445
% Change	-15%	-1%	6%
Under Construction*	0	20,811	3,312,129
% Change	0%	0.4%	0.8%

(1) The Beach Cities/Palos Verdes Office Submarket Area extends to the North along the Coastal Cities of Manhattan Beach, Redondo, and Hermosa, with the Northern portion bordering Rosecrans Ave and loosely bound by Hawthorn Boulevard to the East. The Submarket also includes all of the Palos Verdes, Rolling Hills, and San Pedro areas which are geographically clustered on the peninsula bordered by the ocean and State Highway 1. Additionally, Wilmington is included in the Submarket as well as small portions of neighboring cities.

(2) As of 2Q2016

Sources: CoStar, Economic & Planning Systems

Creative Office Potential

Despite softness in the San Pedro office market, there are several factors that could support a new era of San Pedro office development. Communication technology has enabled workers in many sectors to loosen ties with central offices and has given rise to a wider dispersion of employment centers. "Silicon Beach," which broadly describes a growing set of Los Angeles-based technology-oriented start-ups, has outposts all over the city. These companies tend to favor non-traditional "creative" office space in communities with attractive amenities and a strong sense of place, which has led to a wave of new and adaptive-reuse creative office development in areas such as Santa Monica, Culver City, and Downtown Los Angeles.

The most significant catalyst for establishing the Outer Harbor area as a jobs center is AltaSea. As noted in **Exhibit 10** above, AltaSea could eventually generate up to 570 permanent jobs, equivalent to a 5 percent increase in San Pedro's current job base. What's more, it is hoped AltaSea will act as a business incubator for marine-related, sustainability, and high-tech start-ups, which could generate additional demand for office space. AltaSea together with San Pedro Public Market could by 2030 increase the number of San Pedro full-time-employees by 10 percent (1,100 net new employees).

Tidelands Area restrictions, which apply both to the Warehouse No. 1 and Cabrillo Way Marina pads, limit potential office uses to some degree. Broadly stated, office uses in the Tidelands zone must serve maritime businesses or institutions. These could include businesses incubated at AltaSea and spun off as well as businesses directly connected with fisheries, harbor, and boating operations. Area business operators and stakeholders interviewed for this study identified a number of such office users that an upgraded Cabrillo Way Marina could support including yacht brokers and boat show operators.

While creative office as a subcategory originally proliferated in the 1990s with the first wave of dot-com companies converting inexpensive industrial and warehouse spaces, no consistent definition exists today. In general, creative office is differentiated from conventional office space by features such as open floor plans, collaborative workspaces, and exposed building materials. Increasingly, creative office space has also come to signify use of natural lighting, sustainable materials, and technology. These features can support higher worker density and employer flexibility to accommodate an increasingly mobile workforce. In addition, creative office space has proven to be a useful tool for attracting and retaining Millennial-aged workers.

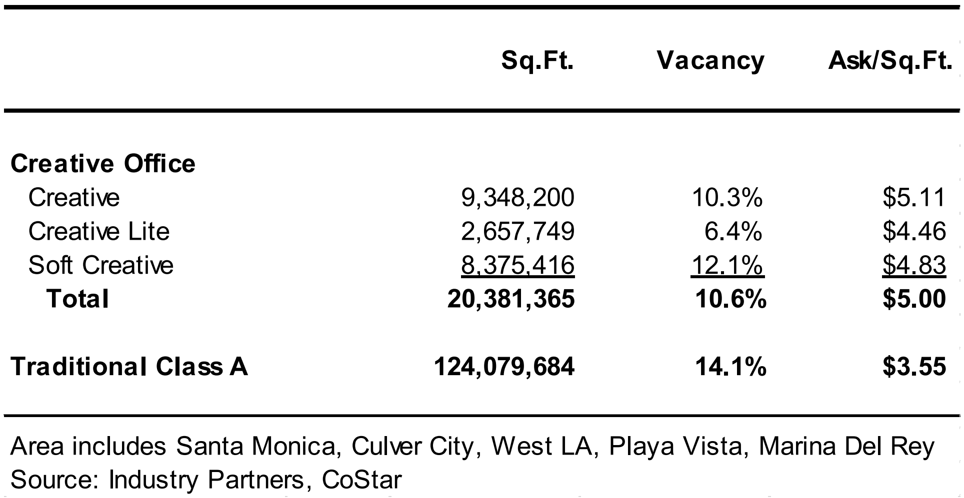
Aside from these common features, creative office space can vary widely both in form and rent. The Los Angeles-based broker/developer Industry Partners has developed the following typology to classify three primary categories of creative office:

1. The **Creative** office category describes an adaptive reuse project that converts existing raw or industrial space into premium creative workspace. This may entail significant alteration of the structure and expansion of leasable area.
2. The **Creative Lite** category most resembles the initial historic interpretations of creative office, as it retains more of the structure's original condition and features a lower, less premium level of finishing.

3. The **Soft Creative** category adapts an existing Class A office building into a creative office space through tenant improvements that add creative character and natural light to interior space.

As shown in **Exhibit 15,** the three Creative Office categories have different performance characteristics, but all outperform Traditional Class A office. The "Creative" category generates the highest rent with "Soft Creative" not far behind. The combined average for all creative office category rents outperformed Traditional Class A rents by 40 percent in 2017 and since 2006 have averaged a 25 percent premium over Class A.

Exhibit 15 West Side of Los Angeles YE 2017: Creative vs. Traditional Class A Office



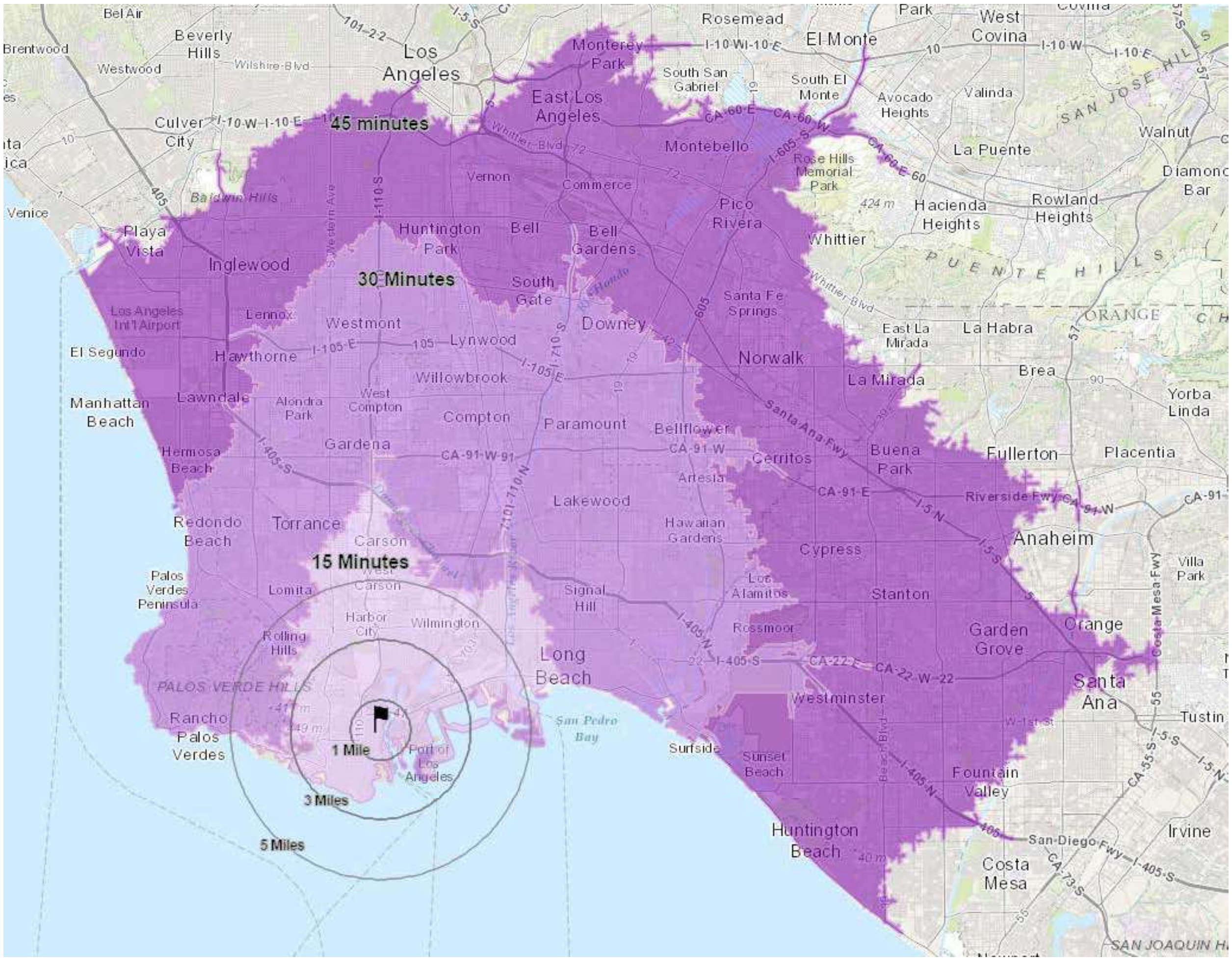
	Sq.Ft.	Vacancy	Ask/Sq.Ft.
Creative Office			
Creative	9,348,200	10.3%	$5.11
Creative Lite	2,657,749	6.4%	$4.46
Soft Creative	8,375,416	12.1%	$4.83
Total	**20,381,365**	**10.6%**	**$5.00**
Traditional Class A	**124,079,684**	**14.1%**	**$3.55**

Area includes Santa Monica, Culver City, West LA, Playa Vista, Marina Del Rey
Source: Industry Partners, CoStar

San Pedro's waterfront location and Port backdrop offers the differentiation, uniqueness, and interest that creative office tenants prefer. And while San Pedro occupies the remote southernmost edge of Los Angeles County, convenient access via the 110, 405, and 710 Freeways reaches a huge residential population within a 45-minute drive time, as shown in **Exhibit 16**.

The revamped Topaz building in Downtown San Pedro represents a vote of investor confidence in San Pedro's potential as a creative and high-tech office environment. The 11-story Topaz, the only San Pedro building considered Class A, is the largest in the community with 289,000 square feet of buildable area representing 22 percent of San Pedro's inventory. The building once housed 500 employees of Northrop Grumman, but after the company moved its headquarters out of Los Angeles in 2010, it stood nearly vacant for almost two years. In 2014, new ownership conducted a renovation that converted a portion of the building into creative-style office space with open floor plans, exposed ducting, and upgraded technology. (The renovated portion of the building is consistent with the "Soft Creative" subcategory described above.)

Exhibit 16 45-Minute Commuting Radius to and From San Pedro



Source: ESRI

Office Development Opportunity Summary

San Pedro functions predominantly as a bedroom suburb for out-commuters, and it does not currently support a strong office market. Furthermore, modest office rents and high vacancies provide little short-term incentive for new office development. Finally, because Warehouse No. 1 and the Marina Pads are located within Tidelands boundaries, any office tenants at these sites would theoretically have to engage in marine-related business, which limits demand to a subset of total potential users. However, as noted earlier, recent experience at the Port of San Francisco with special legislation and special projects in Tidelands areas suggests that there may be some additional tenanting flexibility when it can be proven that current rules are not fully supporting trust goals. In addition, the attractive and authentic Outer Harbor location offers a source of differentiation and interest, especially for creative office tenants, and successful operation of the proposed AltaSea could create a new employment node, which could generate new demand for complementary office uses, either for established marine-oriented concerns or new businesses incubated at AltaSea.

Hotel Market Opportunity

The San Pedro hotel market is a minor contributor to the market area that has major lodging concentrations in Long Beach, the South Bay Beach Cities, and LAX/El Segundo. As shown in **Exhibit 17**, this market consists of approximately 23,000 rooms, to which San Pedro contributes 758, or 3 percent from 7 hotels. Within the greater Los Angeles County Trade Area, San Pedro contributes 1 percent of all rooms.

Among the San Pedro hotels (shown in **Exhibit 18**), three are operated by major flags (the Crowne Plaza, the Doubletree, and Best Western Plus), contributing 530 rooms and 58 percent of the total. The Crowne Plaza and the DoubleTree in the waterfront area are the pre-eminent hotels in San Pedro. Despite recent renovations, neither the Crowne Plaza nor DoubleTree, which were built in 1990 and 1989 respectively, is a cutting-edge hotel product such as a "boutique" or "limited service" hotel.[2]

Exhibit 17 San Pedro Hotel Competitive Area

Hotel Submarket Area	**Rooms**	**Share of Competitve Area**	**Share of County**
Competitive Area			
LAX	11,124	48%	11%
South Bay (less San Pedro)	5,627	24%	6%
San Pedro	*758*	*3%*	*1%*
Long Beach	4,066	18%	4%
Marina del Rey	1,499	6%	2%
Subtotal	**23,101**	**100%**	**23%**
Other LA County	**75,770**		**77%**
Total LA County	**98,871**		**100%**

Sources: PKF Consulting, Economic & Planning Systems, Inc.

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[2] "Boutique" and "Limited Service" hotels are the strongest hotel growth categories in LA County.

Exhibit 18 San Pedro Hotels

Establishment[1]	Class	Open Date	Rooms
Crowne Plaza Los Angeles Harbor Hotel	Upscale	1990	244
DoubleTree Hotel San Pedro	Upscale	1989	226
Sunrise Hotel	Economy	1978	110
Vagabond Inn San Pedro	Midscale	1973	73
Best Western Plus San Pedro Hotel & Suites	Upper Midscale	1986	60
All Star Inn	Economy	NA	25
Pacific Inn	Economy	NA	20
Total			**758**

(1) STR does not include a number of smaller independent operators in its competitive set
Source: 2016 STR, Inc.

San Pedro hotel demand can be attributed to a number of sources: spill-over from general Los Angeles County tourism; spill-over from Long Beach, mainly for Port-related activity, Long Beach Convention Center booking and Long Beach Airport use; tourism to the San Pedro area; and the Port of Los Angeles cruise business.

The Los Angeles County lodging market has experienced strong growth in recent years, which has contributed to San Pedro lodging demand as strong regional demand creates "compression" that spills over to all areas. A measure of County growth can be seen in **Exhibit 19**, which shows rapid increases since 2010 in hotel occupancy, average daily hotel rate (ADR), and revenue per available room (REVPAR). Hotel developers have responded by initiating a large number of new projects. From 2010 through 2017 (forecast), Los Angeles County will have added 5,500 rooms, a net growth of 6 percent, with several thousand more rooms under construction or approved for construction. While 2017 new room supply is expected to exceed new demand slightly, resulting in a momentary decline in average occupancy, analysts believe strong hotel demand growth will continue.

The South Bay and Long Beach submarkets near San Pedro have also thrived in recent years, as shown in **Exhibit 20** and **Exhibit 21**. Occupancy in both the South Bay and Long Beach markets, at 83.9 and 77.9 percent tops the 75 percent occupancy threshold usually regarded as a market signal signifying potential demand for new hotel development.

Exhibit 19 Los Angeles County Lodging Performance 2010-2017F

Year	Rooms	*Change*	Occupancy	ADR	*Change*	REVPAR	*Change*
2010	97,555	*N/A*	71.7%	$138	*N/A*	$99	*N/A*
2011	98,212	*0.7%*	75.2%	$145.74	*5.6%*	$110	*10.7%*
2012	97,061	*-1.2%*	76.8%	$154.51	*6.0%*	$119	*8.3%*
2013	96,963	*-0.1%*	80.0%	$162.11	*4.9%*	$130	*9.2%*
2014	97,673	*0.7%*	81.1%	$174.88	*7.9%*	$142	*9.4%*
2015	98,198	*0.5%*	81.8%	$187.77	*7.4%*	$154	*8.3%*
2016E	98,871	*0.7%*	83.0%	$203.53	*8.4%*	$169	*10.0%*
2017F	103,079	*4.3%*	80.7%	$210.90	*3.6%*	$170	*0.8%*
CAAG	0.90%			7.30%		9.50%	

Source: PKF Consulting, CBRE Hotels: 2017 Los Angeles County Forecast

Exhibit 20 South Bay Lodging Performance 2010-2017F

Year	Rooms	*Change*	Occupancy	ADR	*Change*	REVPAR	*Change*
2010	6,052	*N/A*	71.9%	$120	*N/A*	$86	*N/A*
2011	5,987	*-1.1%*	74.7%	$125	*4.6%*	$94	*8.8%*
2012	6,052	*1.1%*	76.4%	$131	*4.7%*	$100	*7.1%*
2013	6,052	*0.0%*	79.1%	$138	*5.4%*	$109	*9.1%*
2014	6,143	*1.5%*	82.9%	$148	*7.0%*	$122	*12.1%*
2015	6,371	*3.7%*	83.8%	$154	*4.0%*	$129	*5.2%*
2016E	6,385	*0.2%*	84.3%	$169	*9.6%*	$142	*10.3%*
2017F	6,548	*2.6%*	83.9%	$175	*4.0%*	$147	*3.4%*
CAAG	1.30%			6.60%		9.30%	

Source: PKF Consulting, CBRE Hotels: 2017 Los Angeles County Forecast

Exhibit 21 Long Beach Lodging Performance 2010-2017F

Year	Rooms	*Change*	Occu-pancy	ADR	*Change*	REVPAR	*Change*
2010	3,907	*N/A*	64.1%	$124	*N/A*	$80	*N/A*
2011	3,907	*0.0%*	68.4%	$124	*-0.1%*	$85	*6.5%*
2012	3,907	*0.0%*	72.5%	$129	*4.3%*	$94	*10.6%*
2013	4,035	*3.3%*	73.9%	$131	*1.2%*	$97	*3.1%*
2014	4,066	*0.8%*	76.4%	$138	*5.4%*	$106	*9.0%*
2015	4,066	*0.0%*	76.6%	$152	*10.3%*	$117	*10.6%*
2016E	4,066	*0.0%*	77.5%	$164	*7.5%*	$127	*8.8%*
2017F	4,066	*0.0%*	77.9%	$171	*4.5%*	$133	*5.0%*
CAAG	0.70%			5.50%		9.00%	

Source: PKF Consulting, CBRE Hotels: 2017 Los Angeles County Forecast

Offsetting strong regional hotel performance somewhat has been the decline in San Pedro of the Cruise business out of the Port of LA. According to Ports America Cruise data, from 2005 to 2015, cruise passenger volume out of the Port of LA fell 54 percent from 1.22 million (actual) to 560,000 (estimated), and at least partially due to this decline, San Pedro hotel performance fell as well. The primary reason for the decline has been the discontinuation due to security concerns of several Mexico-bound cruises. Whether this volume can be reclaimed through re-starting the Mexico lines or through addition of new lines is not known at this time. The impact of this decline in demand has not been evenly distributed between San Pedro hotels, however.

The Crowne Plaza, centrally located in Downtown San Pedro, is outperforming the South Bay average in terms of its year-over-year ADR growth and occupancy growth, according to a hotel representative. The user demand for the Crowne Plaza, according to this representative, comes from leisure transient and business transient travelers such as Long Beach Convention Center attendees, as well as from cruise travelers. Crowne Plaza management is enthusiastic about the San Pedro Public Market and AltaSea projects because of the opportunity to support both the initial construction process and future area visitation.

The full-service Doubletree hotel is located south in the Outer Harbor area. Unlike the 10-story Crowne Plaza, the DoubleTree's low-density plan and waterfront location caters more strongly to leisure travelers. Hotel representatives report that on an ADR basis, the DoubleTree is underperforming the South Bay average. This is attributable mostly to the relatively remote location, which places it at a competitive disadvantage to better-located hotels. Typical visitors are said to include flight attendants, spill-over demand due to "compression" in the overall market, and some cruise passengers. Hotel officials believe the LA Waterfront projects can help San Pedro become more appealing and promote the waterfront area as a destination.

Hotel Development Opportunity Summary

San Pedro hotels have benefitted from an economic upcycle and strong regional tourism trends, which have created region-wide "compression" that has spilled over into the market. At the same time, San Pedro's relative isolation from major business and leisure travel nodes, as well as declining cruise travel volume from the Port of LA, has partially undercut performance. Of the two major San Pedro hotels, the DoubleTree's remote location puts it at a relative disadvantage. However, the San Pedro Public Market and AltaSea projects, when operational, could enhance the profile of San Pedro as a leisure destination and an employment node and eventually create demand for new hotel development.

Retail Market Opportunity

Retail development in the Outer Harbor area has been limited by an addressable trade area made up largely of industrial uses and water. As shown on **Exhibit 22**[3], most area retail is concentrated inland along the major north-south boulevards Western Avenue and Gaffey Street. The Western Avenue corridor serves both San Pedro to the east, the affluent residential community of Palos Verdes to the West, and to a lesser extent the communities of Lomita and Harbor City to the north. Gaffey Street runs through the middle of San Pedro before connecting directly to the 110 highway, which brings access from Long Beach and beyond. Retail in the waterfront area had been concentrated largely in the current Ports o' Call area (until recent demolition activity in preparation for redevelopment), which serves demand made up almost entirely of visitors. While a destination retail outpost represented by CRAFTED and Brouerij West contribute 136,000 square feet of leasable area, the Outer Harbor area near the Cabrillo Way Marina pads and Warehouse No. 1 has almost no other retail, reflecting the low population and employment density.

Major change in market conditions may be imminent with the construction of San Pedro Public Market and AltaSea. As noted earlier in **Exhibit 7** and **Exhibit 11,** future retail supply in the area is expected to be considerable with up to 139,000 square feet of restaurant and retail uses in San Pedro Public Market by the 2021-2022 timeframe. Most demand for this retail is anticipated to be filled by visitors, who are unlikely to generate much demand for the Warehouse No. 1 and the Cabrillo Way Marina pads sites, which are 1.1 and 0.9 miles away and well outside the quarter-mile walkshed.

More likely, retail potential at the opportunity sites will be based on visitation and employment density at AltaSea and the Cabrillo Way Marina. As noted in **Exhibit 11**, AltaSea has potential to increase the day population with up to 570 full-time jobs and 250,000 annual visitors at build-out. These workers and visitors will require options for coffee, food, convenience items, and tourism-related gifts.

Other retail opportunities at the Cabrillo Way Marina (discussed in greater detail in **Chapter 3**), are likely to stem from a process of upgrading the facility with services such as a boatyard and

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[3] While this CoStar-derived map misses some key retail/restaurant establishments, namely CRAFTED and Brouerij West in the Outer Harbor area, the general retail distribution pattern is still clear.

fuel dock. Such improvements, arguably, could improve slip occupancy and generate additional demand for ancillary services while also boosting area employment. In interviews, area stakeholders and business operators indicated potential demand in such a scenario for retail businesses like a boat accessories retailer, marine electronics vendor, dive shop, sandwich shop, and convenience store.

Exhibit 22 Retail and Services Distribution in San Pedro Area

Source: CoStar, EPS

Retail Development Opportunity Summary

Retail development in the Outer Harbor area, where Warehouse No. 1 and the Cabrillo Way Marina Pads are located, has been limited by the isolated location and a constrained addressable trade area made up largely of industrial uses and water. However, major change in market conditions may be imminent. San Pedro Public Market, which could supply up to 139,000 square feet of restaurant and retail uses by 2021, is likely to dominate the opportunity for destination retail, especially as Warehouse No. 1 and the Cabrillo Way Marina pads sites are 1.1 and 0.9 miles away respectively and well outside the quarter-mile walkshed. More likely, retail potential at the opportunity sites will be based on visitation and employment density at AltaSea and improved Cabrillo Way Marina operations, which could generate retail demand for coffee, food, convenience items, boat accessories, diving supplies, and convenience store items.

3. CABRILLO WAY MARINA OPPORTUNITY ASSESSMENT

This chapter explores the opportunity for landside development of the pads and parking area adjacent to the Cabrillo Way Marina. The chapter includes the following sections:

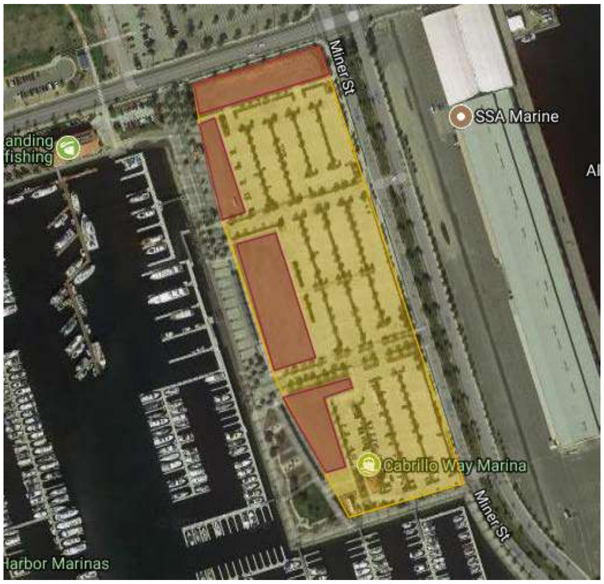
1. Property Description
2. Cabrillo Way Marina Operating Assessment
3. Landside Development Opportunities

Property Description

The Cabrillo Way Marina is one of four San Pedro recreational marinas, covering 87 acres of land and water and offering 740 wet slips and 325 dry slips in a range of sizes. The Marina is owned by the Port of Los Angeles and operated under a management agreement by Westrec, a national marina operator.

The marina was updated between 2009 and 2011 at a cost of $148 million, which went primarily toward channel dredging, slip construction, shoreline modification, construction of a mile of public waterfront promenade, widening of Miner Street, landscaping, new surface parking, and creation of graded pads for future landside development. These pads are located at the corner of Miner St. and 22nd Street and total approximately 2.8 acres. The pads are surrounded by an additional 9.2 acres of parking that serves marina overflow. The pads and associated parking combined total 12 acres of potential landside development. Although there are a number of semi-temporary office/administration buildings on site, the landside of the Cabrillo Way Marina is essentially unimproved.

Exhibit 23 Cabrillo Way Marina Development Pads and Parking Area

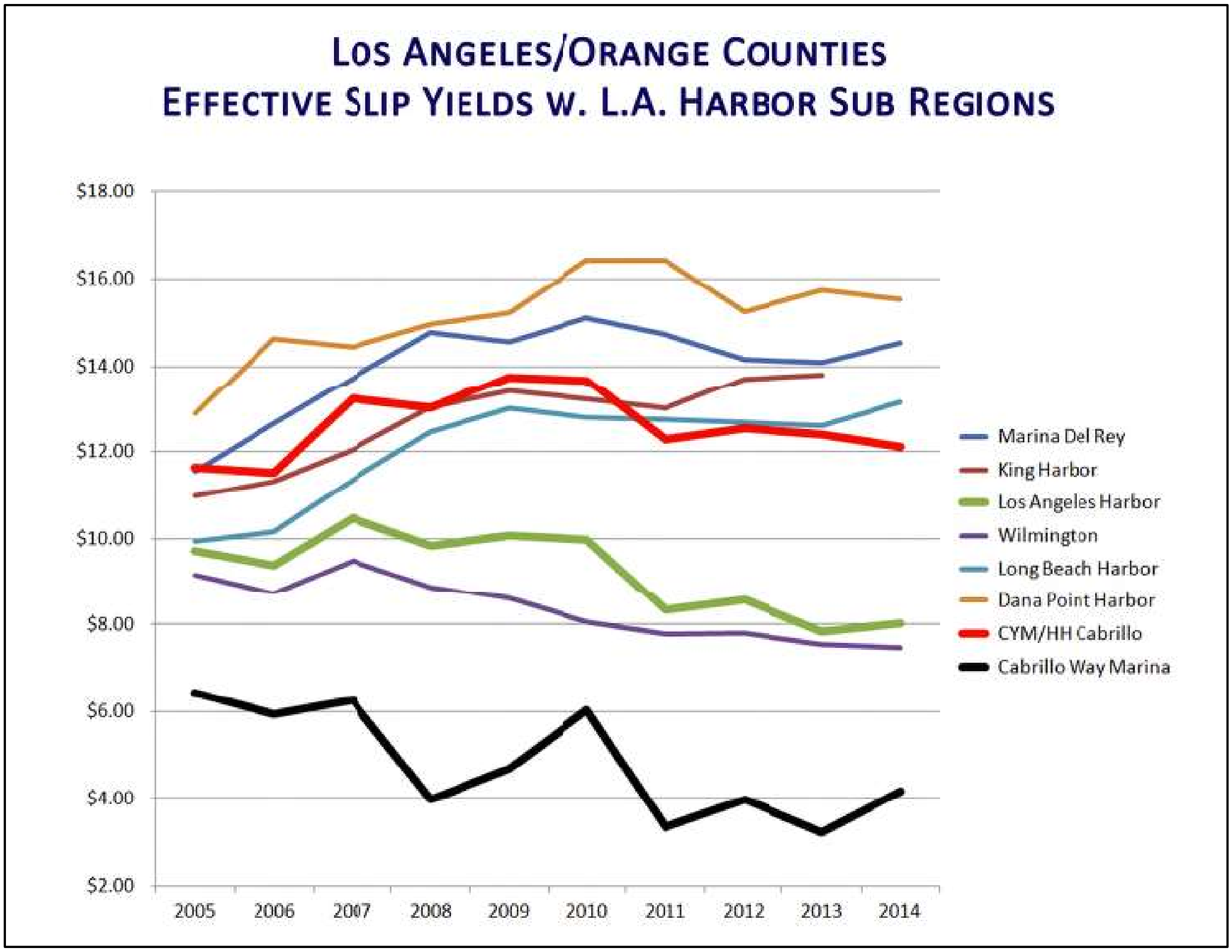


Source: Google Maps and EPS

Cabrillo Way Marina Performance Assessment

The Cabrillo Way Marina has underperformed competitors in key operating measures of slip revenue and slip vacancy. As shown in **Exhibit 24**, Cabrillo Way Marina effective revenue per lineal foot has lagged that for competing marinas throughout Los Angeles and Orange Counties since at least 2005.

Exhibit 24 Los Angeles/Orange County Slip Yields Per Linear Foot 2005-2014



Source: Marine Recreation Association, State of the Marina Industry 2015

In 2016, as shown by **Exhibit 25**, the 39 percent total vacancy rate of the Cabrillo Way Marina exceeded that of other San Pedro marinas by a significant amount. The worst of this vacancy is exhibited by the "large" slips category (for slips measuring over 40 feet), where the Cabrillo Way Marina's 52 percent rate stands out against the 0 and 3 percent rates shown by competitors. As a result, Cabrillo Way Marina generates the lowest revenue/slip in the set.

This underperformance can be attributed to a number of factors:

- **Oversupply of large slips**: With 403 "large" slips making up 54 percent of its total inventory, the Cabrillo Way Marina contributes 73 percent of all large slips in San Pedro. This oversupply is the result of a development strategy that predated current market conditions. Before the 2008 Recession, large slips were in high demand, and the Cabrillo Way Marina was designed to exploit this opportunity. By the time marina expansion was complete in 2011, the Recession coupled with a shift towards smaller boats—attributed by observers in part to the preferences of Millennial boaters—reduced large slip demand considerably.

- **A design flaw pertaining to large slips** that are too narrow to accommodate side-by-side berthing limits revenue potential.
- **Lack of land side amenities:** Successful marina operation depends not only on the availability of an appropriate mix of slips, but also on a critical mass of complementary services that support provisioning, fueling, boat maintenance, and off-boat recreational activities. In districts with many marinas, these facilities are sometimes provided in the general marina district and not necessarily onsite. Landside amenities at Cabrillo Way Marina are limited, and there are few if any meaningful complementary uses nearby. Furthermore, the lack of a recreational fuel dock in the Marina means boaters must cross the crowded Main Channel to use the Jankovich commercial fuel dock, which is not designed to handle a large volume of recreational boaters without queuing issues.
- **Limitations imposed by the Westrec operating agreement:** The Westrec agreement is, by design, focused entirely on operating the Cabrillo Way Marina and includes neither language nor provision that encourage additional landside development or capital investment in waterside development. In addition, the Port was compelled to negotiate agreement terms that were consistent with those of the Port's other privately operated marinas in San Pedro Bay so as not to provide a competitive pricing advantage for Westrec. Consequently, the terms of the agreement limit Westrec's flexibility to respond to market conditions. Specifically:
    - The management agreement provides no incentive to attract landside tenants that could provide amenities to make the marina more appealing for boaters.
    - Minimum slip rates are set at or above competitive rates and undermine revenue optimization.

Solutions to several of these problems, notably design, require capital investments and development decisions typically associated with long-term leasing and not with management agreements.

Exhibit 25 2016 San Pedro Marinas Operating Performance

Slips by Size	Cabrillo Way Marina			CB Yacht Club			Holiday Harbour			CY M Cabrillo			All San Pedro		
	#	Share	Vac.%	#	Share	Vac.%	#	Share	Vac.%	#	Share	Vac.%	#	Share	Vac.%
Wet Slip Inventory															
Small <36"	230	31%	*17%*	70	39%	*0%*	152	53%	*9%*	513	58%	*23%*	965	46%	*17%*
Medium 36'-40'	107	14%	*37%*	76	43%	*1%*	106	37%	*3%*	284	32%	*11%*	573	27%	*13%*
Large >40'	403	54%	*52%*	32	18%	*3%*	31	11%	*0%*	89	10%	*0%*	555	27%	*38%*
Total	**740**		***39%***	**178**		***1%***	**289**		***6%***	**886**		***17%***	**2,093**		***22%***
Revenues															
2016	$3,260,000			$1,058,000			$1,873,000			$4,811,000			$11,002,000		
Rev/Total Slip	$4,405			$5,944			$6,481			$5,430			$5,257		
Rev/Occ.Slip	$7,228			$6,011			$6,861			$6,528			$6,721		

Source: Port of Los Angeles, Westrec

One consequence of high vacancy is a high ratio of operating expenses to revenues, which results in low operating income per slip. Marinas have a relatively high proportion of fixed to variable costs, and so operating expenses on a per-slip basis tend to decline as occupancy increases. Furthermore, larger marinas usually outperform smaller marinas due to scale economies from spreading fixed costs across a larger number of slips. However, as shown in **Exhibit 26**, operating expenses per slip at the Cabrillo Way Marina exceed those of both the smaller Ventura Isle and Neptune Marina, two publicly administered southern California marinas shown here for comparison.

Exhibit 26 Per-Slip Operating Expenses of Select Southern California Marinas

Item	Cabrillo Way Marina	Ventura Isle Marina	Neptune Marina
Location	San Pedro	Ventura	Marina del Rey
Administrator	POLA	Ventura Port District	LA County
Slips	740	580	184
Operating Expense/Slip			
2014	\$2,350 [1]	\$2,274 [2]	
2015	\$3,203 [1]		\$2,554 [3]
2016	\$3,585 [1]		

(1) Port of Los Angeles, Westrec, EPS
(2) ADK&A on behalf of Ventura Port District
(3) ADK&A on behalf of LA County Department of Beaches and Harbors

While the exact source of Cabrillo Way Marina's operating cost underperformance cannot be determined from this analysis, high vacancy is clearly a contributor. Another source may be higher labor cost due to wage policies of the Port even though the Port is not the direct employer. The fact that the Cabrillo Way Marina operates under a management agreement rather than under a ground/water lease arrangement must inevitably have some impact on costs insofar as Westrec's compensation is based on gross revenues not on profits. In prior studies conducted on behalf of the Los Angeles County Department of Beaches and Harbors, ADK&A found that in general, marinas administered by cities or public agencies had higher costs and lower per-unit revenues than those that operated under a ground/waterside lease. Some of this distinction reflects higher public sector wage costs, and some results from the decoupling of management compensation from profitability.

Consequently, switching to a ground/water lease format with a single private entity that owns both waterside and landside improvements should better align operator incentives with revenue enhancement and cost reduction goals. In addition, under this arrangement long-term capital costs will no longer be borne by the Port.

Landside Development Opportunities

As noted in **Chapter 2**, the Outer Harbor area, where the Cabrillo Way Marina Pads are located, is isolated. It's dominated by wharfs and water channels that separate it from other areas with higher day population and residential density, and circulation is provided only by secondary roads. This isolation is the primary impediment to increased commercial activity that could lead to a "critical mass" of uses to help the area become a commercial destination.

AltaSea and San Pedro Public Market could help transform market conditions on the waterfront in the longer term, but the short-term impacts will be limited for a number or reasons. Completion of AltaSea Phase 1 is expected by 2023 (although subphases may be operational earlier). While the AltaSea "front door" will be located less than a quarter-mile from the Cabrillo Way Marina pads, suggesting potential for spill-over retail and restaurant demand from AltaSea's employment and visitor population, most AltaSea structures are located up to a half-mile farther down the wharf, which should limit convenient access from at least a portion of the AltaSea population. Furthermore, as AltaSea is also programming (limited) retail and restaurant uses, some of this demand will be captured on site. Finally, the presence of an intervening warehouse limits the visual connection between AltaSea and the marina pad area.

Nonetheless, AltaSea may eventually create demand to support marine-related office uses, convenience retail, and possibly even a hotel in the Outer Harbor area. With tenants such as the Southern California Marine Institute, Catalina Sea Ranch, and Blue Robotics, AltaSea will incubate the kind of cutting-edge educational, research, and commercial ventures that typically spin off related businesses and initiatives.

San Pedro Public Market is likely to have less of an impact on Marina pad opportunities. The 0.9-mile distance between the two sites will discourage pedestrian circulation, especially as the LA Waterfront Master Plan does not (at this point) feature pedestrian-oriented infrastructure explicitly designed to promote circulation between the two locations. While a rubber-tired trolley circulates between LA Waterfront uses, frequency of operation would have to increase significantly before the perceived distance between sites is reduced.

Consequently, short-term uses for the marina pads will likely be those that complement and benefit from operation of the Cabrillo Way Marina and adjacent marinas. This includes some ongoing demand for restaurant and bar operation, as waterfront locations have appeal even in the absence of retail concentration. Currently, 22 Street Landing is the only facility accommodating this demand because, as noted earlier, the Cabrillo Way Marina and all San Pedro marinas in general offer little in the way of landside amenities. All are very boater-oriented and have little identification as a visitor attraction. (Brouwerij West, while nearby, does not have a waterside location.) By comparison, a selection of competitive regional marinas (including Shoreline Marina in Long Beach, King Harbor in Redondo Beach, Portofino in Redondo Beach, and Marina Village in Newport Beach) all feature a notable range of landside amenities, as shown in **Exhibit 27**.

Exhibit 27 Summary of Marina Case Study Land Side Adjacencies

Item	**Shoreline Marina** Long Beach	**Portofino** Redondo Beach	**King Harbor** Redondo Beach	**Marina Park** Newport Beach
Size (acres)	81.6 (10.4 land, 71.2 water)	13.5 (land and water)	36 (land and water)	10.5 (land and water)
Slips	1,624	181	825	23
Marina Facilities:	Shoreline YC Shoreline Marina Fuel Dock ECCO Wireless Marina Shipyard	Portofino Hotel (161 rooms) Joe's Crab Shack Kayak, Paddle Board Rentals	King Harbor YC Redondo Beach YC The Bay Club Bluewater Grill King Harbor Marine Center Paddle Boarding	Community/Sailing Center Playground Fitness Circuit Basketball Courts
Other Landside:	Shoreline Village (60K sq.ft.) Marina Green Park (9.4 ac)	Cheesecake Factory Marina Bike Rentals	49 residential units Office	Residential/retail mixed use Lighthouse Bayside Café American Legion YC

Source: Marina web sites

For example, residential, office, and/or hotel uses can be found adjacent to all four case study marinas. (Cabrillo Way Marina is at a disadvantage compared to King Harbor and Marina Park, which are not in the Tidelands zone and thus able to host residential and non-maritime office uses.) A variety of restaurants operate near all four case study marinas, whereas Cabrillo Way mostly lacks nearby facilities for provisioning excursions. Other amenities found at case study marinas but not at Cabrillo Way include Yacht clubs (at Shoreline, King Harbor, and Marina Park), alternative recreational uses such as basketball courts and fitness loops (at Portofino, King Harbor, and Marina Park), park space (at Shoreline and Marina Park), and a boatyard or marine center (at Shoreline and King Harbor).

The underserved landside markets at Cabrillo Way fall into three broad categories: marine services, boater services, and non-boater services.

- **The marine services category** includes marine supplies, boatyard/ship repair, and a fuel dock. Of these, marine supplies is the most applicable use for the landside pads. Marine supplies stores can be either small and specialized (for which there may be short-term demand) or large like Westmarine or Bass Pro (which may be viable in the longer-term). While the marine fueling station developed by Jankovich is not far from the San Pedro marinas, is located across the high-traffic Main Channel and has been designed mainly to service large commercial vessels.

  A boatyard providing repair services could substantially enhance marina operating performance, according to area operators interviewed for this study[4]. In recent years, a number of boatyards traditionally serving Los Angeles County closed due to the increasing sophistication and capital investment required to conform with regulatory requirements. This has left a gap in the market requiring San Pedro boaters to seek

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[4] Philip Tondreault, Westrec; Greg Schem, Marina del Rey Boatyard.

repairs at less appealing facilities in Long Beach or Huntington Beach. According to marina professionals interviewed for this study, the lack of an on-site boat yard results in a lower level of maintenance for boats berthed at Cabrillo Way Marina (and an associated decrease in the perception of the marina’s quality), concedes revenue from short-term visitors seeking service, and repels boat owners who want a home port that can provide boat yard services on site.

Such a boatyard would, optimally, have cranes capable of lifting vessels in the 40-60-foot range where the highest volume of demand resides and in the 90-100-foot range where the highest-margin demand resides. The natural “trade area” for such a boatyard, given existing alternatives, could extend as far south as Newport Beach and as far north as Redondo Beach. (For vessels in the 100-300-foot megayacht range, the nearest facility with large enough cranes is in San Diego.)

The primary service offered by such a boatyard includes hull and launch work such as bottom repair, running gear maintenance, paint, and fiberglass work. Additional services could include electrical, woodwork, plumbing, canvas, interior, and other finishing work. In addition, more specialized services might also be supportable, including design, decoration, upholstery, and “toys” such as underwater lights and other options for customization and personalization. Many of these specialized boatyard-related-trades and vendors could seek office or light industrial/flex space near the boatyard at the Cabrillo Way Marina pads.

- **The boater services category** provides convenience items within a short distance of the slips to support boat owners and guests. Such services can include quick-serve or sit-down dining options, a convenience store for provisioning excursions, onsite diversions such as a playground, park, or yacht club, and office space for marine-related users such as yacht brokers. specialized boat-yard-related trades and vendors,

- **Non-boater visitor services** support Outer Harbor area visitors who may have come for non-boating reasons such as to visit the Cabrillo Marine Aquarium, to walk along the waterfront promenade, or to work nearby. In the near-term, these services may overlap with the boater services category to provide convenience. Longer-term, as AltaSea and San Pedro Public Market boost visitation to the Outer Harbor area and/or Cabrillo Way Marina operations and visitation expand, such services could include maritime-related office to accommodate companies spun off from AltaSea and possibly even a hotel (if one isn’t first built elsewhere at Warehouse No. 1 or at San Pedro Public Market).

Megayacht Marina Opportunity

With significant additional investment to reconfigure waterside slips, a fourth landside category of opportunity may be viable for the Cabrillo Way Marina pads. Analysts specializing in the market for megayachts have identified pent-up demand for a specialized berthing and servicing facility in Los Angeles County.[5] A megayacht is generally defined as a recreational vessel with a

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[5] The Corrough Consulting Group, December 2012.

length of 135 feet and greater. Owners can range from individuals to corporations to nations. Megayachts are operated by professional crews of between 6 and 30 personnel, depending on size, and may also include a separate security detail. They may accommodate up to 30 passengers and host parties of up to 200 people at berth.

The megayacht market is global in nature, impervious to economic cycles, and expanding with fast-growing markets for owners in South America, Asia, and the Caribbean. At the same time, the availability of megayacht berths along the California coast has been constrained by the slow rate of change at established marinas, policy requirement to provide broad-based marina access emphasizing smaller slips, and environmental concerns. Furthermore, there is no facility capable of accommodating megayachts in coastal Los Angeles County.[6] Consequently, there may be significant demand for a facility that serves as a home port for megayachts owned by Los Angeles County residents and offers a destination for visiting megayachts.

Megayachts can have very beneficial economic impacts for the marinas that host them. A megayacht spends between $180,000 to $400,000 or more per port visit for provisions, services, transportation, fuel, and boatyard servicing.[7] In addition, a megayacht facility can send a strong signal of “quality” that may have a beneficial marketing impact for the remainder of the marina. Megayacht compounds typically require specialized landside amenities including owners club, food and accommodations for crews, marina operation and administration offices, VIP parking/secure access, and offices and storage for provisioning.

The implications for the Port of pursuing this opportunity are mixed. If updated market research shows there is still demand for such a facility in the region, Cabrillo Way Marina would be a natural physical location with easy access and ample dock and pier area that can be reconfigured for this use. Such a use would likely not generate immediate profitability given the high capital costs required and the likely slow ramp-up to full stabilization. Ultimately, such a facility could, if successful, create status and cachet for the location and potentially enhance other landside development and marina operations.

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[6] The only megayacht berths between Orange and Ventura Counties are at Avalon on Catalina Island.

[7] The Corrough Consulting Group, December 2012.

4. CABRILLO WAY MARINA FINANCIAL FEASIBILITY ANALYSIS

In this section, the financial feasibility of potential uses on the Cabrillo Way Marina is evaluated based on current market conditions. The evaluation is based on residual land value analysis, which estimates the underlying value of the land based on the value remaining after the development economics of the proposed vertical uses are quantified.

Land Uses Tested

The differing near-term and longer-term market opportunities for the Outer Harbor Area discussed in **Chapter 2** and **Chapter 3** suggest that a phased development strategy will help the Port respond appropriately to market conditions as they materialize.

In the near-term, there appears to be demand for a limited number of marina-supporting uses that expand the utility and attractiveness of the marina facility primarily for the boating community. As described in **Chapter 3**, these include boater services uses primarily. In land use terms, these could include a warehouse-style retail establishment dealing in marine products to directly serve the outfitting and equipment maintenance needs of local boaters and fishermen, and an office/retail/restaurant mixed-use structure with smaller-scale retail and food uses on the ground floor and offices for marine-related tenants on the second floor.

In the longer-term, the increased day population at AltaSea and an increase in area tourist visitation to both AltaSea and San Pedro Public Market will generate demand for additional amenities, which fall into the non-boater visitor services category described in **Chapter 3**. These include a hotel serving both recreational and business travelers to the area and expanded retail and restaurant offerings.

Also in the longer-term, enhanced operating performance at Cabrillo Way Marina resulting in higher slip occupancy could further improve demand for boater services and associated tenant uses such as restaurants and boat-related retail. Finally, the construction of a boat yard in the vicinity could vastly expand demand for boatyard-related trades, which would seek to occupy nearby office or light industrial/flex space.

To reflect these short- and longer-term opportunities, two phases (shown in **Exhibit 28)** are tested for financial feasibility:

- **Phase 1** considers development on 2.5 acres, representing 21 percent of the 12-acre land area and leaving the remaining 9.5 acres for marina parking and later-phase development. The two tested uses in Phase 1 include: a one-story marine retail store of 10,000 square feet and a two-story marine-related office over retail/restaurant project totaling 20,000 square feet. Surface parking is programmed at 4 stalls per 1,000 feet. Total Phase 1 floor-area-ratio (FAR) is 0.28.
- **Phase 2** adds more intense development on 6.6 acres of land adjacent to Phase 1, improving another 55 percent of the 12-acre land area and leaving the remaining 2.9 acres on the southern-most lot for marina parking. The two Phase 2 uses tested include: a two-story marine-related office over retail/restaurant project totaling 50,000 square

feet and a 132-room boutique/select service hotel totaling 69,000 square feet.[8] As with Phase 1, all Phase 2 parking is surface parking. Phase 2 FAR is 0.38.

(Note that establishment of a nearby boat yard could generate additional demand for flex/R&D/light industrial uses serving boat yard trades. These uses, which typically generate lower land values than retail and office, are not tested here. However, the one-story marine retail typology in Phase 1, which features simple tilt-up or E.I.F.S construction and commands relatively low rents, may be considered as a proxy for this use.)

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[8] The prototype for this boutique/select service hotel is based on the Starwood Aloft brand, which combines the construction and operating cost efficiency of the select-service category with style and amenities commonly associated with a boutique hotel.

Exhibit 28 Potential Marina Pad Development Scenarios to be Tested

Item		**Phase 1**			**Phase 2**			**Ph 1 + Ph 2**
		One-Story Marine Retail	Two-Story Marine-Related Office Over Retail	**Total Phase 1**	132-Room Hotel	Two-Story Marine-Related Office Over Retail	**Total Phase 2**	**All Uses**
AREA								
Development Pads	2.9 ac							
Adjacent Parking	9.1 ac							
Total	12.0 ac							
Set aside for marina parking [1]	2.9 ac							
Available for Pad Development	9.1 ac							
DEVELOPMENT PROGRAM								
Development Site								
Development Pad		0.83 ac	1.67 ac	**2.50 ac**	4.7 ac	1.9 ac	**6.60 ac**	**9.10 ac**
FAR		0.28	0.28	**0.28**	0.34	0.59	**0.41**	**0.38**
Footprint		10,000 sq.ft.	10,000 sq.ft.	**20,000 sq.ft.**	15,990 sq.ft.	15,000 sq.ft.	**30,990 sq.ft.**	**50,990 sq.ft.**
Development Program								
1-Story Retail		10,000 sq.ft.	0 sq.ft.	**10,000 sq.ft.**	0 sq.ft.	0 sq.ft.	**0 sq.ft.**	**10,000 sq.ft.**
MU Office over Retail								
Retail		0 sq.ft.	5,000 sq.ft.	**5,000 sq.ft.**	0 sq.ft.	15,000 sq.ft.	**15,000 sq.ft.**	**20,000 sq.ft.**
Restaurant		0 sq.ft.	5,000 sq.ft.	**5,000 sq.ft.**	0 sq.ft.	10,000 sq.ft.	**10,000 sq.ft.**	**15,000 sq.ft.**
Office		0 sq.ft.	10,000 sq.ft.	**10,000 sq.ft.**	0 sq.ft.	25,000 sq.ft.	**25,000 sq.ft.**	**35,000 sq.ft.**
132-Room Hotel		0 sq.ft.	0 sq.ft.	**0 sq.ft.**	68,869 sq.ft.	0 sq.ft.	**68,869 sq.ft.**	**68,869 sq.ft.**
Total		10,000 sq.ft.	20,000 sq.ft.	**30,000 sq.ft.**	68,869 sq.ft.	50,000 sq.ft.	**118,869 sq.ft.**	**148,869 sq.ft.**
Parking[2]								
Surface Parking		40	60	**100**	132	160	**292**	**392**

Sources: Economic & Planning Systems estimate and where noted below

(1) Southern-most pad and parking area, equivalent to 2.9 ac, retained for Marina overflow parking

(2) Parking rates: office and retail at 4/1,000 sq.ft., hotel at 1/key

Analytical Approach and Assumptions

Financial feasibility analysis is based on a static pro forma model, which aims to simulate the economics a private-sector developer would consider in deciding whether to pursue a project. The model incorporates typical hard and soft costs a developer would incur, market-based revenue potential, and a typical rate of return to compensate the developer for time and assumed risk. Total estimated project costs (including the assumed return) are subtracted from estimated project revenue to arrive at a net residual value.

All cost and revenue assumptions used in the "Baseline" analysis are based on 2017 market rates except where noted. The purpose of the "Baseline" is to test feasibility at current market rates. As discussed in **Chapter 2**, these rates reflect a relatively weak current market for new neighborhood retail, office, and hotel development as the promising San Pedro Public Market and AltaSea have not yet impacted current market rates in the Outer Harbor area significantly. Sensitivity analysis is also conducted to quantify the impact of rent appreciation on Baseline findings. A discussion of key assumptions for the "Baseline" analysis follows below.

- **Office** rent is based on current average gross rent at Topaz, a Class-A office tower in Downtown San Pedro remodeled as creative office space, which represents the current top of the market in San Pedro.
- **Retail** rent is based on current top asking rents for Downtown San Pedro. For restaurant rent, a 10 percent premium is added.
- **Hotel** ADR assumption is based on the ADR for the DoubleTree San Pedro in 2016, which EPS derived from total reported revenues.
- **Hotel Occupancy** is set at 65 percent, which assumes the hotel would have a dilutive effect on the currently oversupplied San Pedro hotel market. (A typical benchmark for healthy hotel operation is 75 percent.)
- **Cap rate** assumptions are based on EPS expectation that the "going-in" cap rates for valuation will exceed by between 0.5 percent and 1 percent the "exit" cap rates from the CBRE 2016 H2 North American Cap Rate survey for Los Angeles in the Suburban Class B Office, Community Center Retail Class B, and Suburban Select Service Hotel categories. This 50-100 basis point premium for ground lease vs. fee corresponds to observed sales patterns near Marina del Rey, Redondo Beach and Long Beach marinas. It is possible that actual cap rate premiums in the near-term could be even higher due to the largely untested nature of landside development at this location, although this effect may well, over time, be offset by mature development at AltaSea and San Pedro Public Market.

  Historically, marina operations have a higher cap rate than most landside uses because, in part, boat ownership and use are highly discretionary expenditures. Consequently, in the absence of offsetting factors, a "pure" marina will have a higher cap rate than one with established landside uses. A "pure" marina like Cabrillo Way Marina with both high facility and local market vacancy will have an even higher cap rate. While current low capital costs and near-term prospects for increased destination value at this location could cause lower cap rates, prudent analysis should not be based on that.

- **Vertical construction costs** are based on RS Means vertical costs estimator (2018 dataset), Los Angeles area, for brick-veneer (office, hotel, mixed-use) and E.I.F.S./steel joist (warehouse retail) construction and union wages.
- **Pile support construction costs** are an ADK&A/EPS rough estimate of $35 per built square foot based on prior project experience and an interview with an independent marina consultant. (Note that actual pile support costs could vary significantly based on soil factors and the nature of proposed development, and consequently, this estimate is intended only to provide an order-of-magnitude understanding of development economics.) `
- **Developer return on vertical costs** varies widely from project to project, depending on land use type, perceived risks, and the investment philosophy and time horizon of particular developers. The developer returns assumed in the analysis are based on developer interviews and EPS's experience with similar product types and risk profiles. For all tested uses, a 15 percent unlevered return on cost at stabilization is assumed.

For a summary of key assumptions used in the pro forma analyses, see **Exhibit 29**. For the backing static pro formas used for each land use prototype, see **Appendix A**.

Exhibit 29 Key Baseline Assumptions for Cabrillo Way Marina Financial Feasibility Analysis

Item	Phase 1		Phase 2	
	One-Story Marine Retail	Two-Story Marine-Related Office Over Retail	132-Room Boutique/ Select Service Hotel	Two-Story Marine-Related Office Over Retail
Rent/Price per Sq.Ft./ADR[1]				
Office FS	NA	$2.33	NA	$2.33
Retail (NNN)	$2.00	$2.75	NA	$2.75
Restaurant (NNN)	NA	$3.00	NA	$3.00
Hotel	NA	NA	$185	NA
Hotel Occupancy	NA	NA	75%	NA
Cap Rates[2]				
Office	NA	7.50%	NA	7.50%
Retail/Restaurant	6.50%	6.50%	NA	6.50%
Hotel	NA	NA	8.75%	NA
Direct Construction Costs/Sq.Ft.[3]				
Site (/land sq.ft.)	$3	$3	$3	$3
Pile Support (/GBA sq.ft.)	$35	$35	$35	$35
Surface Parking (/space)	$0	$0	$3,000	$0
Office	NA	$150	NA	$150
Retail	$108	$130	NA	$130
Restaurant	NA	$187	NA	$187
Hotel	NA	NA	$164	NA
GC Fee (% of direct costs)	17%	17%	17%	17%
Tenant Alowance[4]				
Office	NA	$65	NA	$65
Retail	$40	$40	NA	$40
Restaurant	NA	$100	NA	$120
Developer Profit/Cost[5]	15%	15%	15%	15%

Sources: Economic & Planning Systems estimate and where noted below

(1) Rent assumptions:
Office: top of market Class A comp (Topaz building). (Source: CoStar)
Retail: top of market comp in Downtown San Pedro. Restaurant adds a ~10% premium. (Source: CoSt
Hotel: Based on estimated DoubleTree San Pedro ADR for 2016 (Source: EPS)

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey
Retail: LA Region, Class B, Community Center Retail, average of given range
Office: LA Region, Class B, Suburban, average of given range
Hotel: LA Region, Suburban, average for given range for Select Service

(3) Vertical costs from RS Means (2018 dataset) for each land use type assume: prevailing wage, L.A. location, higher-quality construction (except for 1-story big-box-style store)
Site costs are minimal because of existing finished pads. Additional parking costs assumed only for hotel, which will need to cordon off its stalls.

(4) EPS estimate

(5) Retail sales estimated as occupancy cost (equivalent to NNN rent plus $0.50 for CAM) divided by 0.10.

Findings

A project may be feasible under a range of residual value outcomes depending on return expectations of land owners and developer/investors. Typically, a market-rate land transaction requires a positive residual value that amounts to between 5 and 20 percent of project costs.

As indicated in **Exhibit 30**, residual land value for both Phase 1 and Phase 2 is negative but not exceedingly so. Total residual value indicates Phase 1 would be feasible to a private developer with either a $2.9 million capital subsidy or an increase in net income of approximately $189,000. Phase 2 negative value of $8.9 million represents a larger impediment, but as a share of total project costs, -7 percent is not a huge gap. The absence of positive residual land values is not, in itself, an insurmountable barrier to near-term development so long as modest market improvements can eliminate the gap and create positive value.

Exhibit 30 Cabrillo Way Marina Pads Baseline Scenario Residual Land Value Analysis

Item	Phase 1			Phase 2		
	One-Story Marine Retail	Two-Story Marine-Related Office Over Retail	**Total Phase 1**	132-Room Hotel	Two-Story Marine-Related Office Over Retail	**Total Phase 2**
Value						
Total	$2,891,077	$6,134,330	**$9,025,407**	$25,335,453	$15,243,145	**$40,578,598**
/Gross Sq.Ft.	$289	$307	**$301**	$368	$305	**$341**
Cost						
Total	$3,289,949	$8,648,368	**$11,938,316**	$28,605,543	$20,856,029	**$49,461,572**
/Gross Sq.Ft.	$329	$432	**$398**	$415	$417	**$416**
Residual Land Value						
Total	($398,872)	($2,514,038)	**($2,912,909)**	($3,270,090)	($5,612,884)	**($8,882,974)**
/Gross Sq.Ft.	($40)	($126)	**($97)**	($47)	($112)	**($75)**
/'Land Sq.Ft.	($11)	($35)	**($27)**	($16)	($66)	**($31)**
As % of Total Costs	*-3%*	*-8%*	***-7%***	*-4%*	*-16%*	***-7%***

Sources: Economic & Planning Systems estimate and where noted below

The sensitivity analysis in **Exhibit 31** shows that with 27 percent rent appreciation relative to costs and 75 percent hotel occupancy (up from 65 percent in the Baseline), negative residual value is eliminated in both Phase 1 and Phase 2. The equivalent rents and hotel room rate ($2.96 offices/sq.ft., $2.21 single-story retail/sq.ft., $3.50 mixed-use retail/sq.ft., $3.82 restaurant/sq.ft., and $204 hotel ADR) are high for San Pedro but more typical for Redondo Beach, which arguably offers a reasonable and achievable aspirational target for the LA Waterfront area.

What this suggests is that on the basis of market rents and the relatively modest amount of new leasable area proposed, Phase 1 could be feasible. Phase 2 remains a longer-term prospect, however, as the large amount of new inventory—especially hotel inventory—will be difficult to absorb without significantly increased area day population and tourism.

Exhibit 31 Cabrillo Way Marina Residual Land Value Sensitivity Scenarios

Item	**Phase 1**			**Phase 2**		
	One-Story Marine Retail	Two-Story Marine-Related Office Over Retail	**Total Phase 1**	132-Room Hotel	Two-Story Marine-Related Office Over Retail	**Total Phase 2**
Baseline (at 65% Hotel Occupancy)						
Rent/Price per Sq.Ft./ADR						
Office FS	NA	$2.33		NA	$2.33	
Retail (NNN)	$2.00	$2.75		NA	$2.75	
Restaurant (NNN)	NA	$3.00		NA	$3.00	
Hotel	NA	NA		$185	NA	
Hotel Occupancy	NA	NA		65%	NA	
Residual Value/Land Sq.Ft.	**($11)**	**($35)**	**($27)**	**($16)**	**($66)**	**($31)**
As % of Total Costs	*-3%*	*-8%*	*-7%*	*-4%*	*-16%*	*-7%*
Baseline (at 75% Hotel Occupancy)						
Rent/Price per Sq.Ft./ADR						
Office FS	NA	$2.33		NA	$2.33	
Retail (NNN)	$2.00	$2.75		NA	$2.75	
Restaurant (NNN)	NA	$3.00		NA	$3.00	
Hotel	NA	NA		$185	NA	
Hotel Occupancy	NA	NA		75%	NA	
Residual Value/Land Sq.Ft.	**($11)**	**($35)**	**($27)**	**$3**	**($66)**	**($17)**
As % of Total Costs	*-3%*	*-8%*	*-7%*	*1%*	*-16%*	*-4%*
Rent Appreciation of 27% to $0 RLV (at 75% Hotel Occupancy)						
Rent/Price per Sq.Ft./ADR						
Office FS	NA	$2.96		NA	$2.96	
Retail (NNN)	$2.54	$3.50		NA	$3.50	
Restaurant (NNN)	NA	$3.82		NA	$3.82	
Hotel	NA	NA		$204	NA	
Hotel Occupancy	NA	NA		75%	NA	
Residual Value/Land Sq.Ft.	**$12**	**($11)**	**($3)**	**$6**	**($16)**	**($0)**
As % of Total Costs	*4%*	*-2%*	*-1%*	*1%*	*-4%*	*0%*

Source: Economic & Planning Systems

Even then, for a transaction involving a public landlord such as the Port, a residual value that is low or even zero may be sufficient to produce meaningful long-term benefits and meet public policy goals. Furthermore, a public landlord can structure a ground lease that initially sets a below-market rent, which may allow the developer to achieve sufficient returns to obtain financing. Later, once a minimum threshold is met, the public landlord can participate in a project's growing success. Such an approach can achieve market-rate returns over the full term of the lease through higher-than-normal future rents or "participation" features. A "below market" lease without these catch-up provisions, on the other hand, may generate political resistance from rival marina operators and other observers concerned about public subsidy used on behalf of private entities.

This approach may be justified when the Port can be expected to eventually generate more than enough revenue from ground rent and from selling the improvements to the master lessee to cover any short-term subsidy.

5. CABRILLO WAY MARINA OPERATION AND MANAGEMENT

This chapter builds on findings from **Chapter 3** and **Chapter 4** regarding landside development opportunities for the Cabrillo Way Marina and concludes with recommendations for:

- an approach to ownership and management
- a mechanism for soliciting development and management partners

Approach to Ownership and Management

Overview

The purpose of this section is to recommend an optimal form of ownership and management for the combined water and land areas of the Cabrillo Way Marina by the Port of Los Angeles. The recommendation is intended to balance and optimize the following four goals:

1. Assure quality development and operation;
2. Complement and enhance the Port's area-wide efforts to improve the San Pedro Waterfront area;
3. Minimize potential lease administration problems and conflicts of interest (real or perceived) between the Port and its current lessees;
4. Maximize revenue, which at minimum means the Port receives a reasonable return on the assets conveyed to the lessee.

In addition, the recommendation considers several key issues regarding governance and administration. They are: separate vs. combined management of landside and waterside leaseholds; the mechanism and process for private sector participation; and financial expectations, measures, and structuring.

The Port has a large investment in the facility. A significant part of this investment went towards fulfilling public obligations (e.g., remediation and infrastructure), while the remainder paid for constructing a proprietary real estate asset comprised of piers, pilings, slips, and a modest amount of landside improvement.

Transfer of the operation of the Cabrillo Way Marina from public to private ownership should involve compensation for the real property conveyed as a matter of established public policy. Absent justification for an alternative approach, the compensation should represent fair market value. This compensation is different from ground/water rent (although there may be coordination between pricing of the assets and the rate, method, and timing of ground and waterways rent payment between the new operator and the public agency.)

Assuming, as is discussed further below, the Port intends to solicit combined proposals for water and land improvements, goals for the solicitation process should include the following:

- Attraction of the widest interest from qualified proposers for both land and water operations and development

- Clarity and specificity that allows for objective comparison of proposals
- Potential for recovery by lessee of the reasonable market value of leasehold improvements, primarily slips and docks. (A variety of means may be considered, as appropriate, including: one-time payment, deferred cash recovery through installment payments or higher lease rent, and/or reduced ground lease payment based on the use of value transferred to achieve Port policy goals not supported by current market.)

Form of Leasehold

The Consulting Team recommends a form of lease that combines waterside and landside uses into a single lease. While there are numerous examples of separate waterside and landside leases, these tend to work best when the marina is a relatively small and/or independent operation within an overall development. Examples of this are in Marina del Rey and Redondo Beach, where high-value hotel landside uses overwhelm the value of adjacent marinas.

A consolidated leasehold is recommended for a number of reasons:

- The most likely near-term market-supported uses for the pads are marina-supporting uses that complement marina operations. A mature AltaSea project may eventually create a strong spill-over effect that could make the Cabrillo Way Marina pads highly valuable for stand-alone landside uses (e.g., a hotel), but in the short-to-medium term, the best opportunities will complement marina operation directly.
- Such marina-supporting uses benefit from coordinated development and operation to maximize revenue opportunities.
- A likely operator will want to obtain both waterside and limited landside improvements so as to maximize the revenue opportunities of each.
- Separate landside and waterside leases create challenges both in initial drafting and subsequent administration where landside tenants and customers need or want direct access and/or unobstructed views of the water and water's edge.
- Cost recovery may be achieved using a range of financing techniques. These could include an all-cash sale, term payments on a note, and/or higher rent in lieu of direct payment. As between a cash sale and a sale on terms at market rates, the final decision should reflect the balance of preferences in negotiations between the selected operator and the Port since the Port is largely indifferent but the operator may see a real benefit in financing if the rate is lower than his return on cost. In general, it is probably a good idea to separate payment from rent since increasing rent in an unsubordinated ground lease is something particularly problematic for lenders. In all events, an appraisal and a maintenance review will also be required to establish a property value and to help ascertain what level of additional investment (and corollary impact on sale price) may be required as a condition of sale.

Lease term represents an additional parameter for consideration. Traditionally, waterside marina leases feature ground lease terms of between 30 and 35 years, which corresponds to the typical useful life for waterside slips and piers. However, a lease also intended to support and encourage construction of significant landside improvements should be longer. Recent examples of marina re-leasing have shown that a term under 60 years makes landside redevelopment difficult, as developers are reluctant to re-invest when the remaining period is less than 30 years. Accordingly, the underlying ground lease should be at least 60 years and quite possibly 66 years with provisions for renewal or extension.

To address the problem of recycling waterside improvements at 30-year intervals during a longer-term ground lease, the Consulting Team recommends that the lease require replacement of slips and associated pilings and pier improvements after 30 to 35 years. (Note: with more durable materials such as slab concrete, the waterside improvement replacement term could be extended to as long as 40 years.)

Recommended Lease Terms and Structure

Minimum ground rent should represent, wherever possible, a market-based rate of return on the appraised value of the landside assets to be leased. However, because of the lack of comparables and the special history of the Cabrillo Way Marina, it would be difficult to arrive at a traditional estimate of market value, and an alternate approach to determining ground rent is required.

One possible alternate approach reflects both short-term revenues and long-term value. Minimum ground rent would be based on actual revenues so that ground rent would increase as the lessee completes capital investments that improve waterside and landside performance. This would allow the lessee flexibility to synchronize the development strategy with the market opportunity as it emerges over time while also compensating the lessor fairly.

Implementation of this approach could entail a ground rent that is calculated as 75 percent of the rent the Port would have realized from typical percentage rent applied to the average gross revenues for the three years preceding execution of the lease. Since virtually the only activity at the Cabrillo Way Marina at present is slip rental, it would reasonable to use the Port's standard (for marina waterside operations) rent rate of 25 percent. So, for example, starting minimum rent would be calculated as the average gross revenue over the last three years at Cabrillo Way Marina of $4,456,000[9], multiplied by the 25 percent rent rate and then discounted to 75 percent, resulting in a minimum ground rent of $836,000.

This minimum rent can be treated as a placeholder, with adjustments of the 75 percent rate of discount programmed at negotiated intervals. That these revenues are derived from marina revenues with nearly no land side contribution is expected. If the lease also includes market rate percentages for land side uses, then such uses would add to the total over time, and minimum rent for the entire leasehold would naturally increase as development occurs.

In the event of negative estimated residual land value (as described in **Chapter 4**), the Port, like many other public landlords, can opt to defer landside ground rent until market forces justify the

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[9] From the 2017/18 Cabrillo Way Marina operating budget, which lists gross revenues of $3,826,000 for 2015/16 (actual), $4,582,000 for 2016/17 (budget), and $4,960,000 for 2017/18 (budget).

full cost of development with full ground rent or use a "ramp up" wherein initial ground rent for landside uses is *de minimus* but increases over several years to market standard.

The Port should also seek participation in net proceeds from sale or refinance (unless forgoing this benefit creates an alternate advantage in negotiation). Ideally, there should be no threshold return to the lessee before the landlord participates, but some government leaseholds have participations in profits or "net proceeds" that are measured from the first dollar of profit. It is more typical for the lessee to participate only after the threshold return has been met.

Form and Approach of Solicitation

To optimize the results at Cabrillo Way Marina, the Port will need to select a candidate team both competent in landside development and experienced in marina operation. As noted above, the near-term opportunity for the development pads is likely to be modest marina-supporting uses such as related retail and office space. In the longer-term, an opportunity for a larger use such as a hotel could materialize. In addition, with additional Port investment in supportive infrastructure, a megayacht compound could also be viable, provided the correct developer partner can be found.

Public agency solicitations are typically posted on the web, but to assure broad participation, issuers may also contact potential proposers directly. Target participants should include large experienced marina operators (of which there are few). To expand the list of potential participants, the Port may also want to reach out to landside developers with relevant experience and encourage them to bid jointly with marina operators.

Ideally, the solicitation attracts interest from teams that can address all potential outcomes over both short- and long terms, even as the skills required to execute each may vary widely. Competent teams will likely fall into two categories: marina operator-led teams for which landside uses are complementary, and developer-led teams for which the marina uses are complementary. Either way, the solicitation document should be framed broadly to attract participation from all qualified teams. In addition, the solicitation should not appear to favor or in any way give the incumbent operator Westrec an advantage over other potential applicants, as this could discourage broader participation.

Three different modes of solicitation may be considered, each with unique advantages and disadvantages:

1. Request for proposal (RFP), which requires applicants to prepare an explicit development program and detailed financial proposal and projections
2. Request for qualifications (RFQ) followed by an RFP issued to the finalists.
3. An elaborated RFQ process without an RFP, which requests a more detailed development concept than a traditional RFQ, following which the selected developer works closely with the Port to finalize design and concept.

A traditional single-stage RFP process results in clear and detailed proposals, but because of the high effort required to prepare design drawings and financial projections, it may deter many prospective bidders.

A process featuring an RFQ followed by an RFP lowers the barrier to participation for the initial applicants and may attract a wider range of participants. In addition, this approach can generate useful and creative insight into potential waterside and landside development options. At the same time, the RFQ/RFP process places a heavier management burden on the issuer and typically takes much longer than a simple RFP process to conduct.

The third option, an elaborated RFQ process, while a less established approach than the prior options, can combine the time efficiency of a single-stage RFP process with the wide solicitation net cast by the RFQ/RFP process. Specifically, working with a proposer selected through an expanded RFQ process without a formal proposal will encourage a productive non-zero-sum discussion of trade-offs between near-term options (small-scale marina-supporting uses) and longer-term options (potential hospitality elements that would follow the successful launch of AltaSea and general maturation of other LA Waterfront projects), that may lead to a more flexible and nuanced development plan and negotiation.

The Port has indicated a strong preference for a process that is both thorough and transparent, which would suggest the second of the three options noted above: a traditional RFQ followed by an RFP. At the same time, the Port is concerned with reducing opportunity for delay, both to catch the current market opportunity and to limit political exposure. This may be achievable if the RFQ/RFP is written explicitly to request that proposers address both the short-term and long-term development opportunities at Cabrillo Way Marina.

For example, for the RFQ proposers should be asked to provide both short-term (0-5 years) and long-term program (5-20 years) concepts with both location and general magnitude of uses identified. Then, the RFP finalists should provide physical plans and financial proposals for these short- and long-term concepts.

It should be made clear from the beginning that the Port recognizes that both the scale and timing of longer-term improvements will be determined by the market. Nonetheless, it will be important for the proposers to show how they will both capitalize on short-term opportunities and respond over time to the "spread" effects related to AltaSea and San Pedro Public Market as they materialize. The character and location of these longer-term improvements will be key elements in the selection process. It's envisioned then that the lessee will be bound to a set of short-term program elements and obligated to participate in a review and planning process (if not to make a firm program and schedule commitment) for the longer-term opportunity.

6. WAREHOUSE NO.1 FINANCIAL FEASIBILITY ANALYSIS

This chapter explores the opportunity for redeveloping Historic Warehouse No. 1 by considering site and structural conditions, market demand, and complementary development. The chapter includes the following sections:

1. Property Description
2. Land Uses Tested
3. Feasibility Analysis Findings

Property Description

Municipal Warehouse No. 1 was the first warehouse built at the Port of Los Angeles. From its construction in 1917 through the 1970s, when containerized cargo reduced the need for warehousing, Warehouse No. 1 played an important role in establishing Los Angeles as a center for international trade. Today, it stands largely unused except for Port document storage, occasional Navy Seals training, and film shoots. In 2000, Warehouse No. 1 was listed in the National Register of Historic Places.

The location of Warehouse No. 1 presents both opportunities and constraints for redevelopment. The 438,000 square-foot 6-story structure is situated on a five-acre parcel at the southern end of City Dock #1. With the south and east sides of the site consisting entirely of water frontage, the structure enjoys sea breezes and incredible views of the Port, San Pedro Bay, Palos Verdes Peninsula, and the Pacific Ocean beyond.

At the same time, the location at the end of a narrow half-mile wharf isolates Warehouse No. 1 from the rest of the outer harbor area. Furthermore, with the west side of the site closely bordered by Warehouse No. 60 (to be remodeled by 2020 as part of AltaSea Phase 1A), and the north side occupied by a former tank farm that after remediation will eventually be redeveloped for AltaSea Phases 2 and 3 (timeline TBD but expected by 2028-2030), the full nature of the adjacencies and their impact will not be fully known for some time. A related concern is parking, as the narrow shape of the wharf and potentially high worker population will require consideration of an integrated circulation and parking strategy.

The existing structure, as described by **Exhibit 32**, presents several challenges for redevelopment. With nearly half a million square feet of area, it could flood existing inventory in most commercial categories. For example, if converted to office space, Warehouse No. 1 would increase total San Pedro office supply by 38 percent and likely present absorption challenges in an office market that has actually shrunk since 2000.

Because Warehouse No. 1 is listed on the National Register of Historic Places, and because the structure is owned by a public entity, regulatory restrictions may apply concerning the renovation, redevelopment, and reuse of the structure. Deep bays and small window openings, while approppropriate for an historic warehouse, contribute to a dark interior with little daylighting. Finally, five of the six floors have a 10-foot ceiling, which is generally considered too low for high-quality commercial space.

Exhibit 32 Warehouse No. 1 Existing Condition

Item		Ht. (ft.)	Gross Sq.Ft.
1	Warehouse	14	72,960
2	Warehouse	10	72,960
3	Warehouse	10	72,960
4	Warehouse	10	72,960
5	Warehouse	10	72,960
6	Warehouse	10	72,960
R			
Total			**437,760**

Source: Port of Los Angeles

Land Uses Tested

As discussed above, the location, size, historic designation, built form of the structure, and potential parking issues offer challenges to redevelopment of Warehouse No. 1 that a feasible development plan must address. Other site constraints include the Tidelands zone, which limits uses to visitor-serving and maritime-related activities. The Tidelands zone excludes residential and conventional office but could include hospitality, tourism and entertainment destinations, and marine-related office and retail.

In addition, as discussed in **Chapter 2**, the relative isolation of the Outer Harbor area and small residential and day population in the Trade Area generates little current demand for commercial uses. The LA Waterfront vision, punctuated by the AltaSea and San Pedro Public Market projects, could increase the day and visitor populations and transform market conditions, but this is likely to be a gradual process with spikes in market support materializing generally by 2022 (when Phase 1 completion for both AltaSea and San Pedro Public Market is expected) and by 2028 (when completion of Phases 2 and 3 of each, pending market conditions, is expected).

Given the potential for AltaSea to create a maritime education and innovation hub, there should eventually be spill-over demand from the day population for convenience retail and food service. In addition, entrepreneurs spun off from AltaSea initiatives will likely desire office and lab space in the vicinity. Finally, a hotel project may eventually be feasible to support both increased area tourism and to host AltaSea visitors and conferences. Relatedly, there is expected to be demand for visiting scholars for short-term housing (a use that for Tidelands compliance could possibly be interpreted as visitor-serving rather than residential).[10]

Because of the uniqueness of the site and of the existing structure, there is always a possibility an entrepreneur may want to develop a unique destination that creates its own market instead of

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[10] Source: Jenny Krusoe, AltaSea

responding to existing market demand. Projects of this nature are intrinsically speculative and require investors with deep pockets and a high tolerance for risk. Such a destination would also have to contend with the site's physical constraints as well as destination competition from San Pedro Public Market.

Redevelopment Scenarios for Testing

In order to explore the potential for redeveloping Warehouse No. 1 in light of the physical, market, and regulatory conditions noted above, three development scenarios representing a range of approaches were tested for financial feasibility. Each scenario was designed to follow criteria imposed by the site and structure itself, including:

- Adaptively reuse the existing structure with an aim to preserving historically significant features
- Address problem of low ceilings
- Address problem of limited window area and natural lighting
- Feature Tidelands-compliant uses
- Provide sufficient on-site parking

While each scenario differs in how the space is partitioned, several elements are common to each. To address the problem of low ceilings, each scenario assumes removal of two floors, which reduces the number of levels from six to four. To bring in additional light, each scenario includes a two-story atrium extending down two floors from the roof. Finally, to address parking needs, a portion of the first and second story in each scenario is converted to support in-structure parking.[11] The net impact of these changes is to reduce the gross square footage of the original structure from 438,000 to 261,000. (Because Scenario 3 adds three levels of new construction on the roof, total gross area feet for that scenario is 336,000 square feet.)

The program of each of the three scenarios is shown in **Exhibit 33.**

- **Scenario 1: Creative Office** considers converting the facility primarily into creative office space with in-structure parking and a small amount of ground retail/restaurant space. Developers interviewed for this study specializing in unique properties and adaptive reuse all noted that the site location and historic envelope present an enticing basis for creative office uses.[12] The proposed 115,440 square feet of office space would represent a significant 10 percent increase San Pedro's office inventory. This, coupled with Tidelands restrictions that require use by marine-related tenants only, could make absorption difficult in all but the best of market conditions. Scenario 1 also accommodates 343 in-structure parking spaces (supplemented by 139 surface spaces) and 5,000 square feet of ground-level retail/restaurant.

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[11] The design feasibility of this extensive structural work was originally explored in a previous analysis conducted in 2007, which EPS built upon in developing the scenarios.

[12] Jonathan Genton (Genton Property Group) and Wayne Blank

- **Scenario 2: Conference Hotel** envisions converting the facility into an extended-stay hotel with in-structure parking and a small amount of ground retail/restaurant space. The scenario can accommodate 243 rooms (at 475 net square feet per room), 279 in-structure parking spaces, and 5,000 square feet of ground-level retail/restaurant. The 243 rooms would increase room inventory in the waterfront area and San Pedro by 52 percent and 32 percent respectively.

- **Scenario 3: Creative Office/Boutique Hotel** combines both office and hotel uses in a variant that also adds three floors of new leasable area to the roof. Specifically, the scenario includes 115,440 square feet of office space, 243 hotel rooms (at 375 net square feet per room), 343 in-structure parking spaces (supplemented by 324 surface spaces) and 8,500 square feet of ground-level retail/restaurant. The office space would expand San Pedro inventory by 10 percent, and the 171 rooms would increase room inventory in the waterfront area and San Pedro by 36 percent and 23 percent respectively.

Exhibit 33 Warehouse 1 Program Scenarios

Item	*Scenario*	**Existing**	**1**	**2**	**3**
	Approach		*Adaptive Reuse*	*Adaptive Reuse*	*Adaptive Reuse + New Construction*
	Use	*Historic Warehouse*	*Creative Office*	*243-Room Extended-Stay/ Conference Hotel*	*Creative Office and 171-Room Boutique Hotel*
Site					
Land Area		5.0 ac	5.0 ac	5.0 ac	5.0 ac
Gross Vertical Area		437,760 sq.ft.	261,360 sq.ft.	261,360 sq.ft.	336,360 sq.ft.
FAR		2.01	1.20	1.20	1.54
Footprint		72,960 sq.ft.	72,960 sq.ft.	72,960 sq.ft.	72,960 sq.ft.
Uses					
Adaptive Reuse					
Retail/Restaurant			5,000 sq.ft.	5,000 sq.ft.	5,000 sq.ft.
Office			115,440 sq.ft.	0 sq.ft.	115,440 sq.ft.
Hotel/Extended Stay			0 sq.ft.	140,440 sq.ft.	0 sq.ft.
Rooms					
Mechanical, Back of House, Lobby			20,740 sq.ft.	18,240 sq.ft.	20,740 sq.ft.
In-Structure Parking			120,180 sq.ft.	97,680 sq.ft.	120,180 sq.ft.
Subtotal Adaptive Reuse			261,360 sq.ft.	261,360 sq.ft.	261,360 sq.ft.
New Construction					
Retail (Roof Bar)			0 sq.ft.	0 sq.ft.	3,500 sq.ft.
Hotel/Boutique			0 sq.ft.	0 sq.ft.	71,500 sq.ft.
Rooms			*0*	*0*	*171*
Subtotal New Construction			0 sq.ft.	0 sq.ft.	75,000 sq.ft.
Total Leasable Area (Sq.Ft.)			**261,360 sq.ft.**	**261,360 sq.ft.**	**336,360 sq.ft.**
Total Hotel Rooms			*0*	*243*	*171*
Parking[1]					
Required			482	263	667
Surface			139	0	324
In-Structure			343	279	343

Sources: Economic & Planning Systems estimate and where noted below
(1) Parking rates: office and retail at 4/1,000 sq.ft., hotel at 1/key

Analytical Approach and Assumptions

As described in **Chapter 4,** financial feasibility analysis aims to simulate the economics a private-sector developer would consider in deciding whether to pursue a project. The analysis is based on a static proforma model that incorporates typical hard and soft costs a developer would incur, market-based revenue potential, and a typical rate of return to compensate the developer for time and assumed risk. Total estimated project costs (including the assumed return) are subtracted from estimated project revenue to arrive at a net residual value. Note that this is a planning-level analysis that does not include a comprehensive engineering review of the site's foundation. (For backing static pro formas used in this analysis, see **Appendix B**.)

As with the Cabrillo Way Marina feasibility analysis in **Chapter 4**, all cost and revenue assumptions used in the "Baseline" analysis of the three scenarios are based on 2017 market rates except where noted. The purpose of the "Baseline" is to test feasibility at current market rates. As discussed in **Chapter 2**, these rates reflect a relatively weak market for new neighborhood retail, office, and hotel development as the promising San Pedro Public Market and AltaSea have not yet impacted current market rates in the outer harbor area significantly. Sensitivity analysis is also conducted to quantify the impact of rent appreciation on Baseline findings. A discussion of key assumptions for the "Baseline" analysis follows below. (Note: all assumptions below, except with regard to office rent, hotel occupancy, and vertical construction costs, are identical to those used in the Cabrillo Way Marina feasibility analysis in **Chapter 4**.)

- **Office** rent assumes that fit-out of the space will correspond to the premium "Creative" office category described in **Chapter 2**. This category, as noted earlier, commands a rent premium between 25 and 45 percent above an area's Class A average. Gross rent at Topaz, San Pedro's only Class-A office project, averages $2.33 per square foot. A 25 percent premium added to this results in a $2.91 rent, which is the baseline rent used in this analysis.
- **Retail** rent is based on current top asking rents for Downtown San Pedro. For restaurant rent, a 10 percent premium is added.
- **Hotel** ADR assumption is based on the ADR for the DoubleTree San Pedro in 2016, which EPS derived from total reported revenues.
- **Hotel Occupancy** is set at 75 percent, which is a typical benchmark for healthy hotel operation. Arguably, this occupancy is likely to be high in the short-term as new hotel supply would have a dilutive effect on the currently oversupplied San Pedro hotel market.
- **Cap rate** assumptions are based on EPS expectation that the "going-in" cap rates for valuation will exceed by between 0.5 percent and 1 percent the "exit" cap rates from the CBRE 2016 H2 North American Cap Rate survey for Los Angeles in the Suburban Class B Office, Community Center Retail Class B, and Suburban Select Service Hotel categories.
- **Vertical construction costs** were prepared for each scenario by Spectra Company, a well-regarded Los Angeles County-based contractor specializing in adaptive reuse of historic structures. Spectra's estimates were tailored to each scenario and include all structural work necessary to secure an older building, all remodeling including floor removal and adding the atrium, and basic fit-out to warm shell for specified uses (including in-structure parking). To these costs, the EPS proforma adds site work, soft costs, TA, financing costs, and developer profit. Additional pile support costs are not considered, because it is assumed that the existing site, which already supports a massive structure, is sufficiently founded to accommodate all tested redevelopment scenarios. (Note that Spectra's estimates on a per-square-foot basis included a 10 percent contingency, which EPS deducted and then added back as a separate line item in its proforma.) For full back-up documentation of the Spectra cost estimates, see **Appendix C**.

- **Developer return on vertical costs** varies widely from project to project, depending on land use type, perceived risks, and the investment philosophy and time horizon of particular developers. The developer returns assumed in the analysis are based on developer interviews and EPS's experience with similar product types and risk profiles. For all scenarios, a 15 percent return on cost at stabilization is assumed.

For a summary of key assumptions used in the pro forma analyses, see **Exhibit 34**. For the backing static pro formas used for each land use prototype, see **Appendix B**.

Exhibit 34 Warehouse 1 Program Scenario Key Assumptions

Item	*Scenario*	Existing	1	2	3
	Approach		*Adaptive Reuse*	*Adaptive Reuse*	*Adaptive Reuse + New Construction*
	Use	*Historic Warehouse*	*Creative Office*	*243-Room Extended-Stay/ Conference Hotel*	*Creative Office and 171-Room Boutique Hotel*
Rent/Price per Sq.Ft./ADR[1]					
Office FS			$2.91	NA	$2.91
Retail (NNN)			NA	NA	NA
Restaurant (NNN)			$3.00	NA	$3.00
Hotel			NA	$185	$220
Hotel Occupancy			NA	75%	75%
Parking Space/Month (/day for hotel)			$150	$15	$15
Cap Rates[2]					
Office			7.50%	NA	7.50%
Retail/Restaurant			6.50%	NA	6.50%
Hotel			NA	8.00%	8.00%
Parking			8.00%	8.00%	8.00%
Direct Construction Costs/Sq.Ft.[3]					
Site Costs			$3	$3	$3
Surface Parking Costs			$3,000	$3,000	$3,000
Site and Parking GC Fee (% of direct costs)			17%	17%	17%
Vertical Costs			$122	$149	$153
Tenant Alowance[4]					
Office			$65	NA	$65
Retail			NA	NA	NA
Restaurant			$100	NA	$100
Developer Profit/Cost[4]			15%	15%	15%

Sources: Economic & Planning Systems estimate and where noted below

(1) Rent assumptions:
Office: top of market Class A comp (Topaz building) plus 25% creative premium. (Source: CoStar)
Retail: top-of-market comp in DT San Pedro. Restaurant adds a ~10% premium. (Source: CoStar)
Extended-Stay Hotel: from est. 2016 DoubleTree San Pedro ADR (Source: EPS); boutique: +20%

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey
Retail: LA Region, Class B, Community Center Retail, average of given range
Office: LA Region, Class B, Suburban, average of given range
Hotel: LA Region, Suburban, average for given range for Select Service

(3) Vertical costs prepared by Spectra Company include all shell, structural, and MEP work to adapt the existing structure for new uses (including in-structure parking), as well as GC feessubcontractor bonds, testing and inspection, B&O taxes, 1 year of cost escalation, PL&PD insurance, design contingencies, and a 2.5% contractor's fee.

(4) EPS estimate

Findings

A project may be feasible under a range of residual value outcomes depending on return expectations of land owners and developer/investors. Typically, a market-rate land transaction requires a positive residual value that amounts to between 5 and 20 percent of project costs. However, as discussed earlier in **Chapter 4**, a public landlord such as the Port may be willing to accept a residual value that is low or even zero if the project generates meaningful long-term benefits and meets public policy goals.

As indicated in **Exhibit 35**, residual land value for all three scenarios is significantly negative. For example, in Scenario 1, the residual value of negative $24 million represents a full 48 percent of project costs. Scenario 2 residual value of negative $22 million, equivalent to 33 percent of project costs, and the Scenario 3 negative residual value of $34 million is equivalent to 44 percent of project costs. It can thus be concluded that for Warehouse No. 1 at current market rates, hotel ADRs are closer to generating a feasible project than office rents.

Exhibit 35 Warehouse 1 Program Baseline Scenario Outputs

Item	*Scenario*	**1**	**2**	**3**
	Approach	*Adaptive Reuse*	*Adaptive Reuse*	*Adaptive Reuse + New Construction*
	Use	*Creative Office*	*243-Room Extended-Stay/ Conference Hotel*	*Creative Office and 171-Room Boutique Hotel*
Value				
Total		$35,368,475	$58,860,912	$84,813,141
/Gross Sq.Ft.		$135	$225	$252
Cost				
Total		$59,056,396	$81,261,799	$118,761,055
/Gross Sq.Ft.		$226	$311	$353
Residual Land Value				
Total		($23,687,921)	($22,400,887)	($33,947,914)
/Gross Sq.Ft.		($91)	($86)	($101)
/'Land Sq.Ft.		($109)	($103)	($156)
As % of Total Costs		*-48%*	*-33%*	*-44%*

Source: Economic & Planning Systems

This is further illustrated in the sensitivity analysis shown in **Exhibit 36**. For Scenario 1 Creative Office to achieve a residual value of zero, office rents have to appreciate 70 percent from $2.91 to $4.94 per square foot. While $4.94 is typical for Santa Monica creative office space, it is unprecedented in San Pedro.

For Scenario 2 Extended Stay Hotel to achieve a $0 residual land value, appreciation of 39 percent is required, which would bump average ADR from $185 to $257—a rate that is supportable at better South Bay hotels. For Scenario 3 Office/Hotel, the required rent appreciation for $0 residual land value is 42 percent, which is more than required for Scenario 2 because Scenario 3 also includes the drag of the office element.

Exhibit 36 Warehouse 1 Program Scenario Sensitivity Analysis

Item	*Scenario*	1	2	3
	Approach	*Adaptive Reuse*	*Adaptive Reuse*	*Adaptive Reuse + New Construction*
	Use	*Creative Office*	*243-Room Extended-Stay/ Conference Hotel*	*Creative Office and 171-Room Boutique Hotel*
Baseline Scenario				
Rent/Price per Sq.Ft./ADR^2				
Office FS		$2.91	NA	$2.91
Retail (NNN)		NA	NA	NA
Restaurant (NNN)		$3.00	NA	$3.00
Hotel		NA	$185	$220
Hotel Occupancy		NA	75%	75%
Residual Land Value/Sq.Ft.		($109)	($103)	($156)
As % of Total Costs		*-48%*	*-33%*	*-44%*
Rent Appreciation Required for $0 RLV		**70%**	**39%**	**42%**
Rent/Price per Sq.Ft./ADR2				
Office FS		$4.94	NA	$4.13
Retail (NNN)		NA	NA	NA
Restaurant (NNN)		$5.10	NA	$4.26
Hotel		NA	$257	$310
Hotel Occupancy		NA	75%	75%
Residual Land Value/Sq.Ft.		$0	$0	($1)
As % of Total Costs		*0%*	*0%*	*0%*

Source: Economic & Planning Systems

These outputs suggest that in general, the economics of adapting Warehouse No. 1 for reuse is challenging. As an illustration, **Exhibit 37** compares the economics of the 132-room ground-up hotel tested for the Cabrillo Way Marina in **Chapter 4** with Warehouse No. 1 adaptive reuse Scenario 2. While the two prototypes differ and are not directly comparable, the contrasting economics are nonetheless striking, as the Cabrillo Way Marina ground-up prototype is essentially feasible at $185 ADR while Warehouse No. 1 requires an ADR of $257 for feasibility. A critical distinction between the two examples is that the Cabrillo Way Marina example occupies a large pad and can accommodate surface parking whereas Warehouse No. 1 must integrate more expensive structured parking necessitated by its small site relative to gross building area.

Exhibit 37 Warehouse 1 Program Baseline Scenario Outputs

Item	CWM	Warehouse 1
	Ground-Up	*Adaptive Reuse*
	132-Room Hotel	*243-Room Extended-Stay/ Conference Hotel*
Baseline Scenario		
ADR	$185	$185
Occupancy	75%	75%
Residual Land Value/Sq.Ft.	$3	($103)
As % of Total Costs	*1%*	*-33%*
Rent Appreciation Required for $0 RLV		**39%**
ADR		$257
Occupancy		75%
Residual Land Value/Sq.Ft.		$0
As % of Total Costs		*0%*

Source: Economic & Planning Systems

A further illustration is shown in **Exhibit 38,** which compares estimated direct cost per square foot for adaptive reuse and new construction. In each scenario, new construction is actually more expensive on a gross square foot basis than the estimated cost of adaptive reuse. However, the lower building efficiency of the adaptive reuse (i.e., leasable/gross square feet) means the effective cost per leasable square foot is higher for adaptive reuse. For example, in Scenario 1 Creative Office, vertical costs for adaptive reuse per gross square foot is $122 compared with $159 for new construction. However, after factoring in building efficiency, the effective cost per leasable square foot for adaptive reuse jumps to $265 compared to $179 for new construction. While it may be possible to design a more efficient renovation of Warehouse No. 1 than tested here, it is likely that any adaptive reuse project will exhibit inefficiencies compared with new construction.

Exhibit 38 Vertical Cost Comparison: Adaptive Reuse vs. New Construction

Item Scenario	**1**	**2**	**3**
Use	*Creative Office*	*243-Room Extended-Stay/ Conference Hotel*	*Creative Office and 171-Room Boutique Hotel*
Adaptive Reuse of Warehouse #1[1]			
Vertical Cost/Gross Sq.Ft.	**$122**	**$149**	**$153**
Leasable/Total Area	*46%*	*56%*	*58%*
Effective Cost/Leasable Square Foot	*$265*	*$268*	*$263*
Equivalent New Construction[2]			
Vertical Cost/Gross Sq.Ft.	$120	$125	$126
Equivalent Structured Parking[3]	$39	$32	$31
Total Cost/Gross Sq.Ft.	**$159**	**$157**	**$157**
Leasable/Total Area	*90%*	*65%*	*82%*
Effective Cost/Leasable Square Foot	*$176*	*$240*	*$191*

(1) From cost estimates prepared by Spectra Company for each scenario; assume prevailing wage; includes all shell, structural, and MEP work to adapt the existing structure for new uses (including in-structure parking), as well as GC feessubcontractor bonds, testing and inspection, B&O taxes, 1 year of cost escalation, PL&PD insurance, design contingencies, and a 2.5% contractor's fee.

(2) From RS Means Square Foot Cost Estimator (2018 dataset) assuming: prevailing wage, L.A. location, brick-veneer construction. Total is a weighted average cost based on share of each use by gross square feet within each scenario.

(3) Ground-up structured parking is assumed to cost $30,000 per space

There are several implications of this analysis for future development of Warehouse #1. As with the Cabrillo Way Marina pads, demand for new development at Warehouse No. 1 is tied to the successful launch of Alta Sea and, to a lesser degree, San Pedro Public market. Based on published development schedules, Phase 1 of these projects could be complete by 2022. By then, hotel and/or office demand may be sufficient to overcome today’s weak San Pedro office market and surplus supply of hotel beds. Current market rates suggest that a hotel rather than an office use may achieve market feasibility more quickly. Regardless of the preferred use or uses, rehabilitation and reuse of Warehouse No. 1 presents a cost challenge that, if the site is to be directly competitive with new construction, will require some form of subsidy to offset the cost differential.

APPENDIX A:

Cabrillo Way Marina Static Proforma Analysis

Port of Los Angeles Outer Harbor Site Assessment; EPS # 164028
CWM 1 1-Story Retail (Phase 1)

Item	Assumptions	/Unit	Total
PROGRAM			
Site Area (Sq.Ft.)			36,300
Building Footprint (Sq.Ft.)			10,000
Gross Building Area (Sq.Ft.)	0.28 FAR		10,000
Retail Gross Area			10,000
Retail Net Area	100%		10,000
Parking			40
Retail	4.00 spaces/1,000 sq.ft.		40
REVENUE			
Retail			
Retail Gross Revenue (NNN)[3]	$2.54 /net sq. ft./yr.		$305,322
(less) Commissions	6.0%		($18,319)
(less) Vacancy Rate	5.0%		($15,266)
Total Income			$271,736
(less) Management Fee	5.0% total income		($13,587)
(less) Misc. Non-Reimbursable Expenses	$1.25 /net sq. ft./yr.		($12,500)
(less) Reserve	$0.25 /net sq. ft./yr.		($2,500)
Subtotal, Annual Net Operating Income			$243,149
Capitalized Retail Value[2]	6.50% cap rate	**$374/gross retail sq.ft.**	**$3,740,761**
TOTAL VALUE		**$374/gross sq.ft.**	**$3,740,761**
COST			
Direct			
Site			
Onsite	$3 /site sq.ft.		$78,900
Pile Support	$35 /GBA sq.ft.		$350,000
Parking	$0 /surface space		$0
GC Fee	17% of direct costs		$72,913
Subtotal Site		$50/gross sq.ft.	$501,813
Vertical Costs[4]			
Retail	$108 /gross retail sq.ft.		$1,076,400
GC Fee	17% of direct costs		$182,988
Subtotal Vertical		$126/gross sq.ft.	$1,259,388
Total Direct Costs		**$176/gross sq.ft.**	**$1,761,201**
Indirect Costs			
Retail TA	$40 /net retail sq.ft.		$400,000
Soft Costs			
A&E	7.5% of direct costs		$132,090
G&A and Other Prof Services	3.0% of direct costs		$52,836
Legal, Insurance & Warranty	3.0% of direct costs		$52,836
Hard + Soft Cost Contingency	7.0% of direct costs+soft costs above this item		$167,927
Real Estate Taxes	1.1% of construction+TA+land value (12 months)		$30,271
Permits and Fees	6.0% of direct costs		$105,672
Development Fee	3.0% of direct+TA+soft costs		$81,085
Total Indirect Costs		**$102/gross sq.ft.**	**$1,022,718**
Financing			
Interest	4.5% int rate and 65% LTC		$40,715
Financing Fees	2.0%		$36,190.95
Total Financing Costs		$8/gross sq.ft.	$76,906
Net Costs before Land and Profit		**$286/gross sq.ft.**	**$2,860,825**
Project Profit	15% of total costs	$43/gross sq.ft.	$429,123.73
Total Costs Before Land		**$329/gross sq.ft.**	**$3,289,949**
LAND VALUE			
Total Residual Land Value		**$45/gross sq.ft.**	**$450,813**
Residual Value per Site Sq.Ft.			**$12**

Notes and Sources

All assumptions, except where noted, based on EPS/ADK&A firm experience with development proformas for the land uses in questions.

(1) Office: top of market Class A comp (Topaz building). (Source: CoStar)

CWM 1 1-Story Retail (Phase 1)

Item	Assumptions	/Unit	Total

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey

(3) Retail: top of market comp in Downtown San Pedro. Restaurant adds a ~10% premium. (Source: CoStar)

(4) Vertical costs from RS Means (2018 dataset) for each land use type assume: prevailing wage, L.A. location, higher-quality construction (except for 1-story big-box-style store)

Port of Los Angeles Outer Harbor Site Assessment; EPS # 164028
CWM 2 2-Story MU Office Over Retail (Phase 1)

Item	Assumptions		/Unit	Total
PROGRAM				
Site Area (Sq.Ft.)				72,600
Building Footprint (Sq.Ft.)				10,000
Gross Building Area (Sq.Ft.)	0.21	FAR		20,000
Office Gross Area				10,000
Office Net Area	90%			9,000
Retail Gross Area				5,000
Retail Net Area	95%			4,750
Restaurant Gross Area				5,000
Restaurant Net Area	95%			4,750
Parking				60
Office	4.00	spaces/1,000 sq.ft.		40
Retail	4.00	spaces/1,000 sq.ft.		20
REVENUE				
Office				
Gross Revenue (FS)[1]	$2.96	NLA sq.ft./month		$320,130
(less) Commissions	6.0%			($19,208)
(less) Vacancy Rate	5.0%			($16,006)
Total Income				$284,916
(less) Operating Expenses	30.0%	total income		($85,475)
Subtotal, Annual Net Operating Income				$199,441
Capitalized Office Value[2]	7.50%	cap rate	**$266/gross office sq.ft.**	**$2,659,211**
Retail/Restaurant				
Retail Gross Revenue (NNN)[3]	$3.50	/net sq. ft./yr.		$199,413
Restaurant Gross Revenue (NNN)[3]	$3.82	/net sq. ft./yr.		$217,542
(less) Commissions	6.0%			($25,017)
(less) Vacancy Rate	5.0%			($20,848)
Total Income				$371,090
(less) Management Fee	5.0%	total income		($18,554)
(less) Misc. Non-Reimbursable Expenses	$1.25	/net sq. ft./yr.		($11,875)
(less) Reserve	$0.25	/net sq. ft./yr.		($2,375)
Subtotal, Annual Net Operating Income				$338,285
Capitalized Retail Value[2]	6.50%	cap rate	**$520/gross retail sq.ft.**	**$5,204,391**
TOTAL VALUE			**$393/gross sq.ft.**	**$7,863,602**
COST				
Direct				
Site				
Onsite	$3	/site sq.ft.		$187,800
Pile Support	$35	/GBA sq.ft.		$700,000
Parking	$0	/surface space		$0
GC Fee	17%	of direct costs		$150,926
Subtotal Site			$52/gross sq.ft.	$1,038,726
Vertical Costs[4]				
Office	$150	/gross office sq.ft.		$1,500,700
Retail	$130	/gross retail sq.ft.		$650,900
Restaurant	$187	/gross retail sq.ft.		$936,650
GC Fee	17%	of direct costs		$525,003
Subtotal Vertical			$181/gross sq.ft.	$3,613,253
Total Direct Costs			**$233/gross sq.ft.**	**$4,651,979**
Indirect Costs				
Office TA	$65	/net office sq.ft.		$360,000
Retail TA	$40	/net retail sq.ft.		$190,000
Restaurant TA	$100	/net restaurant sq.ft.		$475,000
Soft Costs				
A&E	7.5%	of direct costs		$348,898
G&A and Other Prof Services	3.0%	of direct costs		$139,559
Legal, Insurance & Warranty	3.0%	of direct costs		$139,559
Hard + Soft Cost Contingency	7.0%	of direct costs+soft costs above this item		$441,350

CWM 2 2-Story MU Office Over Retail (Phase 1)

Item	Assumptions	/Unit	Total
Real Estate Taxes	1.1% of construction+TA+land value (12 months)		$79,542
Permits and Fees	6.0% of direct costs		$279,119
Development Fee	3.0% of direct+TA+soft costs		$213,150
Total Indirect Costs		**$133/gross sq.ft.**	**$2,666,177**
Financing			
Interest	4.5% int rate and 65% LTC		$107,028
Financing Fees	2.0%		$95,136.02
Total Financing Costs		$10/gross sq.ft.	$202,164
Net Costs before Land and Profit		**$376/gross sq.ft.**	**$7,520,320**
Project Profit	15% of total costs	$56/gross sq.ft.	$1,128,047.97
Total Costs Before Land		**$432/gross sq.ft.**	**$8,648,368**
LAND VALUE			
Total Residual Land Value		**($39)/gross sq.ft.**	**($784,766)**
Residual Value per Site Sq.Ft.			**($11)**

Notes and Sources

All assumptions, except where noted, based on EPS/ADK&A firm experience with development proformas for the land uses in questions.

(1) Office: top of market Class A comp (Topaz building). (Source: CoStar)

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey

(3) Retail: top of market comp in Downtown San Pedro. Restaurant adds a ~10% premium. (Source: CoStar)

(4) Vertical costs from RS Means (2018 dataset) for each land use type assume: prevailing wage, L.A. location, higher-quality construction (except for 1-story big-box-style store)

Port of Los Angeles Outer Harbor Site Assessment; EPS # 164028
CWM 4 2-Story MU Office Over Retail (Phase 2)

Item	Assumptions	/Unit	Total
PROGRAM			
Site Area (Sq.Ft.)			84,811
Building Footprint (Sq.Ft.)			30,990
Gross Building Area (Sq.Ft.)	0.47 FAR		50,000
Office Gross Area			25,000
Office Net Area	90%		22,500
Retail Gross Area			15,000
Retail Net Area	95%		14,250
Restaurant Gross Area			10,000
Restaurant Net Area	95%		9,500
Parking			160
Office	4.00 spaces/1,000 sq.ft.		100
Retail	4.00 spaces/1,000 sq.ft.		60
REVENUE			
Office			
Gross Revenue (FS)[1]	$2.96 NLA sq.ft./month		$800,324
(less) Commissions	6.0%		($48,019)
(less) Vacancy Rate	5.0%		($40,016)
Total Income			$712,289
(less) Operating Expenses	30% total income		($213,687)
Subtotal, Annual Net Operating Income			$498,602
Capitalized Office Value[2]	7.50% cap rate	**$266/gross office sq.ft.**	**$6,648,029**
Retail/Restaurant			
Retail Gross Revenue (NNN)[3]	$3.50 /net sq. ft./yr.		$598,240
Restaurant Gross Revenue (NNN)[3]	$3.82 /net sq. ft./yr.		$435,083
(less) Commissions	6.0%		($61,999)
(less) Vacancy Rate	5.0%		($51,666)
Total Income			$919,658
(less) Management Fee	5.0% total income		($45,983)
(less) Misc. Non-Reimbursable Expenses	$1.25 /net sq. ft./yr.		($29,688)
(less) Reserve	$0.25 /net sq. ft./yr.		($5,938)
Subtotal, Annual Net Operating Income			$838,050
Capitalized Retail Value[2]	6.50% cap rate	**$516/gross retail sq.ft.**	**$12,893,072**
TOTAL VALUE		**$391/gross sq.ft.**	**$19,541,100**
COST			
Direct			
Site			
Onsite	$3 /site sq.ft.		$161,464
Pile Support	$35 /GBA sq.ft.		$1,750,000
Parking	$0 /surface space		$0
GC Fee	17% of direct costs		$324,949
Subtotal Site		$45/gross sq.ft.	$2,236,413
Vertical Costs[4]			
Office	$150 /gross office sq.ft.		$3,751,750
Retail	$130 /gross retail sq.ft.		$1,952,700
Restaurant	$187 /gross retail sq.ft.		$1,873,300
GC Fee	17% of direct costs		$1,288,218
Subtotal Vertical		$177/gross sq.ft.	$8,865,968
Total Direct Costs		**$222/gross sq.ft.**	**$11,102,380**
Indirect Costs			
Office TA	$65 /net office sq.ft.		$900,000
Retail TA	$40 /net retail sq.ft.		$570,000
Restaurant TA	$120 /net restaurant sq.ft.		$1,140,000
Soft Costs			
A&E	7.5% of direct costs		$832,679
G&A and Other Prof Services	3.0% of direct costs		$333,071
Legal, Insurance & Warranty	3.0% of direct costs		$333,071
Hard + Soft Cost Contingency	7.0% of direct costs+soft costs above this item		$1,064,784

CWM 4 2-Story MU Office Over Retail (Phase 2)

Item	Assumptions	/Unit	Total
Real Estate Taxes	1.1% of construction+TA+land value (12 months)		$191,995
Permits and Fees	6.0% of direct costs		$666,143
Development Fee	3.0% of direct+TA+soft costs		$514,024
Total Indirect Costs		**$131/gross sq.ft.**	**$6,545,767**
Financing			
Interest	4.5% int rate and 65% LTC		$258,104
Financing Fees	2.0%		$229,425.91
Total Financing Costs		$10/gross sq.ft.	$487,530
Net Costs before Land and Profit		**$363/gross sq.ft.**	**$18,135,677**
Project Profit	15% of total costs	$54/gross sq.ft.	$2,720,351.57
Total Costs Before Land		**$417/gross sq.ft.**	**$20,856,029**
LAND VALUE			
Total Residual Land Value		**($26)/gross sq.ft.**	**($1,314,929)**
Residual Value per Site Sq.Ft.			**($16)**

Notes and Sources

All assumptions, except where noted, based on EPS/ADK&A firm experience with development proformas for the land uses in questions.

(1) Office: top of market Class A comp (Topaz building). (Source: CoStar)

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey

(3) Retail: top of market comp in Downtown San Pedro. Restaurant adds a ~10% premium. (Source: CoStar)

(4) Vertical costs from RS Means (2018 dataset) for each land use type assume: prevailing wage, L.A. location, higher-quality construction (except for 1-story big-box-style store)

APPENDIX B:

Warehouse No. 1 Static Proforma Analysis

Port of Los Angeles Outer Harbor Site Assessment; EPS # 164028
WH1 Creative Office (Adaptive Reuse)

Item	Assumptions	/Unit	Total
PROGRAM			
Site Area (Sq.Ft.)			217,800
Building Footprint (Sq.Ft.)			72,960
Gross Building Area Before Renovation (Sq.Ft.)			437,760
Gross Building Area After Renovation (Sq.Ft.)	1.20 FAR		261,360
Office Gross Area			115,440
Office Net Area	95%		109,668
Restaurant Gross Area			5,000
Restaurant Net Area	90%		4,500
Back of House Gross Area			20,740
Back of House Area	100%		20,740
Parking			
Gross In-Structure Area			120,180
Required Spaces			482
Office	4.00 spaces/1,000 sq.ft.		462
Retail	4.00 spaces/1,000 sq.ft.		20
In-Structure			343
Surface			139
REVENUE			
Office			
Gross Revenue (FS)[1]	$4.13 NLA sq.ft./month		$5,433,901
(less) Commissions	6.0%		($326,034)
(less) Vacancy Rate	5.0%		($271,695)
Total Income			$4,836,172
(less) Operating Expenses	30.0% total income		($1,450,852)
Subtotal, Annual Net Operating Income			$3,385,320
Capitalized Office Value[2]	7.50% cap rate	**$173/gross sq.ft.**	**$45,137,606**
Retail/Restaurant			
Restaurant Gross Revenue (NNN)[3]	$4.26 /net sq. ft./yr.		$229,865
(less) Commissions	6.0%		($13,792)
(less) Vacancy Rate	5.0%		($11,493)
Total Income			$204,580
(less) Management Fee	5.0% total income		($10,229)
(less) Misc. Non-Reimbursable Expenses	$1.25 /net sq. ft./yr.		($31,550)
(less) Reserve	$0.25 /net sq. ft./yr.		($6,310)
Subtotal, Annual Net Operating Income			$156,491
Capitalized Retail Value[2]	6.50% cap rate	**$9/gross sq.ft.**	**$2,407,550**
Parking			
Gross Parking Revenue-Reserved	$150 /space/mo 75% occup.		$650,376
(less) Operating Expenses	75% of revenue		($487,782)
Parking Revenue Subtotal			$162,594
Capitalized Parking Value[2]	8.00% cap rate	**$8/gross sq.ft.**	**$2,032,425**
TOTAL VALUE		**$190/gross sq.ft.**	**$49,577,581**
COST			
Direct			
Site[4]			
Onsite	$3 /site sq.ft.		$434,520
Surface Parking	$3,000 /surface space		$416,280
GC Fee	17% of direct costs		$144,636
Subtotal Site		$4/gross sq.ft.	$995,436
Vertical Costs[4]	$122 /gross sq.ft.		$31,934,774
Subtotal Vertical		$122/gross sq.ft.	$31,934,774
Total Direct Costs		**$126/gross sq.ft.**	**$32,930,210**
Indirect Costs			
Office TA	$65 /net office sq.ft.		$7,128,420
Restaurant TA	$100 /net restaurant sq.ft.		$450,000

WH1 Creative Office (Adaptive Reuse)

Item	Assumptions	/Unit	Total
Soft Costs			
A&E	8.0% of direct costs		$2,634,417
G&A and Other Prof Services	3.0% of direct costs		$987,906
Legal, Insurance & Warranty	3.0% of direct costs		$987,906
Soft Cost Contingency	7.0% of soft costs above this item		$853,205
Real Estate Taxes	1.1% of construction+TA+land value (12 months)		$569,488
Permits and Fees	6.0% of direct costs		$1,975,813
Development Fee	3.0% of direct+TA+soft costs		$1,455,521
Total Indirect Costs		**$65/gross sq.ft.**	**$17,042,677**
Financing			
Interest	4.5% int rate and 65% LTC		$730,853
Financing Fees	2.0%		$649,647.53
Total Financing Costs		$5/gross sq.ft.	$1,380,501
Net Costs before Land and Profit		**$196/gross sq.ft.**	**$51,353,388**
Project Profit	15% of total costs	$29/gross sq.ft.	$7,703,008.15
Total Costs Before Land		**$226/gross sq.ft.**	**$59,056,396**
LAND VALUE			
Total Residual Land Value		**($36)/gross sq.ft.**	**($9,478,815)**
Residual Value per Site Sq.Ft.			**($44)**

Notes and Sources

All assumptions, except where noted, based on EPS/ADK&A firm experience with development proformas for the land uses in questions.

(1) Office: top of market Class A comp (Topaz building) plus 25% creative premium. (Source: CoStar)

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey

(3) Retail: top-of-market comp in DT San Pedro. Restaurant adds a ~10% premium. (Source: CoStar)

(4) Vertical costs prepared by Spectra Company include all shell, structural, and MEP work to adapt the existing structure for new uses (including in-structure parking), as well as GC feessubcontractor bonds, testing and inspection, B&O taxes, 1 year of cost escalation, PL&PD insurance, design contingencies, and a 2.5% contractor's fee.

Port of Los Angeles Outer Harbor Site Assessment; EPS # 164028
WH2 Conference Hotel (Adaptive Reuse)

Item	Assumptions			/Unit	Total
PROGRAM					
Site Area (Sq.Ft.)					217,800
Building Footprint (Sq.Ft.)					72,960
Gross Building Area Before Renovation (Sq.Ft.)					437,760
Gross Building Area After Renovation (Sq.Ft.)	1.20	FAR			261,360
Hotel					
Room Gross Area	115,440	Sq.Ft.		475 sq.ft./room	
Lobby/Conference/Back of House	25,000	Sq.Ft.			
Retail Gross Area	5,000	Sq.Ft.			
Mech/Systems	18,240	Sq.Ft.			
Rooms					243
Parking					
Gross In-Structure Area	97,680	Sq.Ft.			
Required Spaces					263
Hotel	1.00	/room			243
Retail	4.00	spaces/1,000 sq.ft.			20
In-Structure					279
Surface					0
REVENUE					
Gross Operating Revenue[1]					
Hotel	$262	ADR		75% Occupancy	$17,461,828
Other Room Revenue[2]	10%	of room revenues			$1,746,183
Spa	5%	of room revenues			$873,091
Valet Parking	$15	/day		50% of visitors	$498,909
Subtotal					$20,580,012
(less) Operating Expenses[3]					
Hotel	30%	of revenue			(5,238,548)
Other Room Revenue	80%	of revenue			(1,396,946)
Spa	95%	of revenue			(829,437)
Parking	75%	of revenue			(374,182)
Subtotal					($7,839,114)
Operating Income					
Hotel					12,223,280
Other Room Revenue					349,237
Spa					43,655
Parking					124,727
Subtotal Operating Income					$12,740,898
Undistributed Operating Expenses[4]	35%	of room revenue			($6,111,640)
Net Operating Income					**$6,629,258**
Capitalized Value[5]	8.00%		**$341,011/room**	**$317/gross sq.ft.**	**$82,865,729**
COST					
Direct Costs[6]					
Site					
Onsite	$3	/sq.ft.			$434,520
Parking	$3,000	/surface space			$0
GC Fee	17%				$73,868
Subtotal					$508,388
Vertical					
Hotel	$149	/sq.ft.			$39,014,335
GC Fee	17%				$6,632,436.95
Subtotal					$45,646,772
Total Direct Costs			**$189,939/room**	**$177/gross sq.ft.**	**$46,155,160**
Indirect Costs					
FF&Es					
FF&E Hotel	10%	of direct costs			$4,615,516.04
FF&E Spa	$200	/sq.ft.			$150,000
Soft Costs					
Development Related Legal					$240,000
Franchise Fee					$60,000
A&E	8.0%	of direct costs			$4,073,654
G&A and Other Prof Services	3.0%	of direct costs			$1,527,620
Legal, Insurance & Warranty	3.0%	of direct costs			$1,527,620

WH2 Conference Hotel (Adaptive Reuse)

Item	Assumptions		/Unit	Total
Other Prof Services	1.0% of direct costs			$509,207
Hard + Soft Cost Contingency	7.0% of direct costs+soft costs above this item			$4,120,114
Real Estate Taxes	1.1% 12 months, construction+land value			$725,925
Permits and Fees	6.0% of direct costs + FFE			$3,055,241
Development Fee	3.0% of direct+FFE+soft costs			$2,002,802
		$93,036/room	**$87/gross sq.ft.**	**$22,607,699**
Financing				
Interest	4.5% int rate and 65% LTC			$1,005,657
Financing Fees	2.0%			$893,917
Total Financing Costs				**$1,899,574**
Net Costs before Land and Profit		**$290,792/room**	**$270/gross sq.ft.**	**$70,662,434**
Project Profit	15%			$10,599,365
Total Costs, Profit, & Land (for RE Tax Basis)		**$334,411/room**	**$311/gross sq.ft.**	**$81,261,799**
LAND VALUE				
Total Residual Land Value		**$6,601/room**	**$6/gross sq.ft.**	**$1,603,930**
Residual Value per Site Sq.Ft.				**$7**

All assumptions, except where noted, based on EPS/ADK&A firm experience with development proformas for the land uses in questions.

(1) Hotel: LA Region, Suburban, average for given range for Select Service

(2) E.g., F&B, wifi, movie rental. Estimated as net of expenses

(3) Includes variable operating expenses for day-to-day staffing. Fixed operating expenses for the building are calculated separately.

(4) Includes Administrative, Sales, Utilities, Maintenance, Franchise Fees, Management Fees, Property Insurance, FF&E Reserve, and Real Estate Taxes

(5) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey

(6) Vertical costs prepared by Spectra Company include all shell, structural, and MEP work to adapt the existing structure for new uses (including in-structure parking), as well as GC feessubcontractor bonds, testing and inspection, B&O taxes, 1 year of cost escalation, PL&PD insurance, design contingencies, and a 2.5% contractor's fee.

Port of Los Angeles Outer Harbor Site Assessment; EPS # 164028
WH3 Office/Hotel (Adaptive Reuse + New Construction)

Item	Assumptions			/Unit	Total
PROGRAM					
Site Area (Sq.Ft.)					217,800
Building Footprint (Sq.Ft.)					72,960
Gross Building Area Before Renovation (Sq.Ft.)					437,760
Gross Building Area After Renovation (Sq.Ft.)	1.54	FAR			336,360
Office (Adaptive Reuse)					
Office Gross Area					115,440
Office Net Area	95%				109,668
Restaurant (Adaptive Reuse)					
Restaurant Gross Area					5,000
Restaurant Net Area	90%				4,500
Hotel (New Construction)					
Room Gross Area	64,000	Sq.Ft.	375 sq.ft./room		
Lobby/Conference/Back of House	7,500	Sq.Ft.			
Retail Gross Area	3,500	Sq.Ft.			
Rooms					171
Mech/Systems (Adaptive Reuse)	20,740	Sq.Ft.			
Parking					
Gross In-Structure Area (Adaptive Reuse)	120,180	Sq.Ft.			
Required Spaces					667
Office	4.00	spaces/1,000 sq.ft.			462
Hotel	1.00	/room			171
Retail	4.00	spaces/1,000 sq.ft.			34
In-Structure					343
Surface					324
REVENUE					
Office					
Gross Revenue (FS)[1]	$4.13	NLA sq.ft./month			$5,433,901
(less) Commissions	6.0%				($326,034)
(less) Vacancy Rate	5.0%				($271,695)
Total Income					$4,836,172
(less) Operating Expenses	30.0%	total income			($1,450,852)
Net Operating Income					$3,385,320
Capitalized Office Value[2]	7.50%	cap rate		**$134/gross sq.ft.**	**$45,137,606**
Retail/Restaurant					
Restaurant Gross Revenue (NNN)[1]	$4.26	/net sq. ft./yr.			$229,865
(less) Commissions	6.0%				($13,792)
(less) Vacancy Rate	5.0%				($11,493)
Total Income					$204,580
(less) Management Fee	5.0%	total income			($10,229)
(less) Misc. Non-Reimbursable Expenses	$1.25	/net sq. ft./yr.			($5,625)
(less) Reserve	$0.25	/net sq. ft./yr.			($1,125)
Net Operating Income					$187,601
Capitalized Retail Value[2]	6.50%	cap rate		**$9/gross sq.ft.**	**$2,886,165**
Office/Retail Parking					
Gross Parking Revenue-Reserved Office	$150	/space/mo 75% occup.			$623,700
(less) Operating Expenses	75%	of revenue			($467,775)
Net Operating Income					$155,925
Capitalized Parking Value[2]	8.00%	cap rate		**$6/gross sq.ft.**	**$1,949,063**
Hotel					
Gross Operating Revenue[1]					
Hotel	$310	ADR	75% Occupancy		$14,511,488
Other Room Revenue[3]	10%	of room revenues			$1,451,149
Spa	5%	of room revenues			$725,574
Valet Parking	$15	/day	50% of visitors		$351,084
Subtotal					$17,039,295
(less) Operating Expenses[4]					
Hotel	30%	of revenue			(4,353,446)
Other Room Revenue	80%	of revenue			(1,160,919)
Spa	95%	of revenue			(689,296)
Parking	75%	of revenue			(263,313)
Subtotal					($6,466,974)
Operating Income					
Hotel					10,158,041
Other Room Revenue					290,230
Spa					36,279

WH3 Office/Hotel (Adaptive Reuse + New Construction)

Item	Assumptions			/Unit	Total
Parking					87,771
Subtotal Operating Income					$10,572,321
Undistributed Operating Expenses[5]	35%	of room revenue			($5,079,021)
Net Operating Income					**$5,493,300**
Capitalized Hotel Value[2]	8.00%		**$401,557/room**	**$204/gross sq.ft.**	**$68,666,252**
TOTAL VALUE				**$353/gross sq.ft.**	**$118,639,086**
COST					
Direct Costs[6]					
Site					
Onsite	$3	/sq.ft.			$434,520
Parking	$3,000	/surface space			$970,886
GC Fee	17%				$238,919
Subtotal					$1,644,325
Vertical					
Hotel	$153	/sq.ft.			$51,488,510
GC Fee	17%				$8,753,047
Subtotal					$60,241,557
Total Direct Costs				**$184/gross sq.ft.**	**$61,885,881**
Indirect Costs					
FF&Es					
FF&E Hotel	10%	of direct costs			$6,188,588
FF&E Spa	$200	/sq.ft.			$150,000
Soft Costs					
Office TA	$65	/net office sq.ft.			$7,128,420
Restaurant TA	$100	/net restaurant sq.ft.			$450,000
Development Related Legal					$240,000
Franchise Fee					$60,000
A&E	8.0%	of direct costs			$5,457,958
G&A and Other Prof Services	3.0%	of direct costs			$2,046,734
Legal, Insurance & Warranty	3.0%	of direct costs			$2,046,734
Other Prof Services	1.0%	of direct costs			$682,245
Hard + Soft Cost Contingency	7.0%	of direct costs+soft costs above this item			$6,043,559
Real Estate Taxes	1.1%	12 months, construction+land value			$1,093,720
Permits and Fees	6.0%	of direct costs + FFE			$4,093,468
Development Fee	3.0%	of direct+FFE+soft costs			$2,927,019
				$115/gross sq.ft.	**$38,608,445**
Financing					
Interest	4.5%	int rate and 65% LTC			$1,469,730
Financing Fees	2.0%				$1,306,426
Total Financing Costs					**$2,776,156**
Net Costs before Land and Profit				**$307/gross sq.ft.**	**$103,270,482**
Project Profit	15%				$15,490,572
Total Costs, Profit, & Land (for RE Tax Basis)				**$353/gross sq.ft.**	**$118,761,055**
LAND VALUE					
Total Residual Land Value			**-$713/room**	**$/gross sq.ft.**	**($121,969)**
Residual Value per Site Sq.Ft.					**($0.56)**

All assumptions, except where noted, based on EPS/ADK&A firm experience with development proformas for the land uses in questions.

(1) Rent assumptions:
Office: top of market Class A comp (Topaz building) plus 25% creative premium. (Source: CoStar)
Retail: top-of-market comp in DT San Pedro. Restaurant adds a ~10% premium. (Source: CoStar)
Extended-Stay Hotel: from est. 2016 DoubleTree San Pedro ADR (Source: EPS); boutique: +20%

(2) Cap rate assumptions based on expectation that 'going-in' cap rates exceed by 0.5% to 1% the 'exit'cap rates, which are taken from CBRE 2016H1 N. America Cap Rate Survey

(3) E.g., F&B, wifi, movie rental. Estimated as net of expenses

(4) Includes variable operating expenses for day-to-day staffing. Fixed operating expenses for the building are calculated separately.

(5) Includes Administrative, Sales, Utilities, Maintenance, Franchise Fees, Management Fees, Property Insurance, FF&E Reserve, and Real Estate Taxes

(6) Vertical costs prepared by Spectra Company include all shell, structural, and MEP work to adapt the existing structure for new uses (including in-structure parking), as well as GC feessubcontractor bonds, testing and inspection, B&O taxes, 1 year of cost escalation, PL&PD insurance, design contingencies, and a 2.5% contractor's fee.

APPENDIX C

Warehouse No. 1 Renovation Cost Analysis

Port of Los Angeles Assessment Notes

The site investigation of the subject property included a brief walk-through by the project team consisting of a Preservation Architect, Structural Engineer, Electrical, Mechanical and Plumbing Engineers. The following are observations made according to character defining features, existing building conditions in August and September 2017 and proposed development concepts.

HISTORIC

Exterior Concrete Walls and Parapet: The exterior walls are predominately flat cast-in-place, board-formed concrete walls with periodic concrete pilasters. The walls extend above the roof parapet and is capped with a heavy crown cornice. There is an extensive amount of spalling occurring at the corners of the building, pilasters and some floor lines. The cornice also exhibits an extensive amount of spalling. Restoration should include removing loose concrete, exposing rusted rebar, treating the rebar (and replacing as-needed) and patching concrete to match the board-formed texture.

Fire Escapes: Breaking the planes of the largely simple, rectangular concrete building are 8 concrete fire escapes. 4 each are located equally spaced on the long east and west walls. They consist of concrete balcony landings at each level from floors 2-6 and concrete stairs from the roof level down to the 2nd floor. The fire escapes are severely deteriorating as there is little concrete cover in many areas over the rebar and is spalling or portions completely missing. The fire escapes should be removed due to a lack of structural integrity and reconstructed to match the existing in design and profile. The construction could be changed to GFRC or other compatible material that will function better than the original construction. Since new exit circulation can be installed in the building interior, these fire escapes can be abandoned and possibly be converted to balconies possibly without the stair sections while retaining enough of the original character of the elevation.

Existing Window Openings: There are few window openings that were originally incorporated into the large storage building. Window openings currently only occur on the long east and west walls. The fenestration consists of single divided lite metal windows stacked vertically symmetrical on either side of the 8 fire escapes resulting in 16 columns of windows. Additional windows and doors occur at the ground floor level. These should be retained and restored. In addition, the fire escape doors were originally ½ lite doors and they could all be retained or restored as ½ lite to provide additional light into the building.

Proposed New Openings: Most any new use would require additional light. There are existing loading bay openings that are covered with a pair of steel doors. These doors should be retained as character defining features but could be fixed open and infilled with glass. This would add 8 additional stacks of tall floor to ceiling windows without affecting the character of the façade.

Even with the additional window areas at the loading bays, it is likely that new uses would require additional window area especially at the north and south building end elevations where there are no windows. A possible solution to investigate is to create additional columns of windows at the middle of the building ends between pilasters and in the flat, concrete wall planes between the gargoyle details. Since the original façade is solid, the new glass could be frittered with a color similar to the existing building and with a pattern compatible with the board-formed concrete to mitigate the change in character.

Water Tower: The existing water tower appears to be a significant character defining feature and appears to have been part of the building since it was originally constructed. This should be restored and any proposed building additions should be set back and visual obstruction should be mitigated.

Building Massing (Re: Proposed Additions): One of the proposed concept scenarios considers an addition to the existing building. If additions to the building are considered, guidance should be obtained from NPS Preservation Brief 14, New Exterior Additions to Historic Buildings: Preservation Concerns. The character of the large rectangular massing and heavy parapet should be preserved. New additions should generally be compatible but differentiated design, be in appropriate scale to the existing building, and be set back to minimize visibility.

STRUCTURAL

See attached letter dated December 1, 2007 from Mel Green and Associates for a discussion regarding structural assumptions.

ELECTRICAL

Existing electrical service is not adequate for the proposed uses and new electrical service would need to be installed. The Port of Los Angeles did not have available information to indicate where and how far existing electrical service point of connection would be located. The team was instructed to assume that electrical service would be connected from the street 300’ north of the building.

MECHANICAL

No reusable mechanical equipment is located at the existing building. All new mechanical equipment will be required. The proposed concepts scenarios assume using a portion of the existing 2nd floor for mechanical use.

PLUMBING

No existing plumbing records were available. There is currently only plumbing to a small bathroom on the north side of the building. New uses will require new water supply, sewer and gas as required. It is assumed by the Port of Los Angeles that the point of connection would be within the street north of the existing building.

PORT OF LOS ANGELES WAREHOUSE 1
PORT OF LOS ANGELES
SCHEMATIC BUDGET ESTIMATE

DATE: 11/30/2017

				Scenario 1		Scenario 2		Scenario 3	
	AREA SUMMARY	VANILLA SHELL		CREATIVE OFFICE		225-ROOM CONFERENCE HOTEL		OFFICE & 150-ROOM CONFERENCE HOTEL	
	TENANT IMPROVEMENT AREAS	437,760	SF	261,360	SF	261,360	SF	336,360	SF
	BOUTIQUE HOTEL EXTEND STAY		EA		EA	225	EA	150	EA
	PARKING GARAGE AREA (IN BLDG.)		SF	121,600	SF	78,640	SF	121,600	SF
	PARKING STALLS (IN BLDG.)		EA	347	EA	225	EA	347	EA
ITEM	DESCRIPTION	AMOUNT	S. F. COST	AMOUNT	S. F. COST	AMOUNT	S. F. COST	AMOUNT	S. F. COST
	STRUCTURAL FRAME								
1	STRUCTURAL DEMOLITION	$0	$0.00	$4,190,940	$16.04	$4,295,940	$16.44	$5,538,440	$16.47
7	CONCRETE WORK	$0	$0.00	$1,954,040	$7.48	$1,954,040	$7.48	$2,902,790	$8.63
10	STRUCTURAL STEEL	$0	$0.00	$0	$0.00	$0	$0.00	$1,750,000	$5.20
11	METAL DECKING	$0	$0.00	$0	$0.00	$0	$0.00	$323,438	$0.96
12	FIREPROOFING	$0	$0.00	$0	$0.00	$0	$0.00	$378,750	$1.13
13	STEEL STUDS STRUCTURAL FRAMING	$0	$0.00	$0	$0.00	$38,500	$0.15	$374,000	$1.11
14	ROUGH WOOD FRAMING SYSTEM	$0	$0.00	$10,000	$0.04	$15,000	$0.06	$20,000	$0.06
15	STRUCTURAL MASONRY	$0	$0.00	$451,400	$1.73	$496,400	$1.90	$451,400	$1.34
	SUBTOTAL STRUCTURE	$0		$6,606,380		$6,799,880		$11,738,818	
	S. F. COST		$0.00		$25.28		$26.02		$34.90
	EXTERIOR SKIN								
17	BUILDING EXTERIOR SEL. DEMO	$58,300	$0.13	$58,300	$0.22	$58,300	$0.22	$58,300	$0.17
18	RESTOR'N OF BLDG. EXTERIOR CONC.	$2,273,800	$5.19	$2,273,800	$8.70	$2,273,800	$8.70	$2,273,800	$6.76
19	GLASS & GLAZING	$0	$0.00	$3,920,400	$15.00	$4,181,760	$16.00	$5,718,120	$17.00
22	LATH & PLASTER	$0	$0.00	$0	$0.00	$0	$0.00	$209,000	$0.62
26	EXTERIOR PAINTING	$0	$0.00	$190,000	$1.56	$199,000	$0.76	$239,000	$0.71
	SUBTOTAL EXTERIOR	$2,332,100		$6,442,500		$6,712,860		$8,498,220	
	S. F. COST		$5.33		$25.49		$25.68		$25.27
	OTHER SHELL ITEMS								
29	MISC. METALS & STEEL STAIRS	$0	$0.00	$920,000	$3.52	$995,000	$3.81	$950,000	$2.82
31	ROOFING	$0	$0.00	$0	$0.00	$28,500	$0.11	$693,500	$2.06
	SUBTOTAL OTHER SHELL ITEMS	$0		$920,000		$1,023,500		$1,643,500	
	S. F. COST		$0.00		$3.52		$3.92		$4.89
	SUBTOTAL ALL SHELL ITEMS	$2,332,100		$13,968,880		$14,536,240		$21,880,538	
	S. F. COST		$5.33		$54.28		$55.62		$65.05
	CARPENTRY / DOORS / HARDWARE								
37	DOORS, FRAMES & H'WARE, INSTALLED	$0	$0.00	$208,200	$0.80	$820,725	$3.14	$670,700	$1.99
	SUBTOTAL CARPENTRY/DOORS/H'WARE			$208,200		$820,725		$670,700	
	S. F. COST				$0.80		$3.14		$1.99

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PORT OF LOS ANGELES
SCHEMATIC BUDGET ESTIMATE

DATE: 11/30/2017

ITEM	DESCRIPTION			Scenario 1		Scenario 2		Scenario 3	
	AREA SUMMARY	VANILLA SHELL		CREATIVE OFFICE		225-ROOM CONFERENCE HOTEL		OFFICE & 150-ROOM CONFERENCE HOTEL	
	TENANT IMPROVEMENT AREAS	437,760	SF	261,360	SF	261,360	SF	336,360	SF
	BOUTIQUE HOTEL | EXTEND STAY		EA		EA	225	EA	150	EA
	PARKING GARAGE AREA (IN BLDG.)		SF	121,600	SF	78,640	SF	121,600	SF
	PARKING STALLS (IN BLDG.)		EA	347	EA	225	EA	347	EA
ITEM	DESCRIPTION	AMOUNT	S. F. COST	AMOUNT	S. F. COST	AMOUNT	S. F. COST	AMOUNT	S. F. COST
	CEILINGS & WALLS - INTERIOR								
50	METAL FRAMING & DRYWALL	$0	$0.00	$808,080	$3.09	$1,023,750	$3.92	$1,536,000	$4.57
68	PAINTING , INTERIORS	$0	$0.00	$130,680	$0.50	$130,680	$0.50	$168,180	$0.50
	SUBTOTAL FINISHES (INTERIOR)	$0		$938,760		$1,154,430		$1,704,180	
	S. F. COST		$0.00		$3.59		$4.42		$2.28
	VERTICAL TRANSPORTATION								
72	ELEVATORS	$0	$0.00	$440,000	$1.68	$440,000	$1.68	$550,000	$1.64
74	MAN & MATERIALS HOIST	$0	$0.00	$0	$0.00	$0	$0.00	$195,000	$0.58
	SUBTOTAL VERTICAL TRANSPORTATION	$0		$440,000		$440,000		$745,000	
	S. F. COST		$0.00		$1.68		$1.68		$2.21
	MECHANICAL & ELECTRICAL								
75	PLUMBING	$450,000	$1.03	$2,200,000	$8.42	$4,100,000	$15.69	$3,350,000	$9.96
76	FIRE SPRINKLERS	$0	$0.00	$1,191,040	$4.56	$1,436,920	$5.50	$1,966,040	$5.85
78	HVAC SYSTEM	$0	$0.00	$923,500	$7.59	$1,385,000	$5.30	$1,850,000	$5.50
80	ELECTRICAL & LIGHTING SYSTEM	$395,000	$0.90	$4,831,640	$18.49	$5,672,740	$21.70	$7,030,900	$20.90
	SUBTOTAL MECHANICAL & ELECTRICAL	$845,000		$9,146,180		$12,594,660		$14,196,940	
	S. F. COST		$1.93		$39.06		$48.19		$42.21
	SPECIALTY ITEMS								
110	PARKING STRIPING & BUMPERS			$46,927	$0.39	$30,939	$0.12	$46,927	$0.14
121	SWIMMING POOLS & SPA			$0	$0.00	$658,500	$2.52	$658,500	$1.96
	SUBTOTAL SPECIALTY ITEMS			$46,927		$689,439		$705,427	
	S. F. COST				$0.39		$2.64		$2.10
146	ONSITE & OFFSITE WORK - EXCLUDED								
	SUBTOTAL SITE IMPROVEMENTS								
	S. F. COST								

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PORT OF LOS ANGELES
SCHEMATIC BUDGET ESTIMATE

DATE: 11/30/2017

					Scenario 1		Scenario 2		Scenario 3	
	AREA SUMMARY		VANILLA SHELL		CREATIVE OFFICE		225-ROOM CONFERENCE HOTEL		OFFICE & 150-ROOM CONFERENCE HOTEL	
	TENANT IMPROVEMENT AREAS		437,760	SF	261,360	SF	261,360	SF	336,360	SF
	BOUTIQUE HOTEL EXTEND STAY			EA		EA	225	EA	150	EA
	PARKING GARAGE AREA (IN BLDG.)			SF	121,600	SF	78,640	SF	121,600	SF
	PARKING STALLS (IN BLDG.)			EA	347	EA	225	EA	347	EA
ITEM	DESCRIPTION		AMOUNT	S. F. COST	AMOUNT	S. F. COST	AMOUNT	S. F. COST	AMOUNT	S. F. COST
	SUBTOTAL		$3,177,100	$7.26	$24,748,947	$94.69	$30,235,494	$115.69	$39,902,785	$118.63
	GENERAL CONDITIONS	8.00%	$254,168	$0.58	$1,979,916	$7.58	$2,418,840	$9.25	$3,192,223	$9.49
	SUBCONTRACTOR BONDS---------	1.00%	$31,771	$0.07	$247,489	$0.95	$302,355	$1.16	$399,028	$1.19
	SUBTOTAL		$3,463,039	$7.91	$26,976,352	$103.22	$32,956,689	$126.10	$43,494,035	$129.31
	CONTRACTOR CONTINGENCY----	0.00%	$0	$0.00	$0	$0.00	$0	$0.00	$0	$0.00
	DESIGN CONTINGENCY----	10.00%	$346,304	$0.79	$2,697,635	$10.32	$3,295,669	$12.61	$4,349,404	$12.93
	SUBTOTAL		$3,809,343	$8.70	$29,673,987	$113.54	$36,252,358	$138.71	$47,843,439	$142.24
	PL & PD INSURANCE	1.00%	$38,093	$0.09	$296,740	$1.14	$362,524	$1.39	$478,434	$1.42
	COST ESCALATIONS - ALLOW 1 YE	1.50%	$57,140	$0.13	$445,110	$1.70	$543,785	$2.08	$717,652	$2.13
	SOFT COSTS ALLOWANCE	10.00%	$380,934	$0.87	$2,967,399	$11.35	$3,625,236	$13.87	$4,784,344	$14.22
	TESTING & INSPECTION	2.00%	$76,187	$0.17	$593,480	$2.27	$725,047	$2.77	$956,869	$2.84
	B & O TAXES	0.250%	$9,523	$0.02	$74,185	$0.28	$90,631	$0.35	$119,609	$0.36
	SUBTOTAL		$4,371,221	$9.99	$34,050,901	$130.28	$41,599,581	$159.17	$54,900,346	$163.22
	CONTRACTOR'S FEE--------------------	2.50%	$109,281	$0.25	$851,273	$3.26	$1,039,990	$3.98	$1,372,509	$4.08
TOTAL ESTIMATED CONSTRUCTION COST			$4,480,502	$10.24	$34,902,173	$133.54	$42,639,570	$163.14	$56,272,854	$167.30

PORT OF LOS ANGELES WAREHOUSE 1

EST. SEG.: **VANILLA SHELL** SITE AREA: 437,760
NO.:
DATE ### 11/30/17

NO.	ITEM DESCRIPTION	QUANTITY	U/M	UNIT COST	TOTAL AMT.
1a	STRUCTURAL DEMOLITION				
	TOTAL AMOUNT				$0
	COST S/F	0			
7a	CONCRETE WORK				
	TOTAL AMOUNT				$0
	COST S/F	0.00			
10a	STRUCTURAL STEEL				
	TOTAL AMOUNT				$0
	COST S/F	0.00			
11a	METAL DECKING				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
12a	FIREPROOFING				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
13a	STEEL STUDS STRUCTURAL FRAMING				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			

EST. SEG.: **CREATIVE OFFICE** FLOOR AREA: 261,360
NO.: 0
DATE: 11/30/17

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
1b	STRUCTURAL DEMOLITION				
	3/F Demo Slab for Skylight (Assume 8" thk; incl. columns)	13,019	cu.ft.	$30.00	$390,570
	4/F Remove Floor (Leave 15' along perimeter; incl. columns * walls)	56,830	cu.ft.	$30.00	$1,704,900
	5/F Demo Slab for Skylight (Assume 8" thk; incl. columns)	13,019	cu.ft.	$30.00	$390,570
	6/F Remove Floor (Leave 15' along perimeter; incl. columns * walls)	56,830	cu.ft.	$30.00	$1,704,900
	TOTAL AMOUNT				$4,190,940
	COST S/F	$16.04			
7b	CONCRETE WORK				
	A. Elevated Concrete Slab Infill for Railroad				
	6" thk,concrete slab, incl. 4" base, vapor barrier	5,760	sf	$9.00	$51,840
	Structural backfill	1,030	cy	$40.00	$41,200
	B. Additional Concrete Beam for Cut-Out Flooring Perimeter	100	cy	$550.00	$55,000
	C. Concrete Stairs at new Interior Stair Shafts, incl. add'l beams, etc.; assume 8 locations per floor	48	loc.	$12,500.00	$600,000
	D. Vehicle ramp from 1/F to 2/F, incl. structural backfill, allowance	2	loc.	$75,000.00	$150,000
	E. Shotcrete/reinforcment of remaining shear walls and columns on 3/F thru 6/F after demo of floor slabs & columns	1	ls	$1,056,000.00	$1,056,000
	TOTAL AMOUNT				$1,954,040
	COST S/F	$7.48			
10b	STRUCTURAL STEEL				
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
11b	METAL DECKING				
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
12b	FIREPROOFING				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
13b	STEEL STUDS STRUCTURAL FRAMING				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			

EST. SEG.: **225-ROOM CONFERENCE HOTEL** FLOOR AREA 261,360
NO.:
DATE: 11/30/17 Rooms / Keys 225

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
1c	STRUCTURAL DEMOLITION				
	3/F Demo Slab for Skylight (Assume 8" thk; incl. columns)	13,019	cu.ft.	$30.00	$390,570
	4/F Remove Floor (Leave 15' along perimeter; incl. columns * walls)	56,830	cu.ft.	$30.00	$1,704,900
	5/F Demo Slab for Skylight (Assume 8" thk; incl. columns)	13,019	cu.ft.	$30.00	$390,570
	6/F Remove Floor (Leave 15' along perimeter; incl. columns * walls)	56,830	cu.ft.	$30.00	$1,704,900
	Roof : Partial demo/removal for rooftop bar/pool	3,500	cu.ft.	$30.00	$105,000
	TOTAL AMOUNT				$4,295,940
	COST S/F	$16.44			
7c	CONCRETE WORK				
	A. Elevated Concrete Slab Infill for Railroad				
	6" thk,concrete slab, incl. 4" base, vapor barrier	5,760	sf	$9.00	$51,840
	Structural backfill	1,030	cy	$40.00	$41,200
	B. Additional Concrete Beam for Cut-Out Flooring Perimeter	100	cy	$550.00	$55,000
	C. Concrete Stairs at new Interior Stair Shafts, incl. add'l beams, etc.; assume 8 locations per floor	48	loc.	$12,500.00	$600,000
	D. Vehicle ramp from 1/F to 2/F, incl. structural backfill, allowance	2	loc.	$75,000.00	$150,000
	E. Shotcrete/reinforcment of remaining shear walls and columns on 3/F thru 6/F after demo of floor slabs & columns	1	ls	$1,056,000.00	$1,056,000
	TOTAL AMOUNT				$1,954,040
	COST S/F	$7.48			
10c	STRUCTURAL STEEL				
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
11c	METAL DECKING				
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
12c	FIREPROOFING				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
13c	STEEL STUDS STRUCTURAL FRAMING				
	Cold-formed heavy gauge structural steel stud framing for new rooftop bar area	3,500	sf	$11.00	$38,500
	TOTAL AMOUNT				$38,500
	COST S/F	$0.15			

EST. SEG.: **OFFICE & 150-ROOM CONFERENCE HOTEL** FLOOR AREA 336,360
NO.:
DATE: 11/30/17 Rooms / Keys 150

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
1e	STRUCTURAL DEMOLITION				
	3/F Demo Slab for Skylight (Assume 8" thk; incl. columns)	13,019	cu.ft.	$30.00	$390,570
	4/F Remove Floor (Leave 15' along perimeter; incl. columns * walls)	56,830	cu.ft.	$30.00	$1,704,900
	5/F Demo Slab for Skylight (Assume 8" thk; incl. columns)	13,019	cu.ft.	$30.00	$390,570
	6/F Remove Floor (Leave 15' along perimeter; incl. columns * walls)	56,830	cu.ft.	$30.00	$1,704,900
	Roof : Partial demo/removal for new floors and rooftop bar/pool	38,500	sf	$35.00	$1,347,500
	TOTAL AMOUNT				$5,538,440
	COST S/F				
7e	CONCRETE WORK				
	A. Elevated Concrete Slab Infill for Railroad				
	6" thk,concrete slab, incl. 4" base, vapor barrier	5,760	sf	$9.00	$51,840
	Structural backfill	1,030	cy	$40.00	$41,200
	B. Additional Concrete Beam for Cut-Out Flooring Perimeter	100	cy	$550.00	$55,000
	C. Concrete Stairs at new Interior Stair Shafts, incl. add'l beams, etc.; assume 8 locations per floor	48	loc.	$12,500.00	$600,000
	D. Vehicle ramp from 1/F to 2/F, incl. structural backfill, allowance	2	loc.	$75,000.00	$150,000
	E. Shotcrete/reinforcment of remaining shear walls and columns on 3/F thru 6/F after demo of floor slabs & columns	1	ls	$1,056,000.00	$1,056,000
	F. 2.5" thk Structural Lightweight Concrete Over Metal Deck for [N] 7/F, 8/F, 9/F, & Roof	86,250	sf	$11.00	$948,750
	TOTAL AMOUNT				$2,902,790
	COST S/F	$8.63			
10e	STRUCTURAL STEEL				
	Structural steel framing for new additional 7/F, 8/F, & 9/F	1	ls	$1,750,000.00	$1,750,000
					$0
	TOTAL AMOUNT				$1,750,000
	COST S/F				
11e	METAL DECKING				
	New 7/F, 8/F, 9/F & roof metal decking	86,250	sf	$3.75	$323,438
	TOTAL AMOUNT				$323,438
	COST S/F	$0.96			
12e	FIREPROOFING				
	New metal decking for 7/F, 8/F, 9/F & Roof	86,250	sf	$3.00	$258,750
	New structural steel framing for new add'l floors	1	ls	$120,000.00	$120,000
	TOTAL AMOUNT				$378,750
	COST S/F	$1.13			
13e	STEEL STUDS STRUCTURAL FRAMING				
	Cold-formed heavy gauge structural steel stud framing for [N] 7/F, 8/F, 9/F perimeter walls	34,000	sf	$11.00	$374,000
	TOTAL AMOUNT				$374,000
	COST S/F	$1.11			

PORT OF LOS ANGELES WAREHOUSE 1

EST. SEG.: **VANILLA SHELL** SITE AREA: 437,760
NO.:
DATE ### 11/30/17

NO.	ITEM DESCRIPTION	QUANTITY	U/M	UNIT COST	TOTAL AMT.
14a	ROUGH WOOD FRAMING SYSTEM				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
15a	STRUCTURAL MASONRY				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
17a	BUILDING EXTERIOR SEL. DEMO				
	Demo & removal of rooftop water t	1	ls	$14,500.00	$14,500
	Demo & removal of steel grains chute tower @ east elevation	1	ls	$18,800.00	$18,800
	Demo & removal of chain link canopies	1	ls	$10,000.00	$10,000
	Misc. demo, allowance	1	ls	$15,000.00	$15,000
	TOTAL AMOUNT				$58,300
	COST S/F	$0.13			
18A	RESTOR'N OF BLDG. EXTERIOR CONC.				
	Restoration of Building Exterior Concrete				
	A. Repair of Exterior Exit Stairs & Landings	40	loc.	$25,000.00	$1,000,000
	B. Repair of Other Building Exterior Elements (e.g., concrete spalling on walls, columns, cornices, lion head scuppers, etc.)	94,500	sf	$10.00	$945,000
	C. Scaffolding, incl. demo screen	1	ls	$328,800.00	$328,800
	TOTAL AMOUNT				$2,273,800
	COST S/F	$5.19			
19a	GLASS & GLAZING				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
22a	LATH & PLASTER				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			

EST. SEG.: **CREATIVE OFFICE** FLOOR AREA: 261,360
NO.: 0
DATE: 11/30/17

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
14b	ROUGH WOOD FRAMING SYSTEM				
	Miscellaneous rough carpentry, allowance	1	ls	$10,000.00	$10,000
	TOTAL AMOUNT				$10,000
	COST S/F	$0.04			
15b	STRUCTURAL MASONRY				
	Misc. masonry walls on 2/F between Parking & Mechanical areas, allowance	1	ls	$65,000.00	$65,000
	8" thk. CMU walls at Interior Stair Shafts; allow for 48 locations (at 8 locations per floor)	16,800	sf	$23.00	$386,400
	TOTAL AMOUNT				$451,400
	COST S/F	$1.73			
17b	BUILDING EXTERIOR SEL. DEMO				
	Demo & removal of rooftop water t	1	ls	$14,500.00	$14,500
	Demo & removal of steel grains chute tower @ east elevation	1	ls	$18,800.00	$18,800
	Demo & removal of chain link canopies	1	ls	$10,000.00	$10,000
	Misc. demo, allowance	1	ls	$15,000.00	$15,000
	TOTAL AMOUNT				$58,300
	COST S/F	$0.22			
18b	CONC. RESTOR'N OF BLDG. EXTERIOR				
	Restoration of Building Exterior Concrete				
	A. Repair of Exterior Exit Stairs & Landings	40	loc.	$25,000.00	$1,000,000
	B. Repair of Other Building Exterior Elements (e.g., concrete spalling on walls, columns, cornices, lion head scuppers, etc.)	94,500	sf	$10.00	$945,000
	C. Scaffolding, incl. demo screen	1	ls	$328,800.00	$328,800
	TOTAL AMOUNT				$2,273,800
	COST S/F	$8.70			
19b	GLASS & GLAZING				
	Frameless interior glass wall partitions, single entry glass doors, double entry glass doors, etc., allowance	261,360	sf	$15.00	$3,920,400
	TOTAL AMOUNT				$3,920,400
	COST S/F	$15.00			
22b	LATH & PLASTER				
	TOTAL AMOUNT				$0
	COST S/F	$0.00			

EST. SEG.: **225-ROOM CONFERENCE HOTEL** FLOOR AREA 261,360
NO.:
DATE: 11/30/17 Rooms / Keys 225

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
14c	ROUGH WOOD FRAMING SYSTEM				
	Miscellaneous rough carpentry, allowance	1	ls	$15,000.00	$15,000
	TOTAL AMOUNT				$15,000
	COST S/F	$0.06			
15c	STRUCTURAL MASONRY				
	Misc. masonry walls on 1/F betw. Hotel & Parking and on 2/F betw. Parking & Mechanical areas, allowance	1	ls	$110,000.00	$110,000
	8" thk. CMU walls at Interior Stair Shafts; allow for 48 locations (at 8 locations per floor)	16,800	sf	$23.00	$386,400
	TOTAL AMOUNT				$496,400
	COST S/F	$1.90			
17c	BUILDING EXTERIOR SEL. DEMO				
	Demo & removal of rooftop water ta	1	ls	$14,500.00	$14,500
	Demo & removal of steel grains chute tower @ east elevation	1	ls	$18,800.00	$18,800
	Demo & removal of chain link canopies	1	ls	$10,000.00	$10,000
	Misc. demo, allowance	1	ls	$15,000.00	$15,000
	TOTAL AMOUNT				$58,300
	COST S/F	$0.22			
18c	RESTOR'N OF BLDG. EXTERIOR CONC.				
	Restoration of Building Exterior Concrete				
	A. Repair of Exterior Exit Stairs & Landings	40	loc.	$25,000.00	$1,000,000
	B. Repair of Other Building Exterior Elements (e.g., concrete spalling on walls, columns, cornices, lion head scuppers, etc.)	94,500	sf	$10.00	$945,000
	C. Scaffolding, incl. demo screen	1	ls	$328,800.00	$328,800
	TOTAL AMOUNT				$2,273,800
	COST S/F	$8.70			
19c	GLASS & GLAZING				
	Frameless interior glass wall partitions, single entry glass doors, double entry glass doors, etc., allowance	261,360	sf	$16.00	$4,181,760
	TOTAL AMOUNT				$4,181,760
	COST S/F	$16.00			
22c	LATH & PLASTER				
	TOTAL AMOUNT				$0
	COST S/F	$0.00			

EST. SEG.: **OFFICE & 150-ROOM CONFERENCE HOTEL** FLOOR AREA 336,360
NO.:
DATE: 11/30/17 Rooms / Keys 150

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
14e	ROUGH WOOD FRAMING SYSTEM				
	Miscellaneous rough carpentry, allowance	1	ls	$20,000.00	$20,000
	TOTAL AMOUNT				$20,000
	COST S/F	$0.06			
15e	STRUCTURAL MASONRY				
	Misc. masonry walls on 2/F between Parking & Mechanical areas, allowance	1	ls	$65,000.00	$65,000
	8" thk. CMU walls at Interior Stair Shafts; allow for 48 locations (at 8 locations per floor)	16,800	sf	$23.00	$386,400
					$0
	TOTAL AMOUNT				$451,400
	COST S/F	$1.34			
17e	BUILDING EXTERIOR SEL. DEMO				
	Demo & removal of rooftop water ta	1	ls	$14,500.00	$14,500
	Demo & removal of steel grains chute tower @ east elevation	1	ls	$18,800.00	$18,800
	Demo & removal of chain link canopies	1	ls	$10,000.00	$10,000
	Misc. demo, allowance	1	ls	$15,000.00	$15,000
	TOTAL AMOUNT				$58,300
	COST S/F	$0.17			
18d	RESTOR'N OF BLDG. EXTERIOR CONC.				
	Restoration of Building Exterior Concrete				
	A. Repair of Exterior Exit Stairs & Landings	40	loc.	$25,000.00	$1,000,000
	B. Repair of Other Building Exterior Elements (e.g., concrete spalling on walls, columns, cornices, lion head scuppers, etc.)	94,500	sf	$10.00	$945,000
	C. Scaffolding, incl. demo screen	1	ls	$328,800.00	$328,800
	TOTAL AMOUNT				$2,273,800
	COST S/F	$6.76			
19d	GLASS & GLAZING				
	Frameless interior glass wall partitions, single entry glass doors, double entry glass doors, glass windows at new floors etc., allowance	336,360	sf	$17.00	$5,718,120
	TOTAL AMOUNT				$5,718,120
	COST S/F	$17.00			
22d	LATH & PLASTER				
	Exterior 3 coat conventional cement plaster (lath, scratch, brown & finish coats, 7/8" thick over steel studs by others), for 7/F, 8/F, & 9/F exterior walls (assume 70%)	19,000	sf	$11.00	$209,000
	TOTAL AMOUNT				$209,000
	COST S/F	$0.62			

PORT OF LOS ANGELES WAREHOUSE 1

EST. SEG.: **VANILLA SHELL** SITE AREA: 437,760
NO.:
DATE ### 11/30/17

NO.	ITEM DESCRIPTION	QUANTITY	U/M	UNIT COST	TOTAL AMT.
26a	EXTERIOR PAINTING				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
29a	MISC. METALS & STEEL STAIRS				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
31a	ROOFING				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
37a	DOORS, FRAMES & H'WARE, INSTALLED				
	TOTAL AMOUNT				$0
	COST S/F	0.00			
50a	METAL FRAMING & DRYWALL				
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
68a	PAINTING , INTERIORS				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			

EST. SEG.: **CREATIVE OFFICE** FLOOR AREA: 261,360
NO.: 0
DATE: 11/30/17

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
26b	EXTERIOR PAINTING				
	Building exterior painting	95,000	sf	$2.00	$190,000
	TOTAL AMOUNT				$190,000
	COST S/F	$0.73			
29b	MISC. METALS & STEEL STAIRS				
	Metal handrails & railings at fire exit stair shafts	48	loc.	$12,500	$600,000
	Metal railings 3/F & 5/F floor openings, allowance	1,500	lf	$200	$300,000
	Safety railings, allowance	1	ls	$20,000	$20,000
	TOTAL AMOUNT				$920,000
	COST S/F	$3.52			
31b	ROOFING				
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
37b	DOORS, FRAMES & H'WARE, INSTALLED				
	Fire-rated HM doors & frames for fire exit stair chases, incl. panic h'ware	48	ea	$2,750	$132,000
	HM double doors & door frames for mechanical rooms at 2/F, allowance	4	prs.	$2,150	$8,600
	Solid core wood double corridor paint-grade doors on clear alum door frame, Schlage h'ware at 3/F & 5/F office spaces, allowance	16	sets	$2,350	$37,600
	Misc. doors and door frames & hardware, elsewhere; allowance	1	ls	$30,000	$30,000
	\				
	TOTAL AMOUNT				$208,200
	COST S/F	$0.80			
50b	METAL FRAMING & DRYWALL				
	Demising walls (20' h) only among office spaces on 3/F & 5/F (figure 8 spaces each floor)	115,440	sf	$7.00	$808,080
	TOTAL AMOUNT				$808,080
	COST S/F	$3.09			
68b	PAINTING , INTERIORS				
	Prep and painting of walls, paint-grade doors & door frames, allowance	261,360	sf	$0.50	$130,680
	TOTAL AMOUNT				$130,680
	COST S/F	$0.50			

EST. SEG.: **225-ROOM CONFERENCE HOTEL** FLOOR AREA 261,360
NO.:
DATE: 11/30/17 Rooms / Keys 225

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
26c	EXTERIOR PAINTING				
	Building exterior painting	95,000	sf	$2.00	$190,000
	Misc. painting at rooftop bar/pool	1	ls	$9,000.00	$9,000
	TOTAL AMOUNT				$199,000
	COST S/F	$0.76			
29c	MISC. METALS & STEEL STAIRS				
	Metal handrails & railings at fire exit stair shafts	48	loc.	$12,500	$600,000
	Metal railings 3/F & 5/F floor openings, allowance	1,500	lf	$250	$375,000
	Safety railings, allowance	1	ls	$20,000	$20,000
	TOTAL AMOUNT				$995,000
	COST S/F	$3.81			
31c	ROOFING				
	1.5" - 2" thk foam or PVC roofing system with elastomeric deck coating for rooftop pool bar; allowance	1,500	sf	$19	$28,500
	TOTAL AMOUNT				$28,500
	COST S/F	$0.11			
37c	DOORS, FRAMES & H'WARE, INSTALLED				
	Fire-rated HM doors & frames for fire exit stair chases, incl. panic h'ware	48	ea	$2,750	$132,000
	HM double doors & door frames for mechanical rooms at 2/F, allowance	4	prs.	$2,150	$8,600
	Solid core wood single doors for guest rooms; average unit cost between (136) boutique hotel rooms and (89) extended stay rooms	225	sets	$2,845	$640,125
	Misc. doors and door frames & hardware, elsewhere; allowance	1	ls	$40,000	$40,000
	TOTAL AMOUNT				$820,725
	COST S/F	$3.14			
50c	METAL FRAMING & DRYWALL				
	Demising walls and interior wall partitions between guestrooms, common areas on 3/F, 5/F, & pool bar area	117,000	ls	$8.75	$1,023,750
	TOTAL AMOUNT				$1,023,750
	COST S/F	$3.92			
68c	PAINTING , INTERIORS				
	Prep and painting of walls, paint-grade doors & door frames, allowance	261,360	sf	$0.50	$130,680
	TOTAL AMOUNT				$130,680
	COST S/F	$0.50			

EST. SEG.: **OFFICE & 150-ROOM CONFERENCE HOTEL** FLOOR AREA 336,360
NO.:
DATE: 11/30/17 Rooms / Keys 150

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
26e	EXTERIOR PAINTING				
	Building exterior painting incl. new 7/F, 8/F, & 9/F	115,000	sf	$2.00	$230,000
	Misc. painting at rooftop bar/pool	1	ls	$9,000.00	$9,000
	TOTAL AMOUNT				$239,000
	COST S/F	$0.71			
29e	MISC. METALS & STEEL STAIRS				
	Metal handrails & railings at fire exit stair shafts	48	loc.	$12,500	$600,000
	Metal railings 3/F & 5/F floor openings, allowance	1,500	lf	$200	$300,000
	Safety railings, allowance	1	ls	$50,000	$50,000
	TOTAL AMOUNT				$950,000
	COST S/F	$2.82			
31e	ROOFING				
	1.5" - 2" thk foam or PVC roofing system with elastomeric deck coating, for 7/F, 8/F, 9/F and pool bar; allowance	36,500	sf	$19.00	$693,500
	TOTAL AMOUNT				$693,500
	COST S/F				
37e	DOORS, FRAMES & H'WARE, INSTALLED				
	Fire-rated HM doors & frames for fire exit stair chases, incl. panic h'ware	48	ea	$2,750	$132,000
	HM double doors & door frames for mechanical rooms at 2/F, allowance	4	prs.	$2,150	$8,600
	Solid core wood double corridor paint-grade doors on clear alum door frame, Schlage h'ware at 3/F & 5/F office spaces, allowance	16	sets	$2,350	$37,600
	Solid core wood single doors for boutique guest rooms on 7/F, 8/F, & 9/F	150	sets	$2,950	$442,500
	Misc. doors and door frames & hardware, elsewhere; allowance	1	ls	$50,000	$50,000
	TOTAL AMOUNT				$670,700
	COST S/F	$1.99			
50e	METAL FRAMING & DRYWALL				
	Demising walls and interior wall partitions between guestrooms, common areas on 3/F, 5/F, pool bar, 7/F, 8/F, 9/F	192,000	sf	$8.00	$1,536,000
					$0
	TOTAL AMOUNT				$1,536,000
	COST S/F	$4.57			
68e	PAINTING , INTERIORS				
	Prep and painting of walls, paint-grade doors & door frames, allowance	336,360	sf	$0.50	$168,180
	TOTAL AMOUNT				$168,180
	COST S/F				

PORT OF LOS ANGELES WAREHOUSE 1

EST. SEG.: **VANILLA SHELL** SITE AREA: 437,760
NO.:
DATE ### 11/30/17

NO.	ITEM DESCRIPTION	QUANTITY	U/M	UNIT COST	TOTAL AMT.
72a	ELEVATORS				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
74a	MAN & MATERIALS HOIST				
					$0
	TOTAL AMOUNT				$0
	COST S/F	0			
75a	PLUMBING				
	New plumbing system to building, i.e., domestic water, waste & vent, natural gas, roof drains & storm drains as needed, and associated plumbing fixtures	1	ls	$450,000.00	$450,000
	TOTAL AMOUNT				$450,000
	COST S/F	$1.03			
76a	FIRE SPRINKLERS				
	TOTAL AMOUNT				$0
	COST S/F	0.00			
78a	HVAC SYSTEM				
	TOTAL AMOUNT				$0
	COST S/F	0.00			
80a	ELECTRICAL & LIGHTING SYSTEM				
	Provide [N] power supply to building (i.e., furnish & install 6" PVC conduits for LADWP high voltage underground backbone from power pole to box pad; [N] 4000 amp 480v 3-phase, 4-wire fuse main; trenching, slurry, and backfill)	1	ls	$395,000.00	$395,000
	TOTAL AMOUNT				$395,000
	COST S/F	$0.90			

EST. SEG.: **CREATIVE OFFICE** FLOOR AREA: 261,360
NO.: 0
DATE: 11/30/17

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
72b	ELEVATORS				
	Furnish and install machine room-less passenger elevators; 2100 - 3500 lbs., 14 - 23 passengers	2	ea.	$220,000	$440,000
	TOTAL AMOUNT				$440,000
	COST S/F	$1.68			
74b	MAN & MATERIALS HOIST				
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
75b	PLUMBING				
	New plumbing system to building, i.e., domestic water, waste & vent, natural gas, roof drains & storm drains as needed, and associated plumbing fixtures	1	ls	$450,000.00	$450,000
	Improvements necessary for Creative Office Scheme	1	ls	$1,750,000.00	$1,750,000
	TOTAL AMOUNT				$2,200,000
	COST S/F	$8.42			
76b	FIRE SPRINKLERS				
	Removal/cap off of existing fire sprinkler system at 4/F and 6/F prior to demo of these floors; reconfiguration of existing fire sprinkler system 2/F, 3/F, and 5/F per new Creative Office layout	1	ls	$1,191,040.00	$1,191,040
	TOTAL AMOUNT				$1,191,040
	COST S/F	$4.56			
78b	HVAC SYSTEM				
	Improvements necessary for Creative Office requirements	1	ls	$923,500.00	$923,500
	TOTAL AMOUNT				$923,500
	COST S/F	$3.53			
80b	ELECTRICAL & LIGHTING SYSTEM				
	Provide [N] power supply to building (i.e., furnish & install 6" PVC conduits for LADWP high voltage underground backbone from power pole to box pad; [N] 4000 amp 480v 3-phase, 4-wire fuse main; trenching, slurry, and backfill)	1	ls	$395,000.00	$395,000
	Improvements necessary for Creative Office requirements (lighting fixtures excluded)	1	ls	$4,436,640.00	$4,436,640
	TOTAL AMOUNT				$4,831,640
	COST S/F	$18.49			

EST. SEG.: **225-ROOM CONFERENCE HOTEL** FLOOR AREA 261,360
NO.:
DATE: 11/30/17 Rooms / Keys 225

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
72c	ELEVATORS				
	Furnish and install machine room-less passenger elevators; 2100 - 3500 lbs., 14 - 23 passengers	2	ea.	$220,000.00	$440,000
	TOTAL AMOUNT				$440,000
	COST S/F	$1.68			
74b	MAN & MATERIALS HOIST				
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
75c	PLUMBING				
	New plumbing system to building, i.e., domestic water, waste & vent, natural gas, roof drains & storm drains as needed, and associated plumbing fixtures	1	ls	$450,000.00	$450,000
	Improvements necessary for 225-Room Conference Hotel	1	ls	$3,650,000.00	$3,650,000
	TOTAL AMOUNT				$4,100,000
	COST S/F	$15.69			
76c	FIRE SPRINKLERS				
	Removal/cap off of existing fire sprinkler system at 4/F and 6/F prior to demo of these floors; reconfiguration of existing fire sprinkler system 2/F, 3/F, and 5/F per new Conference Hotel layout	1	ls	$1,436,920.00	$1,436,920
	TOTAL AMOUNT				$1,436,920
	COST S/F	$5.50			
78c	HVAC SYSTEM				
	Improvements necessary for Conference Hotel requirements	1	ls	$1,385,000.00	$1,385,000
	TOTAL AMOUNT				$1,385,000
	COST S/F	$5.30			
80c	ELECTRICAL & LIGHTING SYSTEM				
	Provide [N] power supply to building (i.e., furnish & install 6" PVC conduits for LADWP high voltage underground backbone from power pole to box pad; [N] 4000 amp 480v 3-phase, 4-wire fuse main; trenching, slurry, and backfill)	1	ls	$395,000.00	$395,000
	Improvements necessary for 225-Room Conference Hotel requirements (lighting fixtures excluded)	1	ls	$5,277,740.00	$5,277,740
	TOTAL AMOUNT				$5,672,740
	COST S/F	$21.70			

EST. SEG.: **OFFICE & 150-ROOM CONFERENCE HOTEL** FLOOR AREA 336,360
NO.:
DATE: 11/30/17 Rooms / Keys 150

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
72e	ELEVATORS				
	Furnish and install machine room-less passenger elevators; 2100 - 3500 lbs., 14 - 23 passengers	2	ea.	$275,000	$550,000
	TOTAL AMOUNT				$550,000
	COST S/F	$1.64			
74e	MAN & MATERIALS HOIST				
	One (1) M & M Lift, 8 mos.	1	ls	$195,000	$195,000
	TOTAL AMOUNT				$195,000
	COST S/F	$0.58			
75e	PLUMBING				
	New plumbing system to building, i.e., domestic water, waste & vent, natural gas, roof drains & storm drains as needed, and associated plumbing fixtures	1	ls	$450,000.00	$450,000
	Improvements necessary for Office and 150-Room Conference Hotel	1	ls	$2,900,000.00	$2,900,000
	TOTAL AMOUNT				$3,350,000
	COST S/F	$9.96			
76e	FIRE SPRINKLERS				
	Removal/cap off of existing fire sprinkler system at 4/F and 6/F prior to demo of these floors; reconfiguration of existing fire sprinkler system 2/F, 3/F, and 5/F per new Offices and Conference Hotel layout	1	ls	$1,941,040.00	$1,941,040
	TOTAL AMOUNT				$1,966,040
	COST S/F	$5.85			
78e	HVAC SYSTEM				
	Improvements necessary for Office and Conference Hotel requirements	1	ls	$1,850,000.00	$1,850,000
	TOTAL AMOUNT				$1,850,000
	COST S/F	$5.50			
80e	ELECTRICAL & LIGHTING SYSTEM				
	Provide [N] power supply to building (i.e., furnish & install 6" PVC conduits for LADWP high voltage underground backbone from power pole to box pad; [N] 4000 amp 480v 3-phase, 4-wire fuse main; trenching, slurry, and backfill)	1	ls	$395,000.00	$395,000
	Improvements necessary for Office & 150-Room Conference Hotel requirements (lighting fixtures excluded)	1	ls	$6,635,900.00	$6,635,900
	TOTAL AMOUNT				$7,030,900
	COST S/F	$20.90			

PORT OF LOS ANGELES WAREHOUSE 1

EST. SEG.: **VANILLA SHELL** SITE AREA: 437,760
NO.:
DATE ### 11/30/17

NO.	ITEM DESCRIPTION	QUANTITY	U/M	UNIT COST	TOTAL AMT.
110a PARKING STRIPING & BUMPERS					
					$0
					$0
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
121a SWIMMING POOLS & SPA					
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			
146a ONSITE & OFFSITE WORK - EXCLUDED					
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	0.00			

EST. SEG.: **CREATIVE OFFICE** FLOOR AREA: 261,360
NO.: 0
DATE: 11/30/17

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
110b PARKING STRIPING & BUMPERS					
	Striping	347	ea	$18.00	$6,246
	Bumpers	347	ea	$35.00	$12,145
	Directional signs, ADA, etc.	121,600	sf	$0.21	$25,536
	Colored curbs, red, green, blue	1	ls	$3,000.00	$3,000
	TOTAL AMOUNT				$46,927
	COST S/F	$0.18			
121b SWIMMING POOLS & SPA					
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			
146b ONSITE & OFFSITE WORK - EXCLUDED					
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			

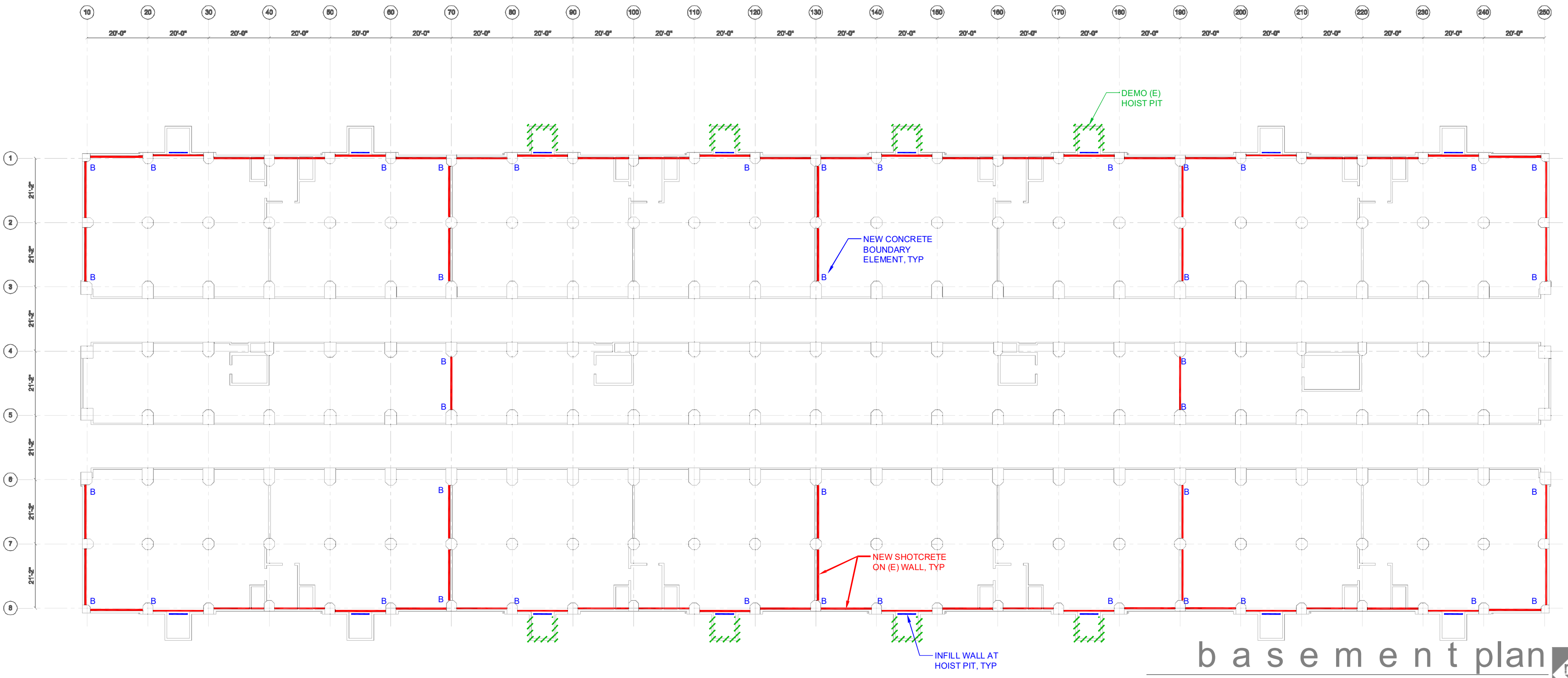
EST. SEG.: **225-ROOM CONFERENCE HOTEL** FLOOR AREA 261,360
NO.:
DATE: 11/30/17 Rooms / Keys 225

NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
110c PARKING STRIPING & BUMPERS					
	Striping	225	ea	$18.00	$4,050
	Bumpers	225	ea	$35.00	$7,875
	Directional signs, ADA, etc.	78,640	sf	$0.21	$16,514
	Colored curbs, red, green, blue	1	ls	$2,500.00	$2,500
	TOTAL AMOUNT				$30,939
	COST S/F	$0.12			
121c SWIMMING POOLS & SPA					
	Pool inclusive of struct. plumb. h2o-poof, elect. light approx.50'X20' ~4'-8' deep, Allowance	1	ls	$650,000	$650,000
	Motorized handicap pool lift. allowance	1	ea	$8,500	$8,500
	,				
	TOTAL AMOUNT				$658,500
	COST S/F	$2.52			
146c ONSITE & OFFSITE WORK - EXCLUDED					
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F	$0.00			

EST. SEG.: **OFFICE & 150-ROOM CONFERENCE HOTEL** FLOOR AREA 336,360
NO.:
DATE: 11/30/17 Rooms / Keys 150

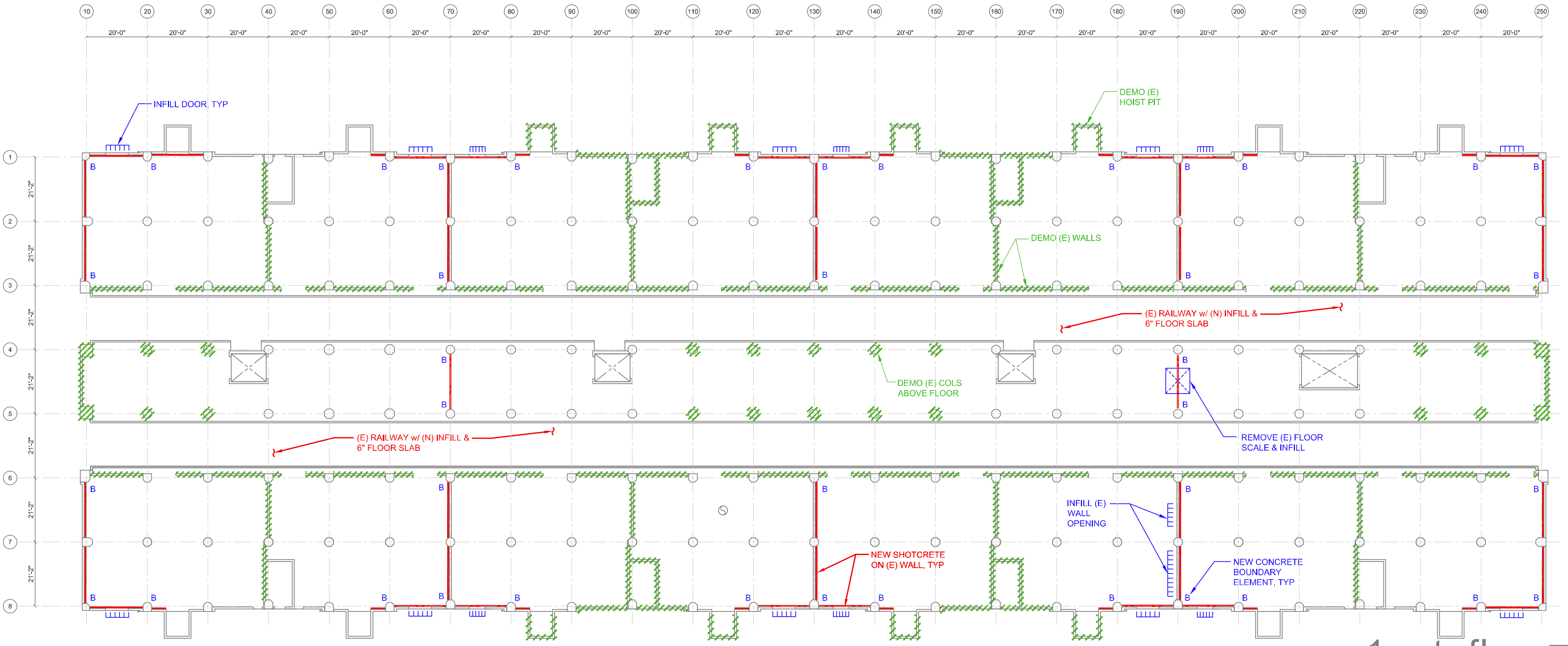
NO.	ITEM DESCRIPTION	QTY.	U/M	UNIT $	TOTAL AMT.
110e PARKING STRIPING & BUMPERS					
	Striping	347	ea	$18.00	$6,246
	Bumpers	347	ea	$35.00	$12,145
	Directional signs, ADA, etc.	121,600	sf	$0.21	$25,536
	Colored curbs, red, green, blue	1	ls	$3,000.00	$3,000
	TOTAL AMOUNT				$46,927
	COST S/F	$0.14			
121e SWIMMING POOLS & SPA					
	Pool inclusive of struct. plumb. h2o-poof, elect. light approx.50'X20' ~4'-8' deep, Allowance	1	ls	$650,000	$650,000
	Motorized handicap pool lift. allowance	1	ea	$8,500	$8,500
	,				
	TOTAL AMOUNT				$658,500
	COST S/F	$1.96			
146e ONSITE & OFFSITE WORK - EXCLUDED					
					$0
					$0
	TOTAL AMOUNT				$0
	COST S/F				

ARCHITECTURAL ELEVATION DRAWINGS



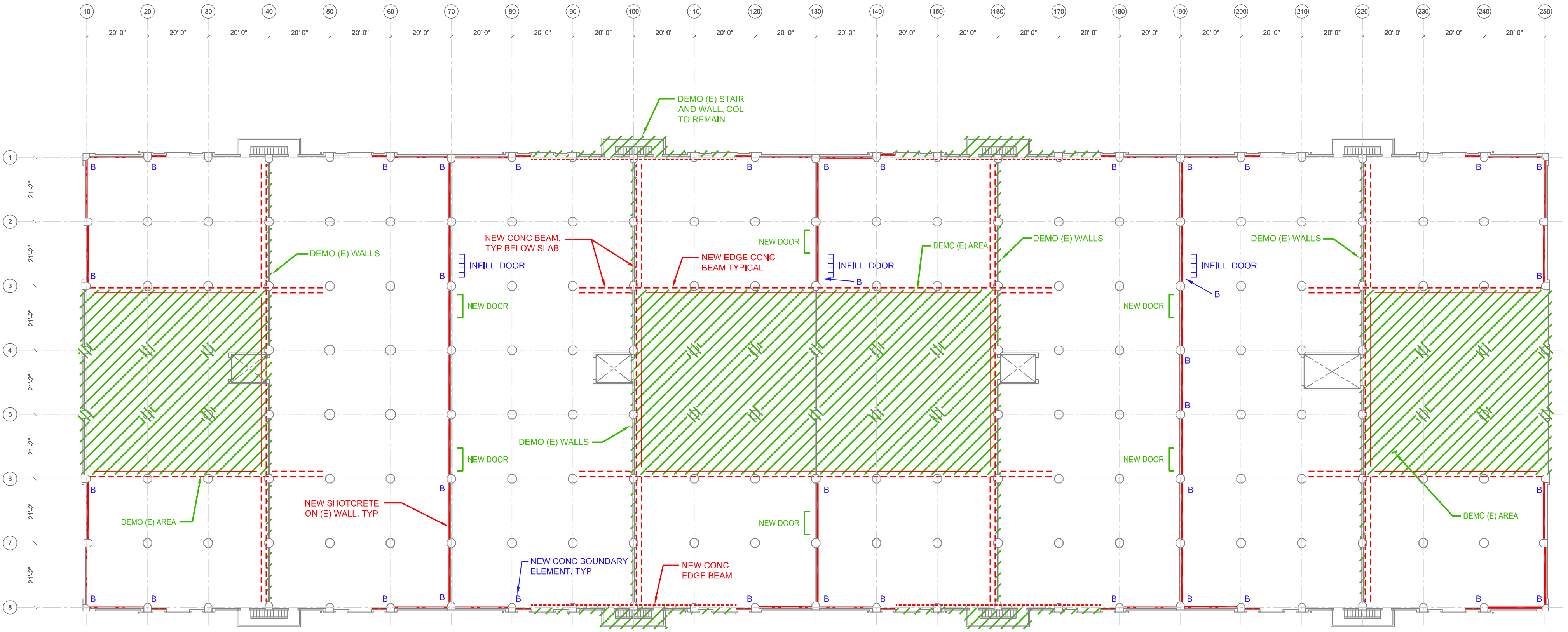
basement plan

north



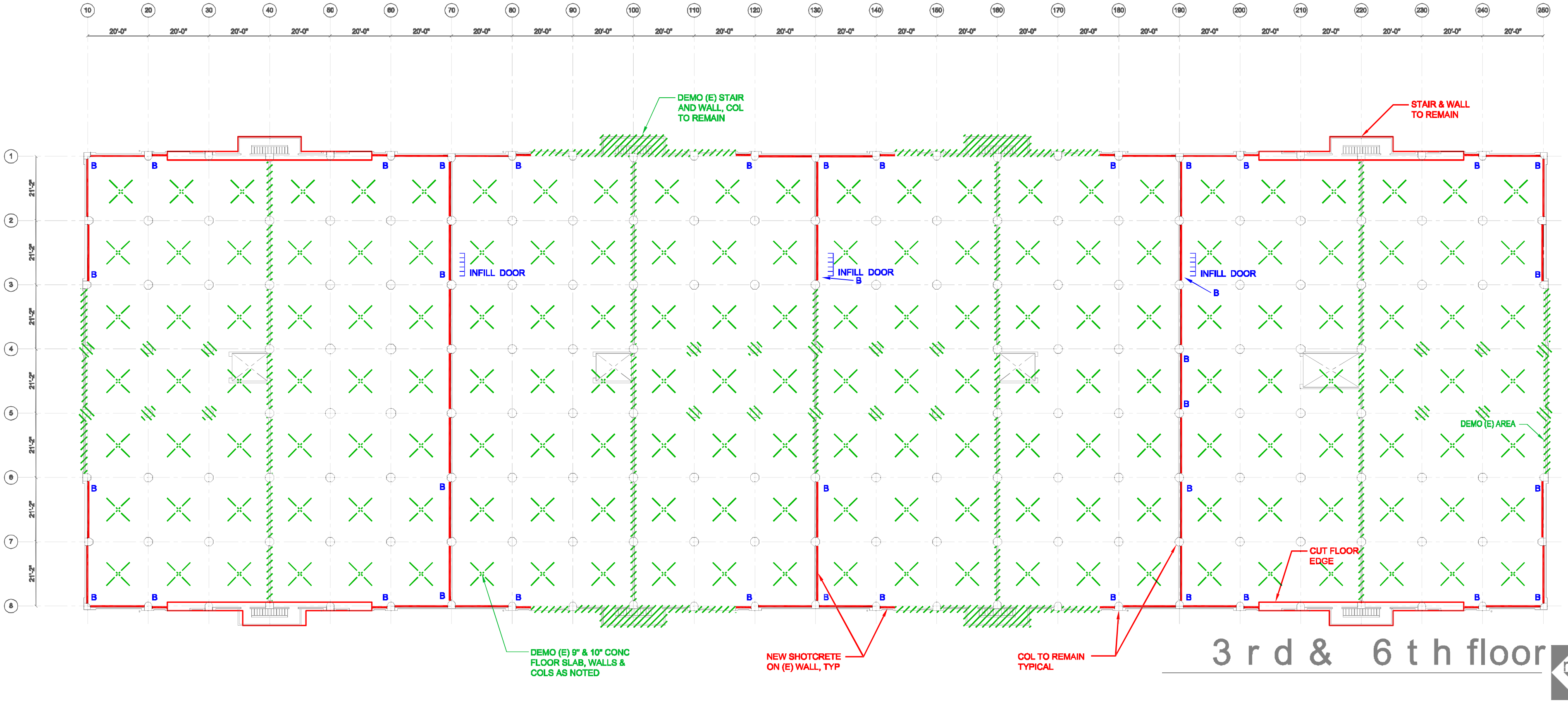
1st floor

north



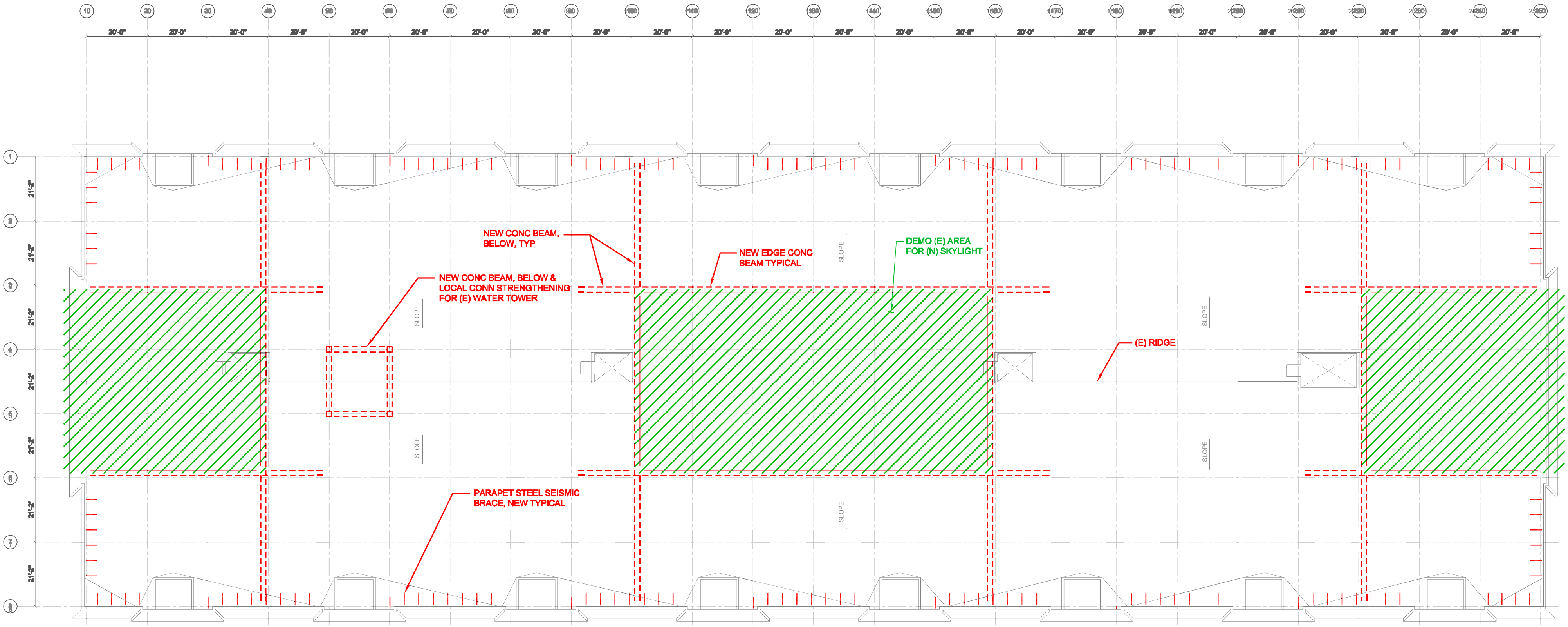
2nd, 4th, 5th floor

north



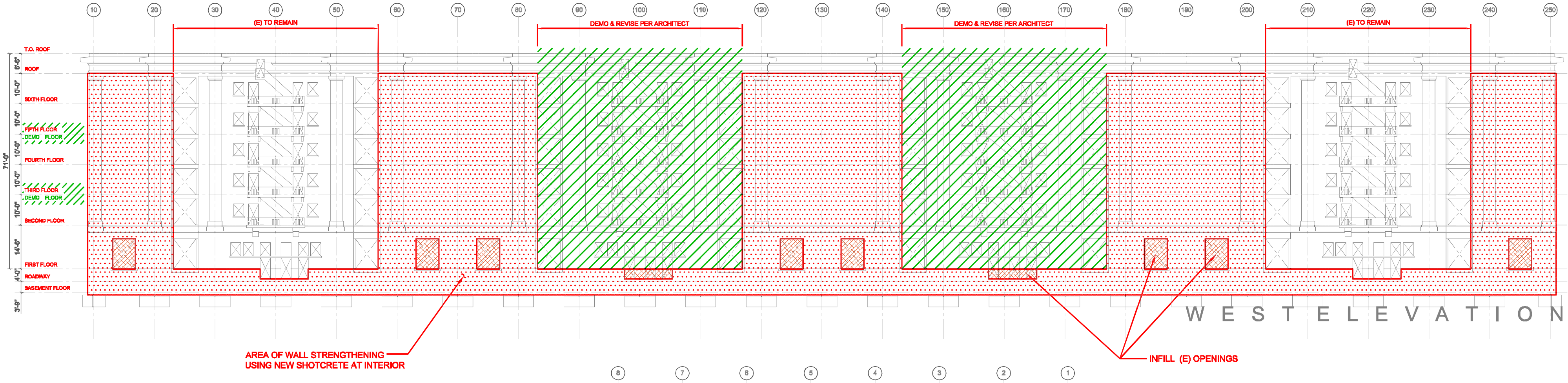
3rd & 6th floor

north

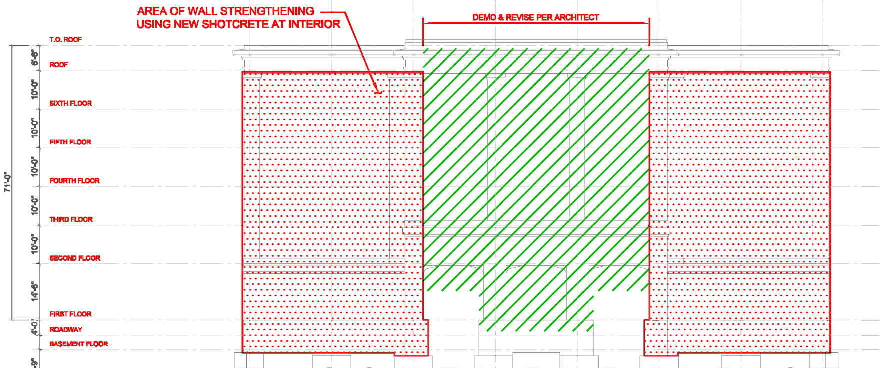


r o o f plan

north



WEST ELEVATION

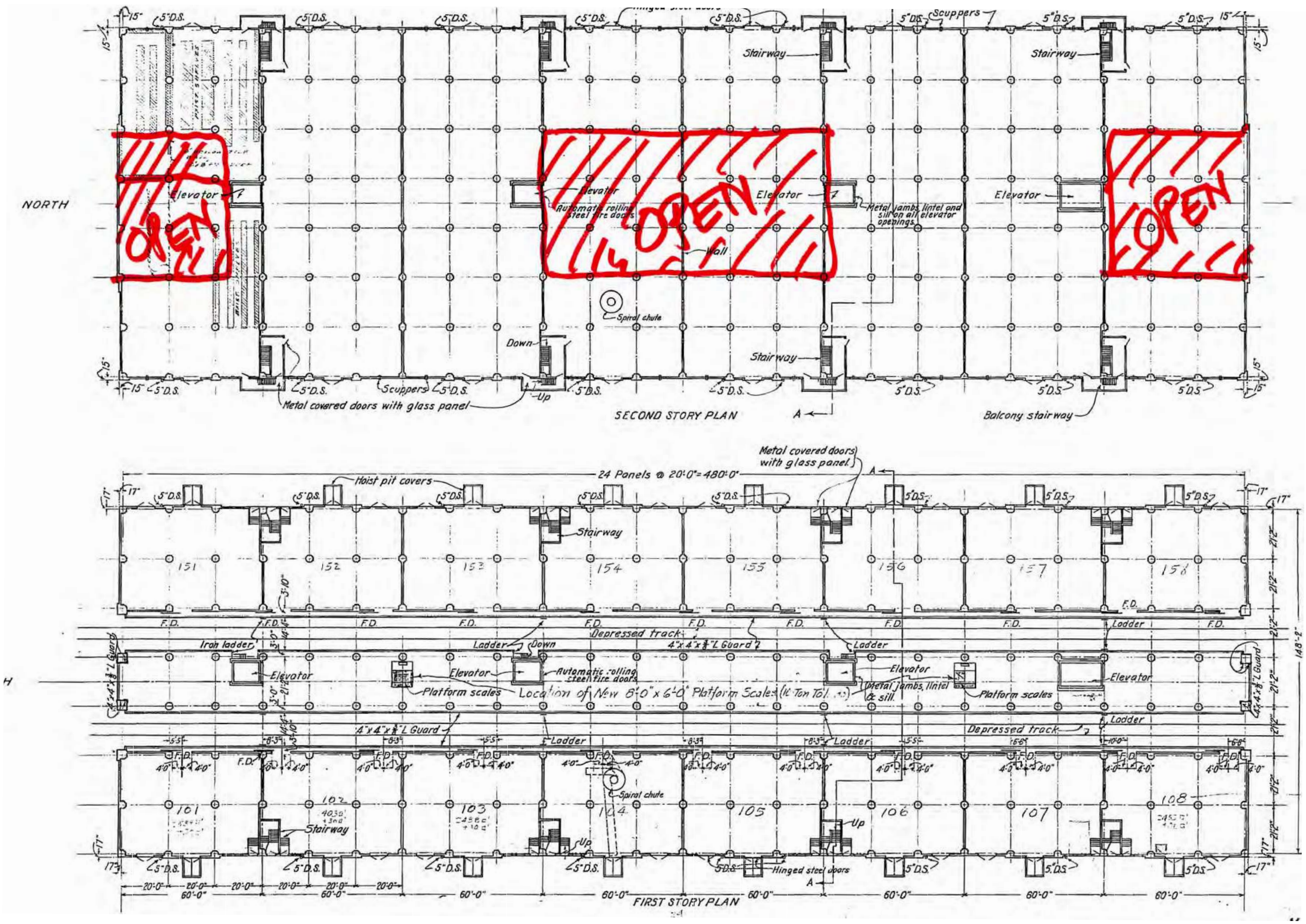


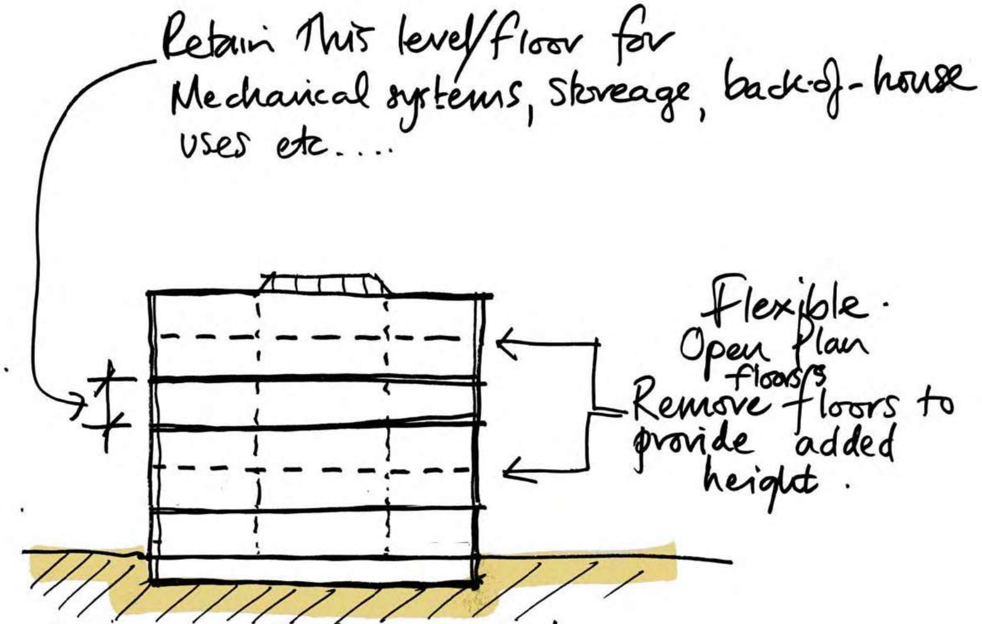
SOUTH ELEVATION

elevations

north

WEST ELEVATION


NORTH
OPEN
OPEN
OPEN
Elevator
Automatic rolling steel fire doors
Wall
Metal jambs, lintel and sill on all elevator openings
Stairway
Scuppers
5" D.S.
15"
Spiral chute
Down
Up
Metal covered doors with glass panel
SECOND STORY PLAN
Balcony stairway
Metal covered doors with glass panel
24 Panels @ 20'-0" = 480'-0"
Hoist pit covers
151
152
153
154
155
156
157
158
F.D.
Depressed track
4"x4"x⅜" L Guard
Iron ladder
Ladder
Platform scales
Location of New 8'-0" x 6'-0" Platform Scales
101
102
103
104
105
106
107
108
Hinged steel doors
60'-0"
20'-0"
148'-2"
FIRST STORY PLAN



Diagramatic Section E-W

Warehouse One - East West Section

June 13, 2007

PRELIMINARY GEOTECHNICAL INVESTIGATION
WAREHOUSE NO. 1 SEISMIC RETROFIT

APPENDIX 4-1 - WAREHOUSE ONE PRELIMINARY GEOTECHINICAL REPORT

A Report Prepared for:

Wilson & Company
200 South Los Robles Avenue, Suite 420
Pasadena, CA 91101

PRELIMINARY GEOTECHNICAL INVESTIGATION
WAREHOUSE NO. 1 SEISMIC RETROFIT
SAN PEDRO, CALIFORNIA

Project No. 2007-005.01

by

Saroj Weeraratne
Geotechnical Engineer 2374

Allen M. Yourman, Jr.
Geotechnical Engineer 925

Diaz•Yourman & Associates
1616 East 17th Street
Santa Ana, CA 92705-8509

June 6, 2007

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1.0 INTRODUCTION

This report summarizes the results of Diaz•Yourman & Associates' (DYA) preliminary geotechnical services for the proposed seismic retrofit of Warehouse No. 1 in the Port of Los Angeles (POLA), California. The work was performed for Wilson & Company, in accordance with an agreement dated April 25, 2007.

Warehouse No. 1 is a 90-year-old, 6-story high reinforced concrete building with a footprint of approximately 80,000 square feet. Warehouse No. 1 is located on Pier 1 in the POLA as shown on the Vicinity Map, Figure 1. The building is located approximately 35 feet north and 150 feet west of existing perimeter rock dikes. The warehouse is considered a historic building and is supported on piles. It is intended to seismically retrofit the building in accordance with U.S. Federal Emergency Management Agency (FEMA; 2000) Manual 356, for historic buildings instead of retrofitting the structure to current building code criteria.

The purpose of DYA's investigation was to provide geotechnical input for the planning of the seismic retrofit. The scope of our services reported herein consisted of reviewing data, performing a limited field investigation, limited laboratory testing, preliminary engineering analyses, and preparing this report.

Prior to final design, a design-level geotechnical investigation should be performed.

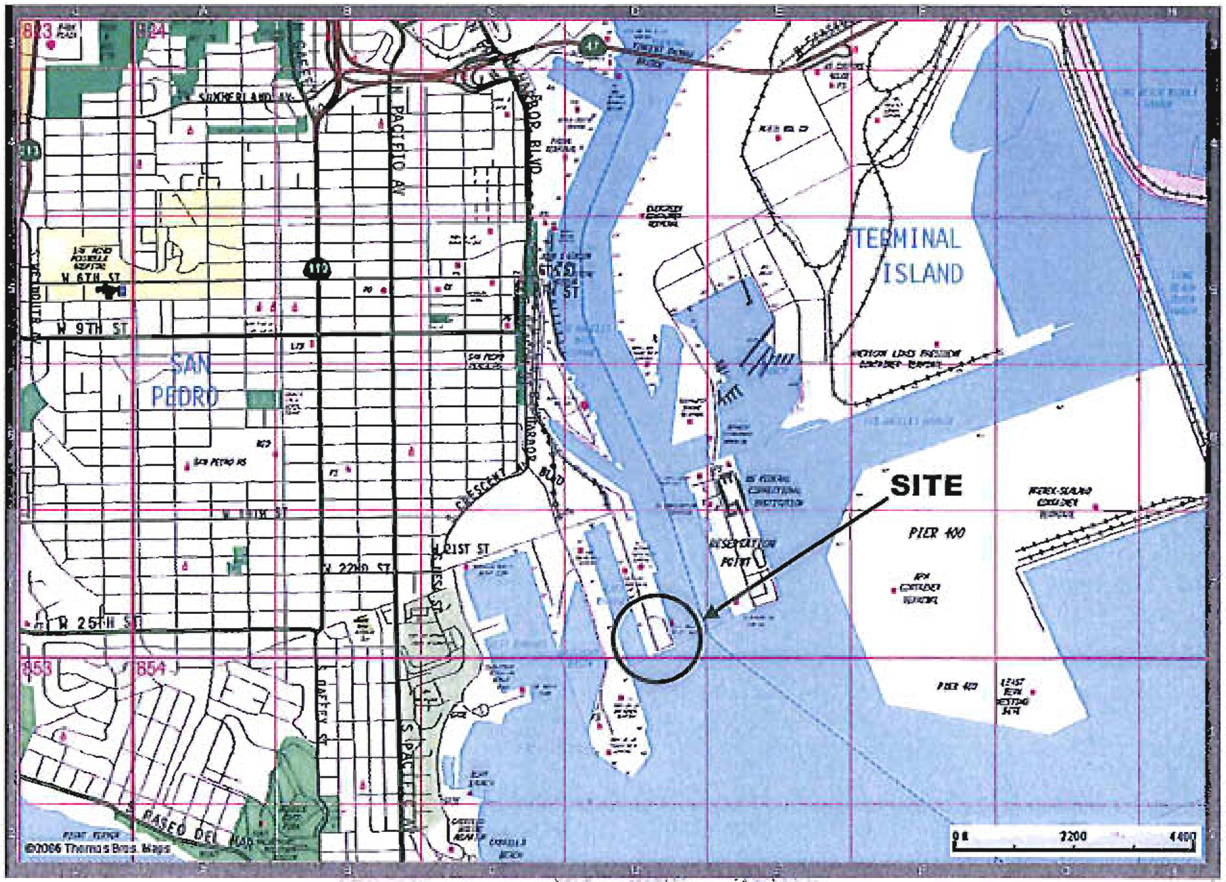


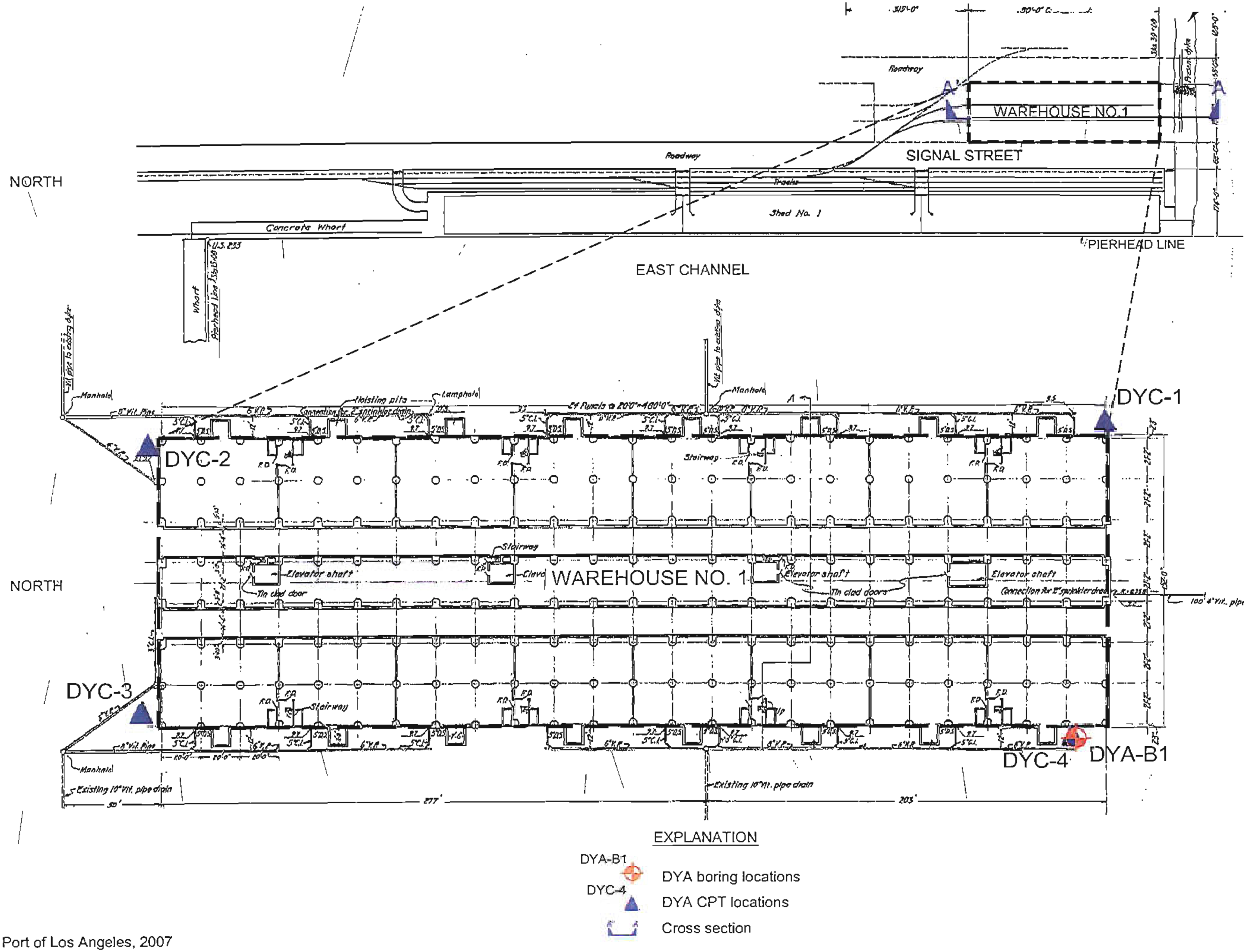
Figure 1 - VICINITY MAP

2.0 DATA REVIEW, FIELD INVESTIGATION, AND LABORATORY TESTING

As-built drawings for the Warehouse No.1 were reviewed (provided by POLA) and are attached in Appendix A. However, no geotechnical reports were available for the site or project vicinity for review at the time of our investigation. Also, no information was available on the construction of Pier 1. A list of the documents reviewed is presented in the bibliography (Section 7.0).

DYA's field investigation for the warehouse building consisted of drilling one boring and performing four cone penetration tests (CPT). The boring and CPT depths were selected to extend to the depth of significant influence of the proposed structure loads and to investigate liquefaction potential. The depths of the boring and CPTs were between approximately 59 and 86.5 feet. The approximate boring and CPT locations are shown on Figure 2. Additional details regarding the field investigation are presented in Appendix B.

DYA's laboratory testing program was developed to evaluate and aid in soil classification and the selection of engineering parameters. DYA selected soil samples to be tested and the tests to be performed on the soil samples. Geotechnical laboratory testing was performed by AP Engineering, Inc., a City of Los Angeles Department of Building and Safety (LADB&S) certified laboratory. We have reviewed and concur with the test results, and accept full responsibility for their use in our analysis. Geotechnical laboratory data are summarized on the boring logs and presented in Appendix C.



by Port of Los Angeles, 2007

3.0 SITE CONDITIONS

3.1 SURFACE CONDITIONS

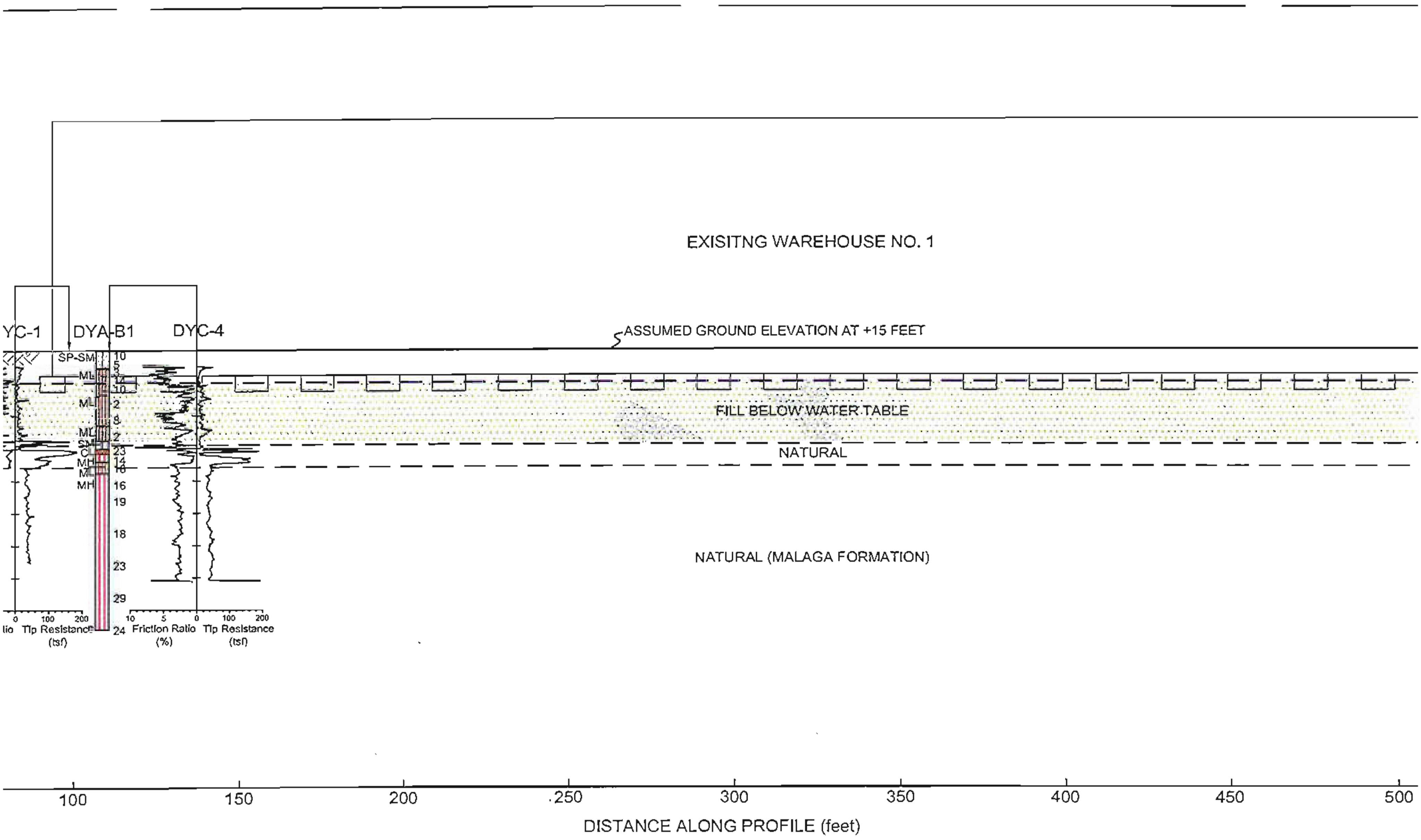
At the time of our field investigation, the area surrounding the warehouse was relatively level with an assumed surface elevation near 15 feet mean lower low water (MLLW) and paved with asphalt concrete (AC). A perimeter rock dike was located approximately 35 feet south of the warehouse. The geometry of the rock dike was not available. Based on our experience with perimeter rock dikes at San Pedro Bay sites and preconstruction bathemetric maps (U.S. Coast and Geodetic Survey, 1907/1908), the geometry of the rock dike was assumed with the sea floor near elevation -16 feet MLLW. Figure 3 presents Cross Section A-A' through the assumed perimeter rock dike and Warehouse No. 1. The location of the Cross Section A-A' is shown on Figure 2. The perimeter rock dike cross section was assumed for our preliminary analysis and was not based on site-specific historical or current data.

Based on the drawings reviewed, Warehouse No. 1 is a reinforced concrete building constructed around 1915 and was supported on numerous piles. However, the pile material type (timber, concrete, or steel), pile size, and pile length are not known. Based on the scale in drawing M.D. No.1 Warehouse No.1 Pile Diagram [see Appendix A]), the piles are circular with a diameter of approximately 16 inches. Also, as noted on drawing, the piles for the outside stairwell (not the building) were noted as 24 feet long. We did not see any notes regarding the length of the foundation piles. However, it is probable that the piles consisted of timber (concrete piles were relatively rare in 1915) and were approximately 28 feet long to tip in the Malaga mudstone. The current condition of the piles is unknown. Because of the age of the piles and their location within a tidal zone, we judge that it is unlikely that the full cross sections of the piles are currently intact. Therefore, for the purposes of this preliminary investigation and to be conservative, the piles were assumed to have deteriorated such that the Warehouse No.1 is supported by the pile caps acting as shallow foundation. At this stage, it is beyond the scope of our services to investigate the size and length of the piles and the integrity of the piles.

3.2 SUBSURFACE CONDITIONS

In general, the subsurface consisted of hydraulic fill overlying natural formational materials, as shown on Figure 3. The hydraulic fill comprised of sands with silts (SP, SM) and very soft to soft non-plastic sandy silts (ML) up to an approximate depth of 28 feet below existing ground surface (bgs). In the hydraulic fill, the CPT tip resistances were less than approximately 30 tons per square foot (tsf); the average standard penetration test (SPT) blow counts ranged from 2 to 14 blows per foot (bpf). Therefore, the fill was considered potentially liquefiable. Because the fill was likely placed using hydraulic methods, the fill will be considered as uncertified by LADB&S. Below the hydraulic fill, harbor bottom natural sediments were approximately 6 feet thick and comprised of inter-bedded layers of silty sand, lean clay, and elastic silt. Below the harbor bottom sediments was firm to very hard weathered Malaga siltstone, as shown on Figure 3.

Groundwater was encountered at depths near elevation 5 feet MLLW during field investigation, approximately 10 feet bgs; the groundwater was tidally influenced.



see Figure 2.
raphic description.
graphic column is based on ASTM D2487 and D2488.
raphic column is an equivalent uncorrected SPT blow count per foot.
oximate and may vary from that shown.
etry is assumed and not based on factual data. The geometry should be verified.
f assumed deterioration.

4.0 GEOLOGIC/SEISMIC HAZARDS AND DESIGN

4.1 GROUND SHAKING

The site, like most of Southern California, will be subject to strong ground shaking during major earthquakes. FEMA 356 refers to several ground shaking levels for Damage Control and Building Performance Levels (i.e., Collapse Prevention Performance Level, Life Safety Performance Level, Immediate Occupancy Performance Level, and Operational Performance Level; FEMA, 356, Chapter 1.4). A ground shaking level corresponding to Life Safety Performance Level having probability of exceedance of 10 percent in 50 years was considered for the preliminary analysis. This ground shaking level is the same as the code level earthquake (CLE) required by California Geological Survey (CGS; formerly California Division of Mines and Geology [CDMG]) Special Publication 117 (CGS, 1997) for buildings. Seismic design can be performed in accordance with the criteria listed in Table 1.

Table 1 **SEISMIC DESIGN CRITERIA**

CHARACTERISTIC	CRITERIA
Alquist-Priolo Special Study Zone Act	Site outside special study zones
California Building Code (CBC) Seismic Zone Factor (z)	0.4
CBC Soil Profile	S_D[1]
CBC Seismic Source Type/Distance (km)	B /< 2 km
CBC Near Source Factors, Na and Nv	1.3 and 1.6
California Seismic Hazards Mapping Act, Liquefaction Zone	Site within liquefaction zone
California Seismic Hazards Mapping Act, Landslide Zone	Site outside landslide zone
Peak Ground Acceleration,[2] g	0.52

Notes:

1 The site is classified as S_F. However, after ground improvement site can be characterized as S_D in accordance with CBC.

2 Earth Mechanics, Inc. (2007), 10 percent probability of exceedance in 50 years.

The site-specific design ARS curve recommended in Port-Wide ground motion study report (EMI, 2006) can be used for the seismic design of the warehouse structure. The acceleration response spectrum is presented in Table 2 and on Figure 4. The ARS curve corresponds to a firm ground condition assuming ground improvement at the site.

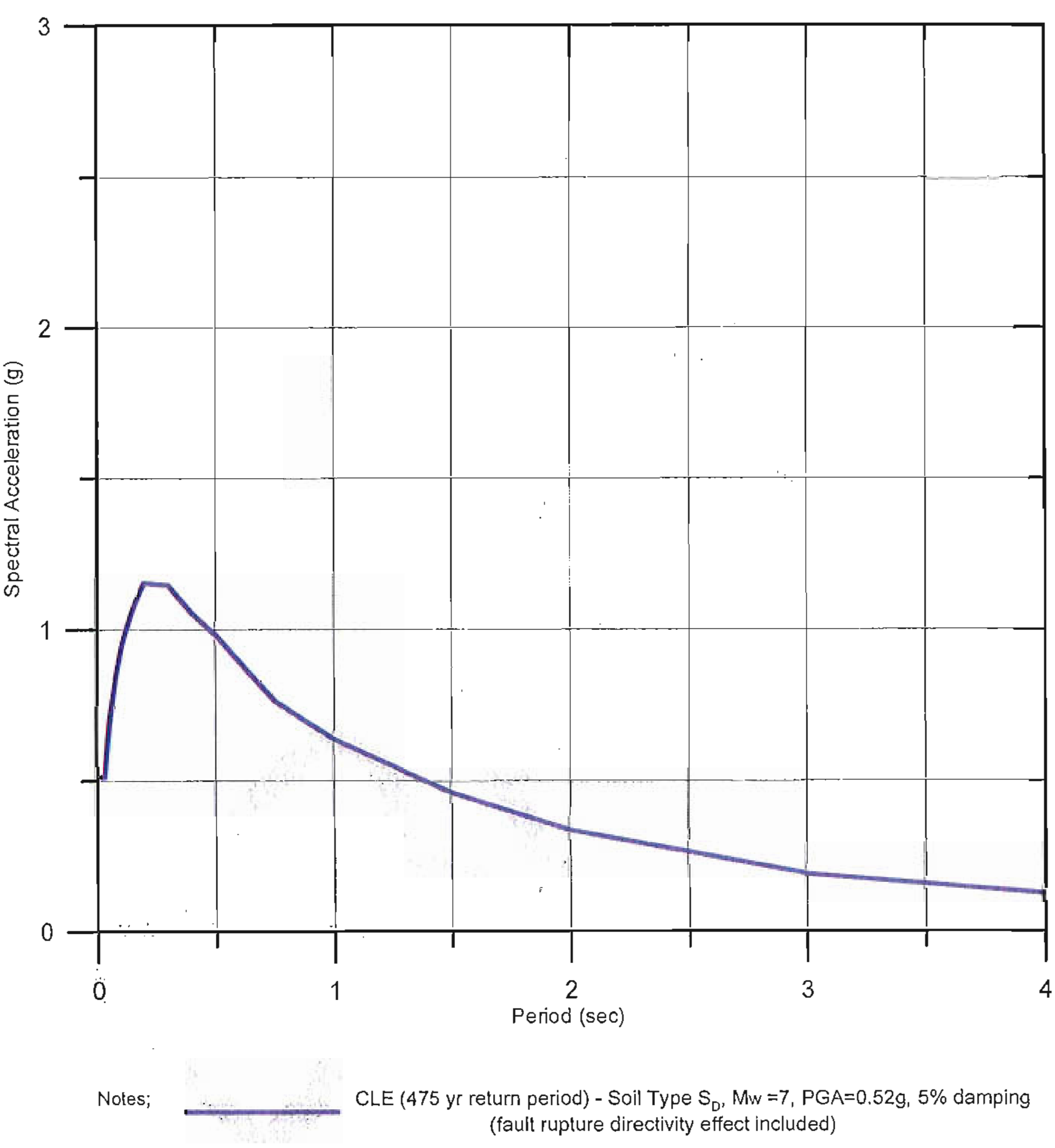
Table 2 - ACCELERATION SPECTRUM COORDINATES (ARS)

T (sec)	SPECTRAL ACCELERATION (g)
0.01	0.512
0.02	0.512
0.03	0.512
0.05	0.690
0.075	0.831
0.1	0.931
0.12	0.990
0.15	1.061
0.17	1.101
0.2	1.154
0.24	1.151
0.3	1.147
0.4	1.055
0.5	0.983
0.75	0.763
1.0	0.637
1.5	0.462
2.0	0.338
3.0	0.194
4.0	0.128

4.2 LIQUEFACTION

The potential for soil liquefaction at the site was initially evaluated using procedures suggested by Seed et al. (2003) that summarized recent advances in the liquefaction engineering topics based on a recent database. This approach meets the requirements of CGS Special Publication 117 (1997) and provides a more rigorous evaluation than the procedures outlined in the Southern California Earthquake Center (1999) guidelines. The critical SPT N-values and CPT tip resistances below which soil liquefaction is likely to occur were calculated for the CLE. Based on the analyses, loose to medium-dense sands and silts below the groundwater will liquefy during or after the design earthquake. However, the Malaga formation materials were assumed to not be liquefiable because of their age and fabric. Our analysis indicates that the site may experience approximately 4 inches of liquefaction induced settlements under the CLE event. Liquefaction induced differential settlement of 3 inches should be assumed. The differential settlement should be assumed to act on adjacent foundations (pile caps) located approximately 30 feet apart.

2007-00... ...calcs/ARScurves.grf



Notes; CLE (475 yr return period) - Soil Type S_D, Mw =7, PGA=0.52g, 5% damping (fault rupture directivity effect included)

Figure 4 - ACCELERATION RESPONSE SPECTRUM (ARS)

The consequences of liquefaction will likely consist of settlement and differential settlement, and possible lateral movement near the southern perimeter rock dike slope. The lateral spreading could be greater than 2 feet and could extend to beneath the warehouse. Other potential manifestations of liquefaction include random lateral displacement, ground cracking, fissure openings, and sand boiling. Liquefaction mitigation is discussed in Section 5.2 and Section 5.3..

5.0 DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

For this preliminary investigation, the existing piles were assumed to have deteriorated to the point where the existing piles effectively do not exist. Therefore, the primary geotechnical considerations for the seismic retrofit of the warehouse building are the relatively loose sands and silts below the groundwater level that are potentially liquefiable from seismic shaking. Unless mitigated, liquefaction will cause settlement and differential settlement of the building and lateral deformation. Thus, ground improvement and/or structural retrofit to reduce the effects of liquefaction are required. To help mitigate the effects of liquefaction, we judge that a compaction grouting program under and surrounding the warehouse is the preferred retrofit scheme. If a future investigation can prove that the existing piles are intact, then the liquefaction induced effects would be reduced; however, some liquefaction mitigation may still be required. An additional geotechnical investigation should be performed to evaluate the piles, the effects of liquefaction, and determine the perimeter dike geometry to provide design -level recommendations.

5.1 SLOPE STABILITY

The stability of perimeter rock dike slope was evaluated for static, pseudo-static, and CLE conditions using the computer program GSTABL7 (Gregory Geotechnical Software, 2003). The simplified Janbu method was used to calculate the slope stability factor of safety (FS) for both circular and irregular (block) failure modes. Cross Section A-A' (Figure 3) for the perimeter rock dike was analyzed. The slope stability analysis was performed assuming the existing piles do not exist and an assumed rock dike geometry. The calculated FS for the assumed existing slope for static conditions was greater than 1.5. However, under the pseudo-static (0.15g) and CLE event **(0.52g) conditions,** the calculated FS were less than 1, indicating the rock dike may experience **lateral movement b**ecause of earthquake shaking.

A preliminary Newmark type deformation analysis was performed as part of the slope stability analysis. The slope deformations were estimated to be of the order of several feet under pseudo static and CLE earthquake conditions. The critical failure surface extended under the warehouse. To mitigate the effects of the adjacent slope, ground improvement to reduce liquefaction or a deep foundation system is required. The deep foundation system could consist of providing evidence that the existing piles are intact or a new foundation system. These options are discussed in Section 5.3 and Section 5.4.

5.2 BUILDING FOUNDATIONS

The warehouse was assumed to be supported on shallow foundations (existing pile caps) approximately 5 feet deep and approximately 10-foot square. Bearing capacity analysis indicates the pile caps have a static allowable bearing capacity of 12,500 pounds per square foot (psf) with a factor of safety (FS) of at least 3 against shear failure. Because of the uncertified fill, the LADB&S limits the lateral resistance to an equivalent fluid pressure of 100 pounds per cubic foot (pcf) along the grade beams and other foundation elements to resist lateral loads.

The building was constructed in the early 1900s and was used as a warehouse until the mid-1960s. We understand the building has not been used in its full capacity since then. We also do not anticipate any increase in the building loads in future. Therefore, no further static settlements are anticipated under the building loads.

During ground shaking, the shallow foundations (pile caps) will be subject to potential bearing failures (FS less than 1) and vertical movements. Therefore, a seismic retrofit program should be implemented as described in Section 5.3.

5.3 GROUND IMPROVEMENT/FOUNDATION ALTERNATIVES

The warehouse will probably require seismic geotechnical retrofitting of the shallow foundation (pile caps) and floor slab systems if the warehouse is subject to the FEMA 356 Rehabilitation Guidelines and/or if required by LADB&S. The retrofit will likely include mitigating the seismic settlement and potential lateral spreading.

The ground improvement/foundation alternatives considered include: compaction piles, compaction grouting, deep soil mixing, jet grouting, vibro systems, and mini piles. Table 3 lists the advantages and disadvantages of the various ground improvement alternatives considered for this project. Based on the site conditions, and the locations of the proposed structure, we judge that compaction grouting would be the most appropriate ground improvement/foundation alternative. The ground improvement/foundation alternatives are listed in general order of geotechnical preference with the preferred alternative listed first.

Table 3 - GROUND IMPROVEMENT/FOUNDATION ALTERNATIVES

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
Compaction Grouting	Effective in the liquefiable layers. Suitable in vibration sensitive areas. Least expensive.	Does not improve drainage characteristics. Limited approval by LADB&S.
Mini Piles	Structural elements added for firm support.	Limited resistance to lateral loads. LADB&S does not allow for vertical support in uncertified fill. Not approved by LADB&S. Limited number of specialty contractors.
Jet Grouting	Effective in the liquefiable layers. Suitable in vibration sensitive areas.	Does not improve drainage characteristics. Not approval by LADB&S. Significant spoils generated. More expensive than compaction grouting. Requires specialty contractor.
Deep Soil Mixing	Effective in the liquefiable layers. Suitable in vibration sensitive areas.	Very difficult inside the warehouse. Not approval by LADB&S. Requires specialty contractor.
Stone Columns, Rammed Aggregate Piers Vibratory Systems		Not feasible because of potential damage to the existing structure.

For preliminary design, assume that the compaction grouting columns will be spaced approximately five feet apart and extend to natural soils, approximately 25 to 30 feet deep. The compaction grouting pattern should extend 10 feet outside the building footprint except for the southern boundary where the compaction grouting should extend approximately 25 feet outside the building footprint. We estimate that the construction cost will be approximately $1,500 per compaction grout column.

5.4 FURTHER INVESTIGATION

The ground improvement/foundation seismic mitigation program can be minimized if a field investigation program is performed to evaluate the integrity of the piles and confirms that the piles are intact. Also, the geometry of the southern perimeter rock dike should be determined, either based on review of drawings (if they can be located) or by a field investigation. If the findings of the additional field investigation prove that the piles are intact, then the liquefaction induced settlements would not likely affect the proposed foundation system. Confirmation of the extent and geometry of the southern perimeter rock dike could reduce the estimated lateral spreading and affects on Warehouse No. 1. Therefore, the design-level geotechnical investigation should include the following:

- The geometry of the rock dike should be verified using drawings and/or field investigation.
- Additional borings and/or CPTs, including inside the building, to evaluate the ground conditions inside the building.
- A field investigation program to verify the whether the piles are intact and if intact, the size, length, and type of the piles.
- If piles are intact, analyze the affects of liquefaction on the piles including the effect of the adjacent perimeter rock dike lateral deformation.

6.0 LIMITATIONS

This report has been prepared for this project in accordance with generally accepted geotechnical engineering practices common to the local area. No other warranty, expressed or implied, is made.

The analyses and recommendations contained in this report are based on the literature review, field investigation, and laboratory testing conducted in the area. The results of the field investigation indicate subsurface conditions only at the specific locations and times, and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between such locations. Although subsurface conditions have been explored as part of the investigation, we have not conducted chemical laboratory testing on samples collected or evaluated the site with respect to the presence or potential presence of contaminated soil or groundwater conditions.

The validity of our recommendations is based in part on assumptions about the stratigraphy. Observations during construction can help confirm such assumptions. If subsurface conditions different from those described are noted during construction, recommendations in this report must be reevaluated. DYA should be retained to observe earthwork construction in order to help confirm that our assumptions and recommendations are valid or to modify them accordingly. In accordance with LADB&S and CBC Appendix Chapter 33 Section 3317, DYA cannot assume responsibility or liability for the adequacy of recommendations if we do not observe construction.

This report is intended for use only for the project described. In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by DYA. We are not responsible for any claims, damage, or liability associated with the interpretation of subsurface data or reuse of the subsurface data or engineering analyses without our express written authorization.

Further, the City of Los Angeles Building Code required the Geotechnical Engineer of Record to observe ground improvement.

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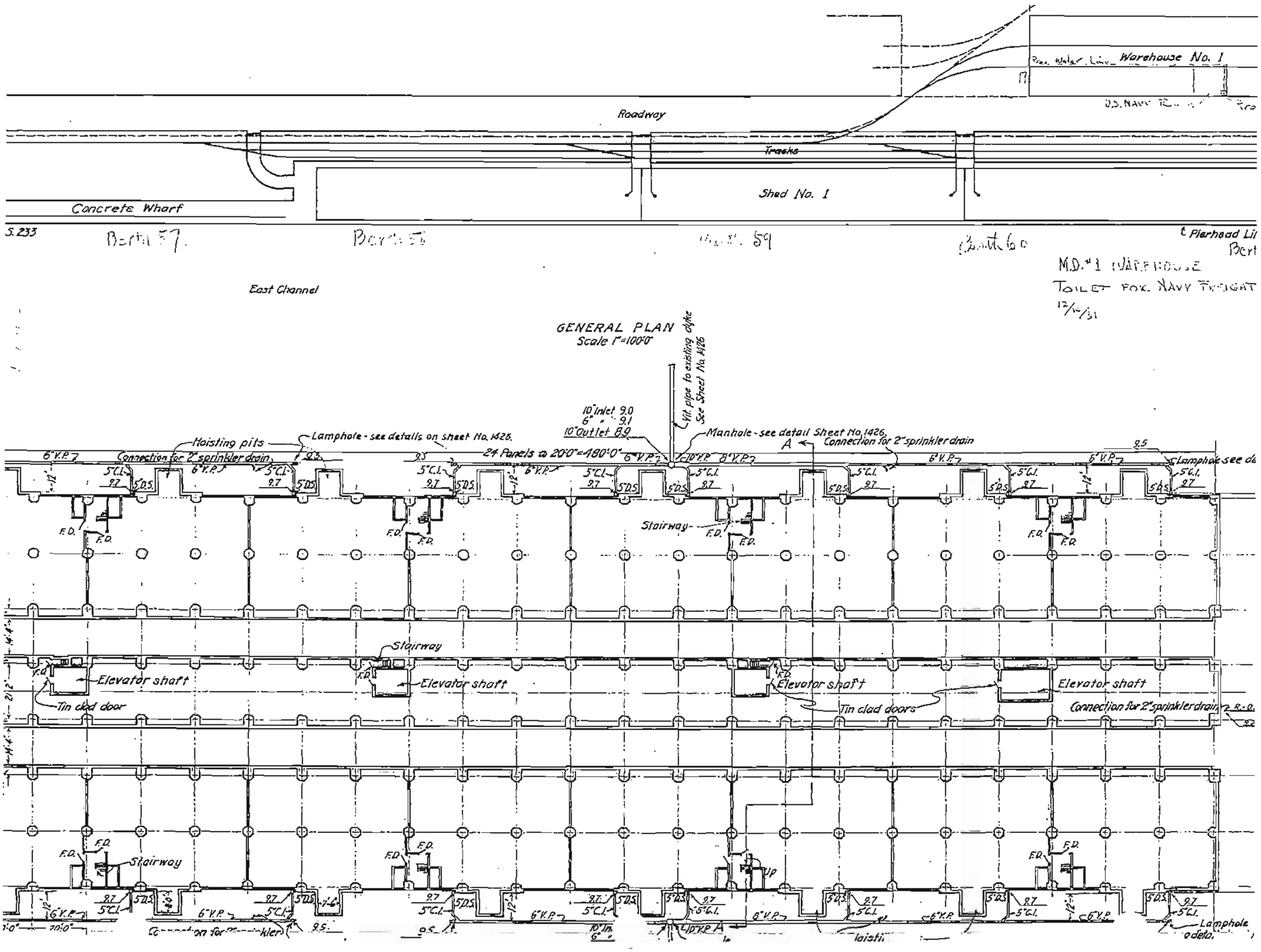
APPENDIX A

PROJECT DATA

APPENDIX A - PROJECT DATA

This appendix contains the as-built drawings related to warehouse building. These drawings were provided by POLA.



GENERAL PLAN
Scale 1"=100'0"

M.D. #1 WAREHOUSE
TOILET FOR NAVY FREIGHT
12/14/31

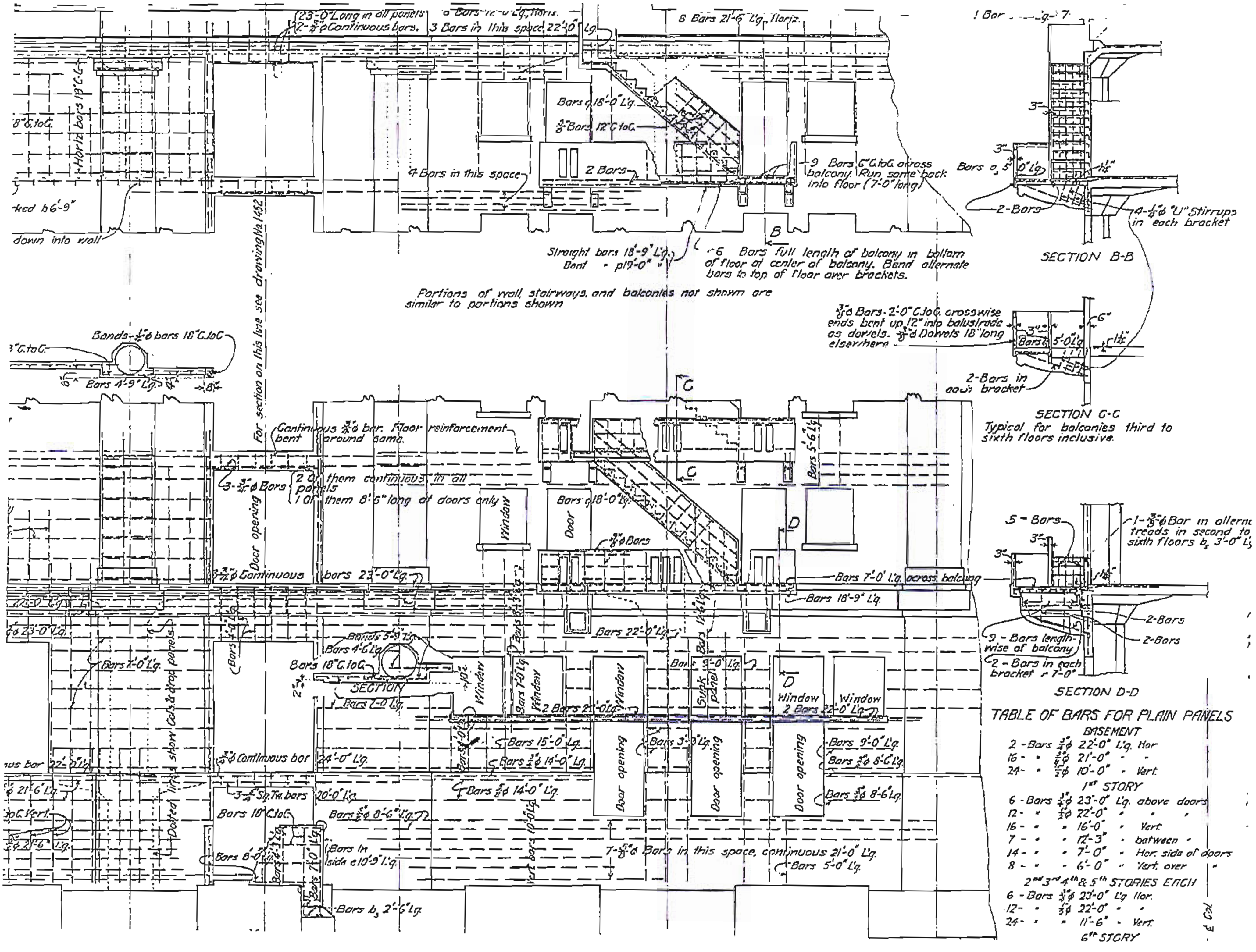


TABLE OF BARS FOR PLAIN PANELS

BASEMENT

2 -Bars ¾"φ 22'-0" L'g. Hor
16 - " ⅝"φ 21'-0" " "
24 - " ½"φ 10'-0" " Vert.

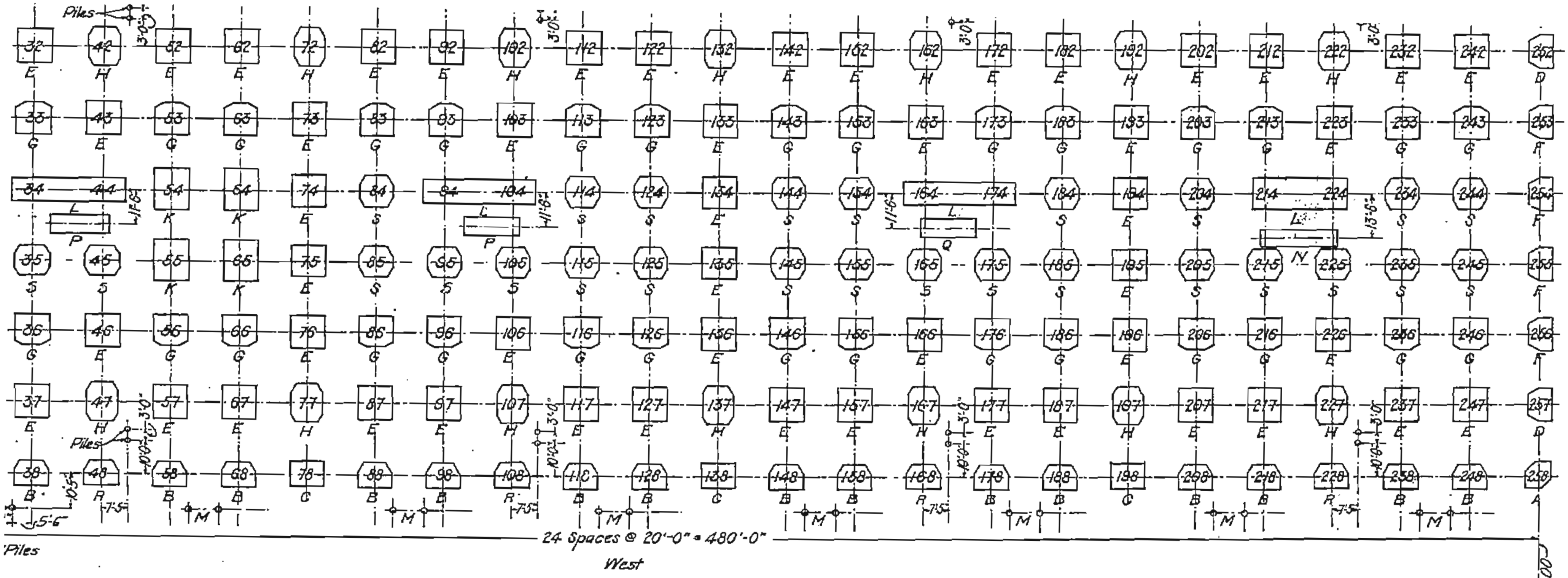
1st STORY

6 - Bars ¾"φ 23'-0" L'g. above doors
12 - " ½"φ 22'-0" " " "
16 - " " 16'-0" " Vert.
7 - " " 12'-3" " between "
14 - " " 7'-0" " Hor. side of doors
8 - " " 6'-0" " Vert. over "

2nd 3rd 4th & 5th STORIES EACH

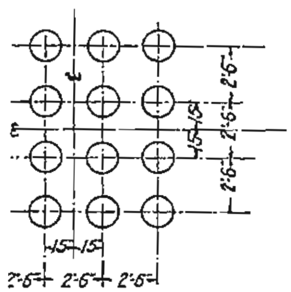
6 - Bars ¾"φ 23'-0" L'g Hor.
12 - " ½"φ 22'-0" " "
24 - " " 11'-6" " Vert.

6th STORY



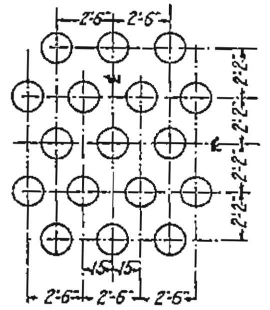
FOUNDATION PLAN

Scale 1" = 20'-0"



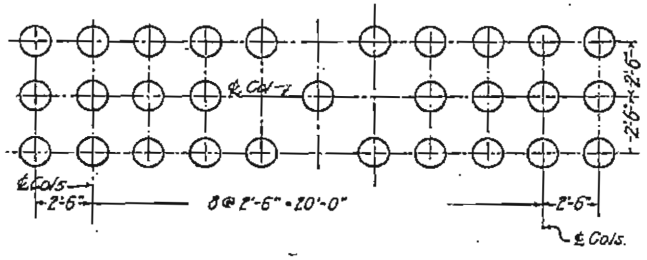
FOR 52 FOOTINGS-E

Scale 1/4" = 1'-0"



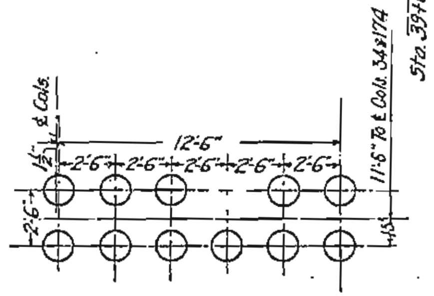
PILES FOR 14 FOOTINGS-H

Scale 1/4" = 1'-0"



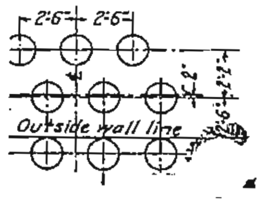
PILES FOR 4 COMBINED FOOTINGS-L

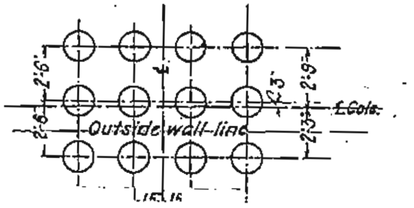
Scale: 1/4" = 1'-0"

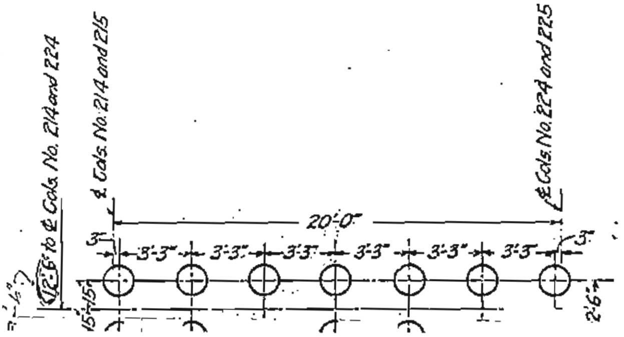


PILES FOR 1 FOOTING-Q
PILES FOR 2 FOOTINGS-P OPPOSITE

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







APPENDIX B

FIELD INVESTIGATION

APPENDIX B - FIELD INVESTIGATION

The field investigation for the proposed project consisted of drilling one boring (DYA-B1) and performing four cone penetration tests (CPTs; DYC-1 through DYC-4). The depths of the boring and CPTs were between approximately 59 and 86.5 feet. The approximate boring and CPT locations are shown on Figure 2.

Boring B-1 was drilled by Gregg Drilling on June 5, 2007, with a truck-mounted Versa Drill (V-100) drill rig using rotary wash drilling techniques. Our field engineer observed the drilling operations and collected drive samples for visual examination and subsequent laboratory testing. Drive samples were collected with a 2.4-inch-inside-diameter (3.0-inch-outside-diameter) modified California split-barrel sample lined with brass tubes and a standard split-spoon penetrometer with dimensions in accordance with ASTM 3550 and 1586, respectively. Both samplers were driven with a 140-pound hammer falling 30 inches. An automatic trip device was used to lift the hammer. The blows required to drive the modified California sampler were converted to equivalent standard penetration test (SPT) N-values by multiplying by 0.65 (N = 0.65 x modified California blows per foot). Field unconfined compression strengths were obtained using a pocket penetrometer.

Soils encountered in the borings were classified in general accordance with the ASTM Soil Classification System (ASTM D2487 and 2488), which is summarized on Plate B1. The boring log is presented on Plates B2 through B4 and was prepared from visual examination of the samples, cuttings obtained during drilling operations, and results of laboratory tests.

The boring was backfilled with soil bentonite cement grout.

The CPTs were advanced by Gregg InSitu May 5, 2007, with a truck-mounted rig. The CPT was advanced in general accordance with ASTM D 5778 using an electronic cone penetrometer. The results of the CPT are contained in this appendix.

The boring and CPT locations were identified in the field by measuring from known locations using a measuring wheel and using a hand-held differential global positioning system (gps) unit with an estimated 6-foot horizontal accuracy.

SOIL CLASSIFICATION SYSTEM-ASTM D2487

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE-GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)	▨	GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
			▨	GP	POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	▨	GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
			▨	GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)	▨	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			▨	SP	POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	▨	SM	SILTY SANDS, SAND - SILT MIXTURES
			▨	SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE-GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	▨	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			▨	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			▨	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	▨	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			▨	CH	INORGANIC CLAYS OF HIGH PLASTICITY
			▨	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			▨	PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

■	"Push" Sampler
⧗	Split Barrel "Drive" Sampler With Liner
☒	Standard Penetration Test (SPT) Sampler
▯	Bag Sample
▨	Concrete/Rock Core
▽	Groundwater Surface

NP = Nonplastic
EI = Expansion Index Test
SG = Specific Gravity
SE = Sand Equivalent
UC = Unconfined Comp.
CD = Consol. Drained Triaxial.
CU = Consol. Undrained Triaxial.
UU = Undrained, Unconsol. Triaxial.
RV = R-Value
CA = Chemical Analysis
DS = Direct Shear
CN = Consolidation
CP = Collapse Potential
SA = Grain size; HD = Hydrometer
MD = Compaction Test
CBR = California Bearing Ratio
[PID] Reading in ppm above background

SPT "N" = Uncorrected equivalent blow count for last foot of driving (set to 100 for driving refusal)
= 0.65 x modified California blows per foot

KEY TO LOG OF BORINGS

Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE
B1

Template: DYLG1-2006; Prj ... 2007-005.01.GPJ

BORING LOCATION:	See Figure 2	**ELEVATION AND DATUM (feet):**	15 MSL
LATITUDE:	33° 43' 13.5" N	**LONGITUDE:**	118° 16' 20.1" W
DRILLING EQUIPMENT:	Versa Drill V-100	**DRILLING METHOD:**	Rotary Wash
BORING DIAMETER (inches):	5	**BORING DEPTH (feet):**	86.5
DATE STARTED:	5/4/07	**DATE COMPLETED:**	5/4/07
SPT HAMMER DROP: 30 inches **WT:** 140 lbs		**DRIVE HAMMER DROP:** 30 inches **WT:** 140 lbs	
LOGGED BY: NWO	**CHECKED BY:** TK	**DRIVE SAMPLER DIAMETER (inches)**	**ID:** 2.4 **OD:** 3

Elevation (feet)	Depth (feet)	Sampler	Symbol	Blows per 6 Inches	SPT N Blows per Foot	Field Unc. Comp. Str. (tsf)	DESCRIPTION	Dry Density (pcf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Percent Passing #200 Sieve	Other Tests [PID]
							ASPHALT CONCRETE (AC): 6 inches						
				5 8 7	10		POORLY GRADED SAND with SILT (SP-SM): light yellowish brown, moist, loose to medium dense, fine- to coarse-grained sand, little sea shell fragments	90	4				CA
				4 6 2	5		loose, fine- to medium-grained sand	92	22				
10	5			2 3 2	3		very loose					5	SA DS
							SANDY SILT (ML): dark brown, moist, soft, nonplastic, trace sea shell fragments, micaceous ∇	90	29	NP	NP		
				0 12 2	14		wet, firm						
5	10			2 7 8	10			67	59			57	SA CN
0	15			1 1 1	2		SILT with SAND (ML): dark olive brown, wet, very soft to soft, nonplastic, fine-grained sand, trace sea shell fragments, trace micaceous						
-5	20			3 5 7	8		firm	60	70	NP	NP	74	SA DS
							SANDY SILT (ML): dark olive brown, wet, very soft to soft, low plasticity, fine-grained sand, trace clayey material, trace micaceous						
-10	25			2 1 1	2								
							SILTY SAND (SM): dark gray, wet, medium dense, fine-grained sand, micaceous						DS CN

LOG OF BORING DYA-B1

Page 1 of 3
Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE

B2

Template: DYLG1-2006; Prj ID: 2007-005.01.GPJ

Elevation (feet)	Depth (feet)	Sampler	Symbol	Blows per 6 Inches	SPT N Blows per Foot	Field Unc. Comp. Str. (tsf)	DESCRIPTION	Dry Density (pcf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Percent Passing #200 Sieve	Other Tests [PID]
				50 18 17	23		LEAN CLAY (CL): dark olive brown, wet, hard, medium plasticity, trace sea shell fragments, trace mica	97 96	27 25	NP	NP	16	SA
				8 10 11	14	3	ELASTIC SILT (MH): dark greenish gray, wet, firm, high plasticity, trace micaceous	61	58	69	19	100	
-20	35			7 8 10	18		SILT with SAND (ML): dark olive brown, wet, hard, low plasticity, fine-grained sand, trace micaceous						
							ELASTIC SILT (MH): dark greenish gray, wet, hard, high plasticity, micaceous - MALAGA FORMATION						
-25	40			6 10 14	16	3.5	dark olive brown, trace micaceous	56	67	66	19	100	
-30	45			6 9 10	19	4	dark greenish gray, trace clayey material, trace micaceous						
-35	50												
-40	55			6 12 16	18	4		59	58	68	21	100	
-45	60												
-50	65			7 11 12	23	4							

LOG OF BORING DYA-B1

Page 2 of 3
Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE
B3

Elevation (feet)	Depth (feet)	Sampler	Symbol	Blows per 6 Inches	SPT N Blows per Foot	Field Unc. Comp. Str. (tsf)	DESCRIPTION	Dry Density (pcf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Percent Passing #200 Sieve	Other Tests [PID]
-60	75	⧗	▥	11 20 25	29	>4.5		63	54	64	20	100	
-65	80		▥										
-70	85	☒	▥	7 11 13	24	4	olive brown						
							Bottom of boring at 86.5 feet. Groundwater encountered at 7 feet. Boring backfilled with cement slurry and grout mix. Surface patched with cold set asphalt.						
-75	90												
-80	95												
-85	100												
-90	105												

LOG OF BORING DYA-B1

Page 3 of 3
Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE
B4

GREGG

GREGG IN SITU, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

May 7, 2007

Diaz Yourman & Associates
Attn: Nils Orliczky
1616 E. 17th St.
Santa Ana, California 92705

Subject: CPT Site Investigation
POLA Warehouse 1
Los Angeles, California
GREGG Project Number: 07-080SH

Dear Mr. Orliczky:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☐
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Resistivity Cone Penetration Tests	(RCPTU)	☐
5	UVIF Cone Penetration Tests	(UVIFCPTU)	☐
6	Groundwater Sampling	(GWS)	☐
7	Soil Sampling	(SS)	☐
8	Vapor Sampling	(VS)	☐
9	Vane Shear Testing	(VST)	☐
10	SPT Energy Calibration	(SPTE)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG Drilling & Testing, Inc.

Peter Robertson
Technical Operations

GREGG

GREGG IN SITU, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (Feet)	Depth of Groundwater Samples (Feet)	Depth of Soil Samples (Feet)	Depth of Pore Pressure Dissipation Tests (Feet)
CPT-01	5/04/07	65	-	-	-
CPT-02	5/04/07	59	-	-	-
CPT-03	5/04/07	67	-	-	-
CPT-04	5/04/07	71	-	-	-

GREGG

Cone Penetration Testing Procedure (CPT)

Gregg Drilling & Testing, Inc. carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*. The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm^2 and a friction sleeve area of 225 cm^2. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and penetration pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous hydrogeologic log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2002) ASTM standards (D 5778-95).

The cone also contains a porous filter element located directly behind the cone tip (u_2), *Figure CPT.* It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain penetration pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with silicon oil under vacuum pressure to ensure accurate and fast dissipation.

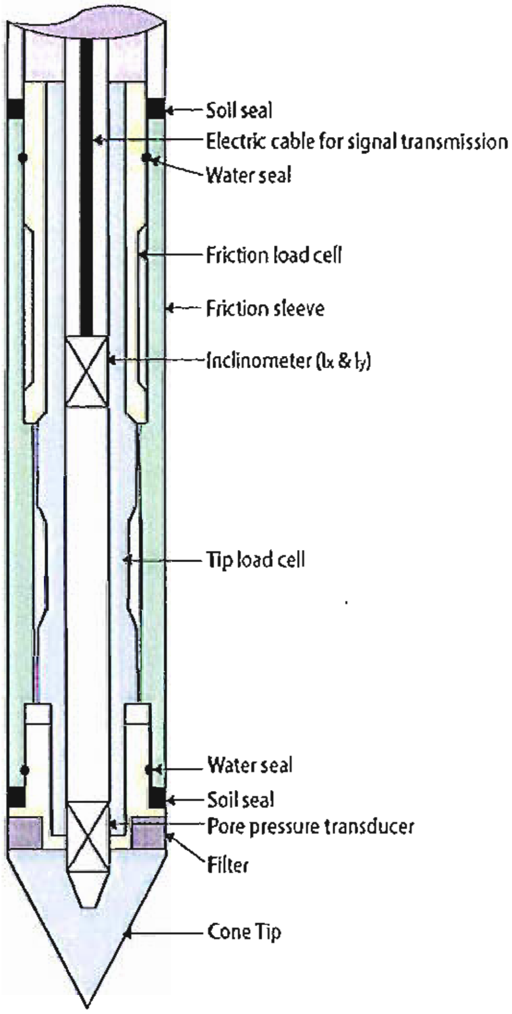


Figure CPT

When the soundings are complete, the test holes are grouted using a Gregg In Situ support rig. The grouting procedures generally consist of pushing a hollow CPT rod with a "knock out" plug to the termination depth of the test hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

Cone Penetration Test Data & Interpretation

Soil behavior type and stratigraphic interpretation is based on relationships between cone bearing (q_c), sleeve friction (f_s), and pore water pressure (u_2). The friction ratio (R_f) is a calculated parameter defined by $100f_s/q_c$ and is used to infer soil behavior type. Generally:

Cohesive soils (clays)

- High friction ratio (R_f) due to small cone bearing (q_c)
- Generate large excess pore water pressures (u_2)

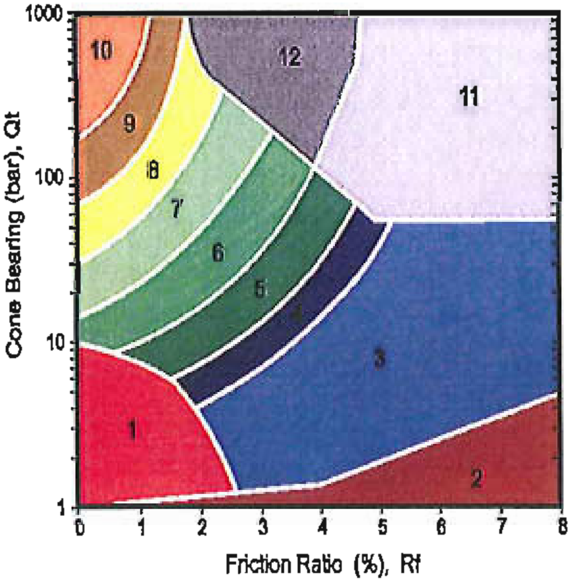
Cohesionless soils (sands)

- Low friction ratio (R_f) due to large cone bearing (q_c)
- Generate very little excess pore water pressures (u_2)

A complete set of baseline readings are taken prior to and at the completion of each sounding to determine temperature shifts and any zero load offsets. Corrections for temperature shifts and zero load offsets can be extremely important, especially when the recorded loads are relatively small. In sandy soils, however, these corrections are generally negligible.

The cone penetration test data collected from your site is presented in graphical form in Appendix CPT. The data includes CPT logs of measured soil parameters, computer calculations of interpreted soil behavior types (SBT), and additional geotechnical parameters. A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Soil interpretation for this project was conducted using recent correlations developed by Robertson et al, 1990, *Figure SBT*. Note that it is not always possible to clearly identify a soil type based solely on q_c, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type.



ZONE	Qt/N	SBT	
1	2	🟥	Sensitive, fine grained
2	1	🟫	Organic materials
3	1	🟦	Clay
4	1.5	🟦	Silty clay to clay
5	2	🟩	Clayey silt to silty clay
6	2.5	🟩	Sandy silt to clayey silt
7	3	🟩	Silty sand to sandy silt
8	4	🟨	Sand to silty sand
9	5	🟨	Sand
10	6	🟧	Gravely sand to sand
11	1	⬜	Very stiff fine grained*
12	2	⬜	Sand to clayey sand*

*over consolidated or cemented

Figure SBT

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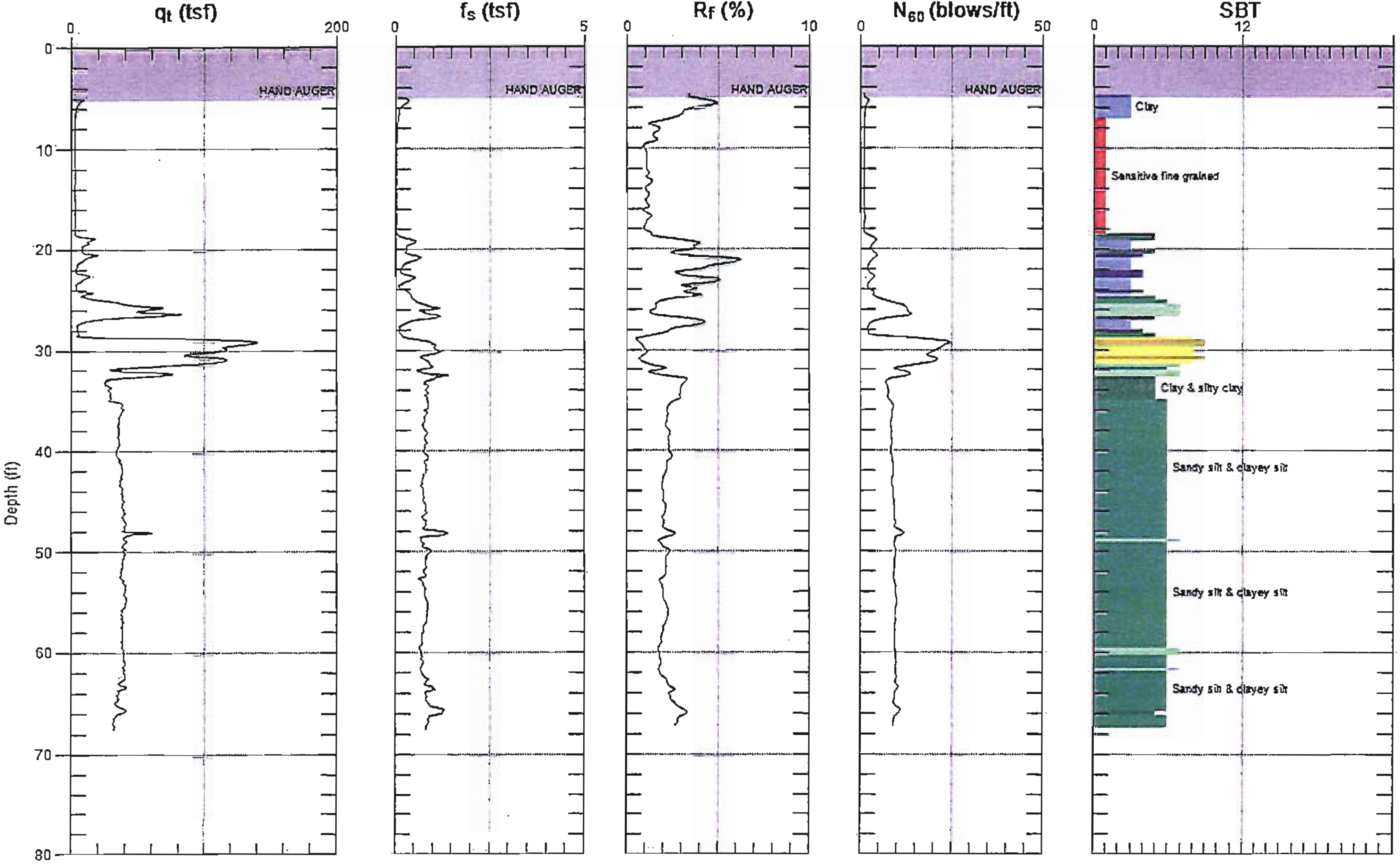
Copies of ASTM Standards are available through www.astm.org

GREGG

DIAZ YOURMAN

Site: POLA WAREHOUSE 1
Sounding: CPT-03

Engineer: N.ORLICZKY
Date: 5/4/2007 11:29



Max. Depth: 67.585 (ft)
Avg. Interval: 0.328 (ft)

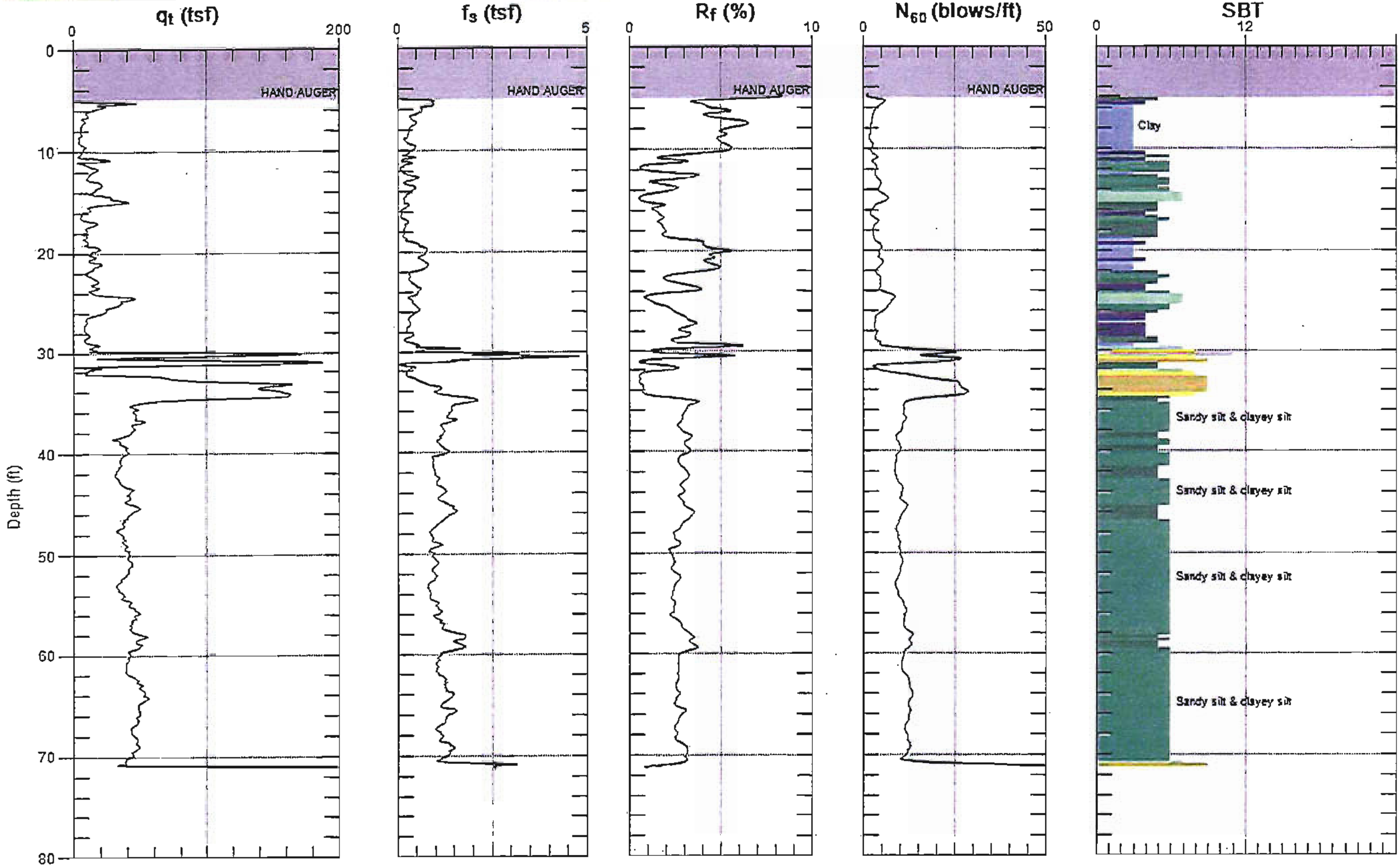
SBT: Soil Behavior Type (Robertson 1990)

GREGG

DIAZ YOURMAN

Site: POLA WAREHOUSE 1
Sounding: CPT-04

Engineer: N.ORLICZKY
Date: 5/4/2007 08:52



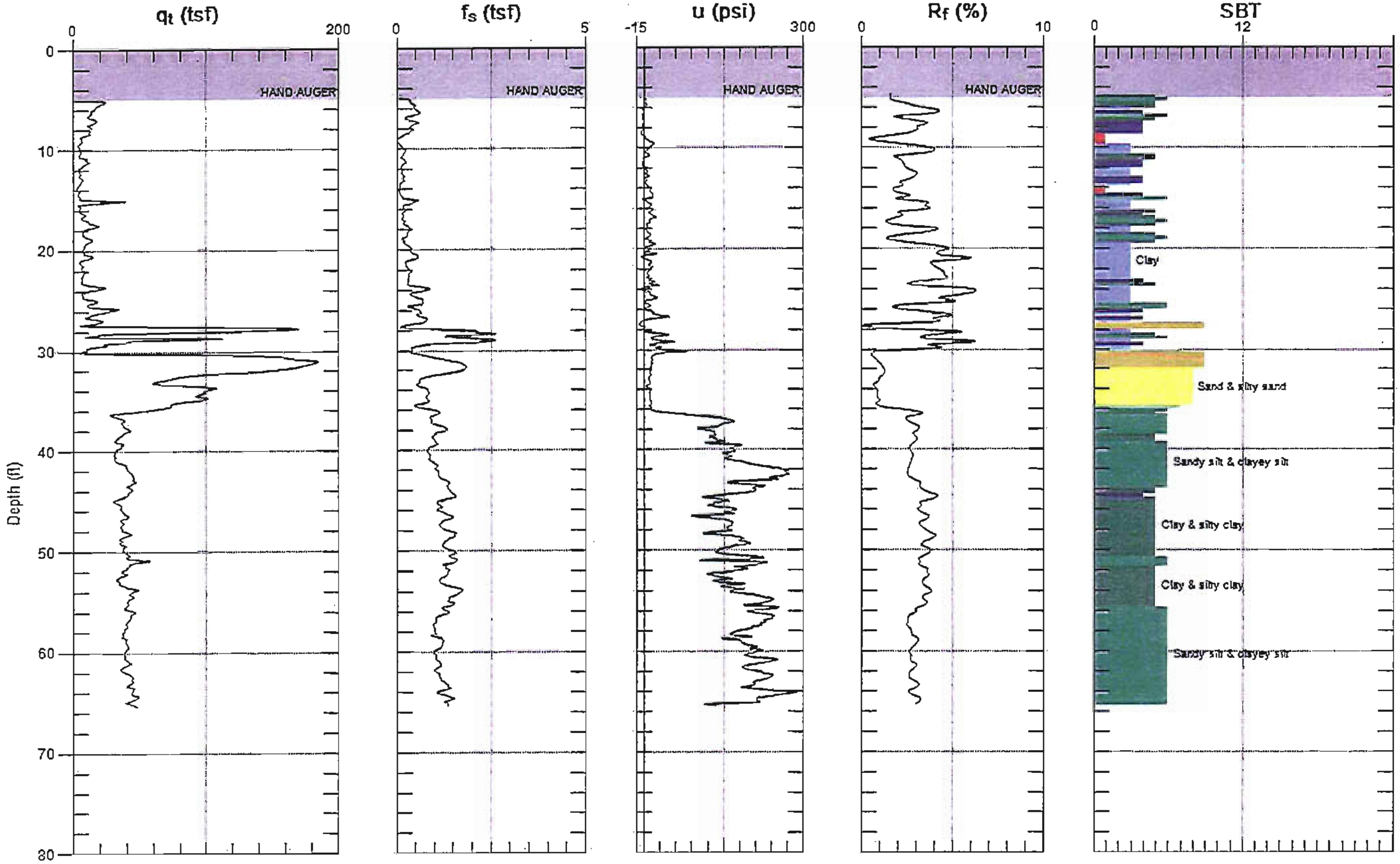
Max. Depth: 71.358 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG **DIAZ YOURMAN**

Site: POLA WAREHOUSE 1
Sounding: CPT-01

Engineer: N.ORLICZKY
Date: 5/4/2007 12:56



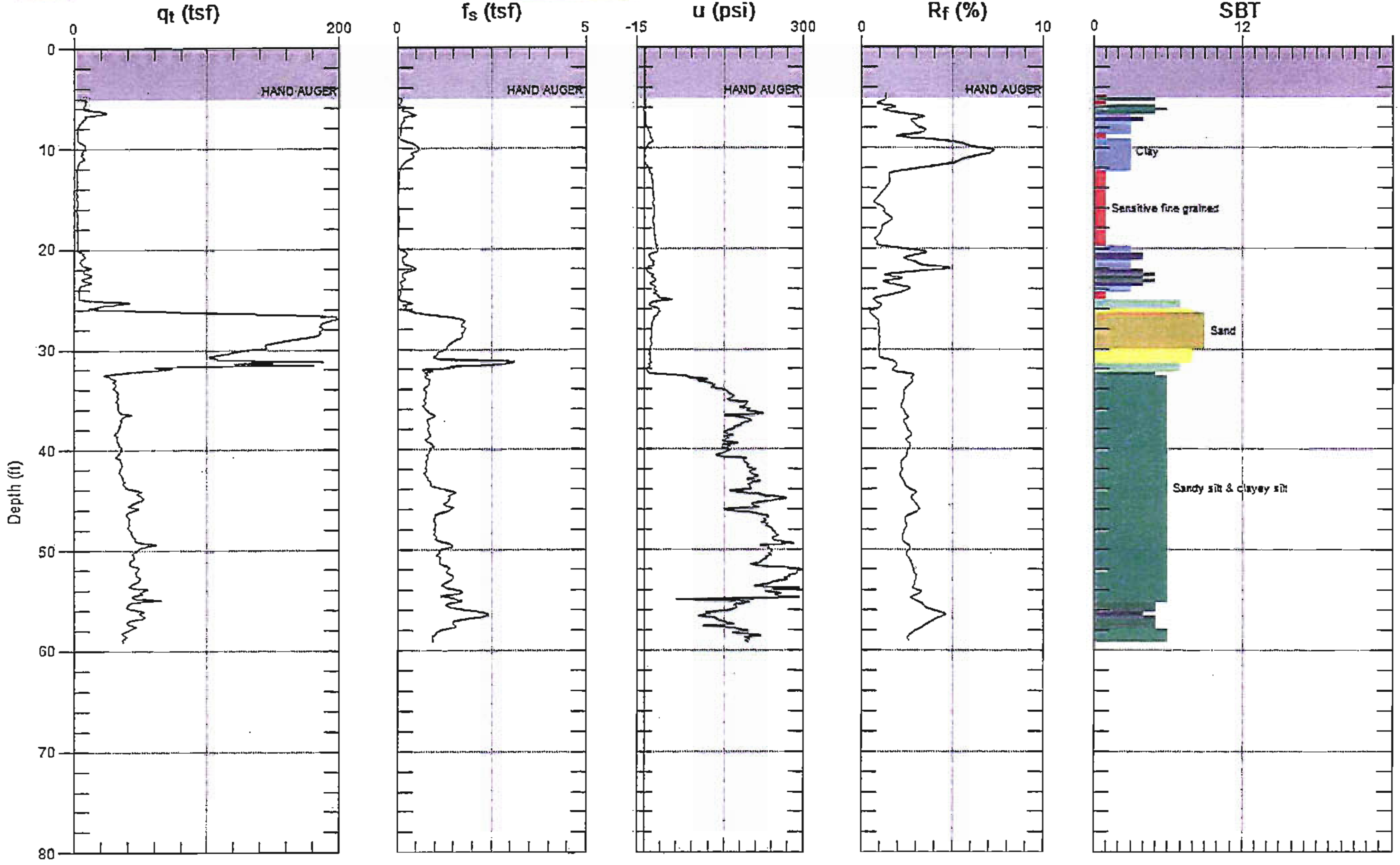
Max. Depth: 65.453 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG **DIAZ YOURMAN**

Site: POLA WAREHOUSE 1
Sounding: CPT-02

Engineer: N.ORLICZKY
Date: 5/4/2007 10:42



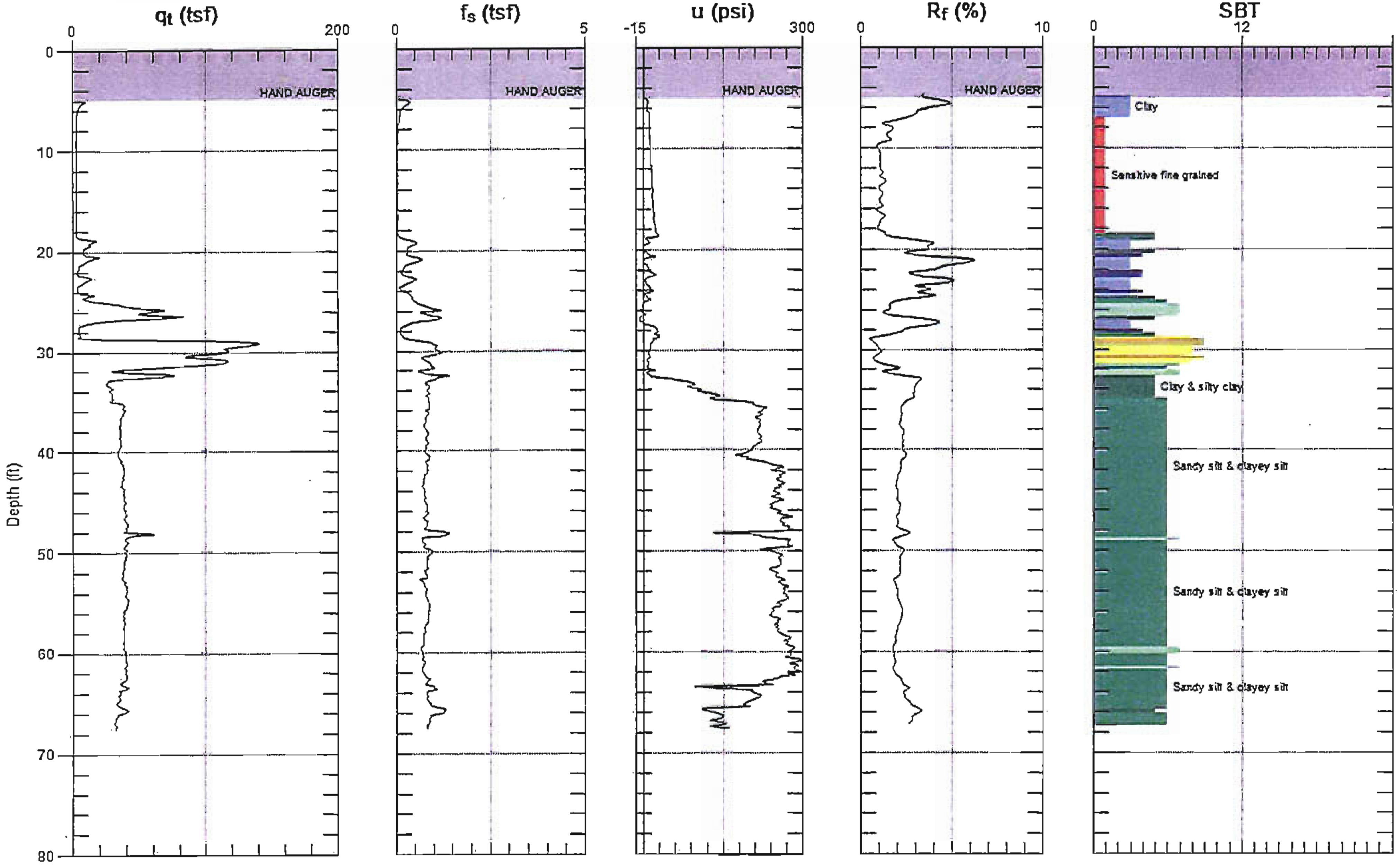
Max. Depth: 59.219 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG **DIAZ YOURMAN**

Site: POLA WAREHOUSE 1
Sounding: CPT-03

Engineer: N.ORLICZKY
Date: 5/4/2007 11:29



Max. Depth: 67.585 (ft)
Avg. Interval: 0.328 (ft)

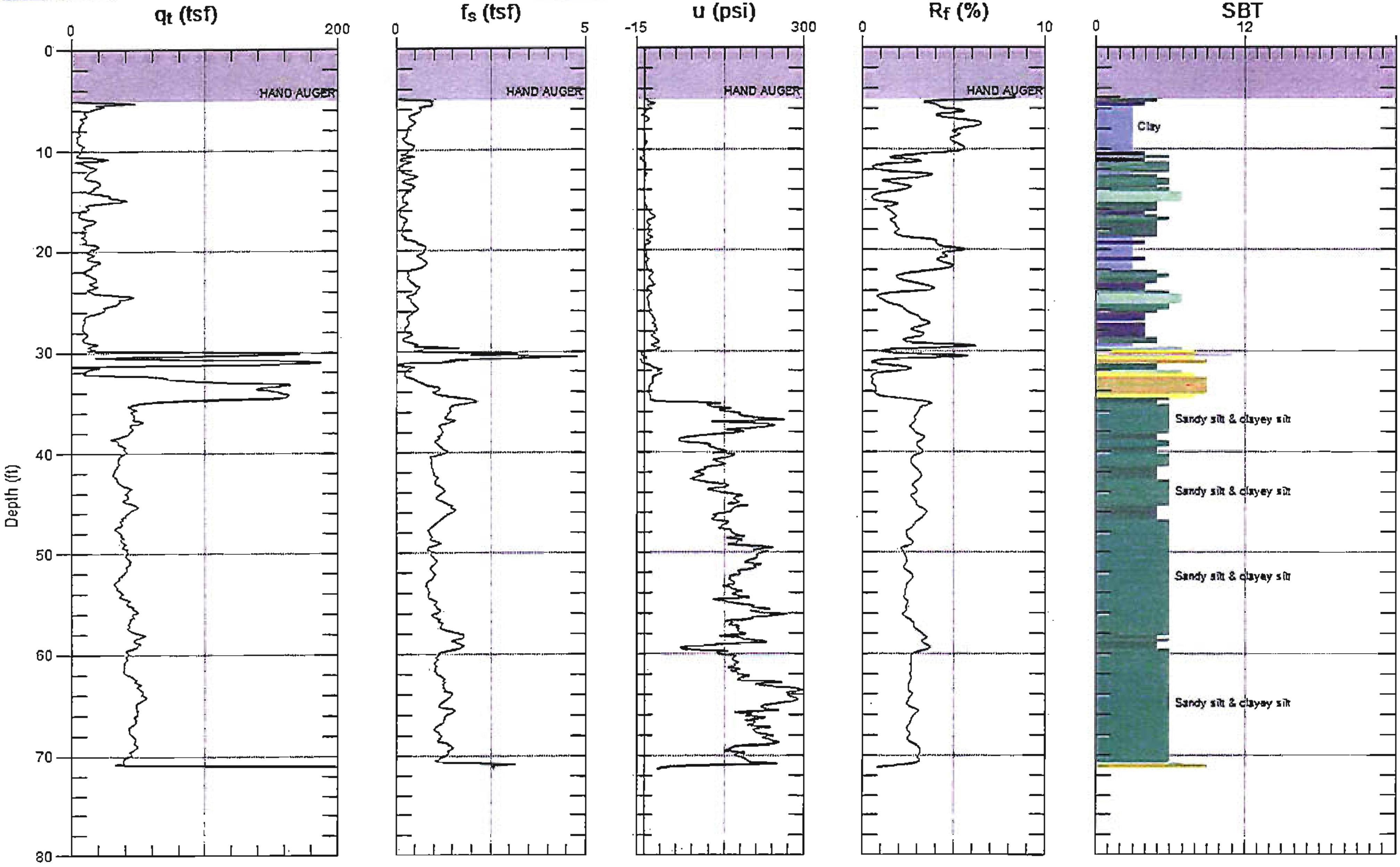
SBT: Soil Behavior Type (Robertson 1990)

IREGG

DIAZ YOURMAN

Site: POLA WAREHOUSE 1
Sounding: CPT-04

Engineer: N.ORLICZKY
Date: 5/4/2007 08:52



Max. Depth: 71.358 (ft)
Avg. Interval: 0.328 (ft)

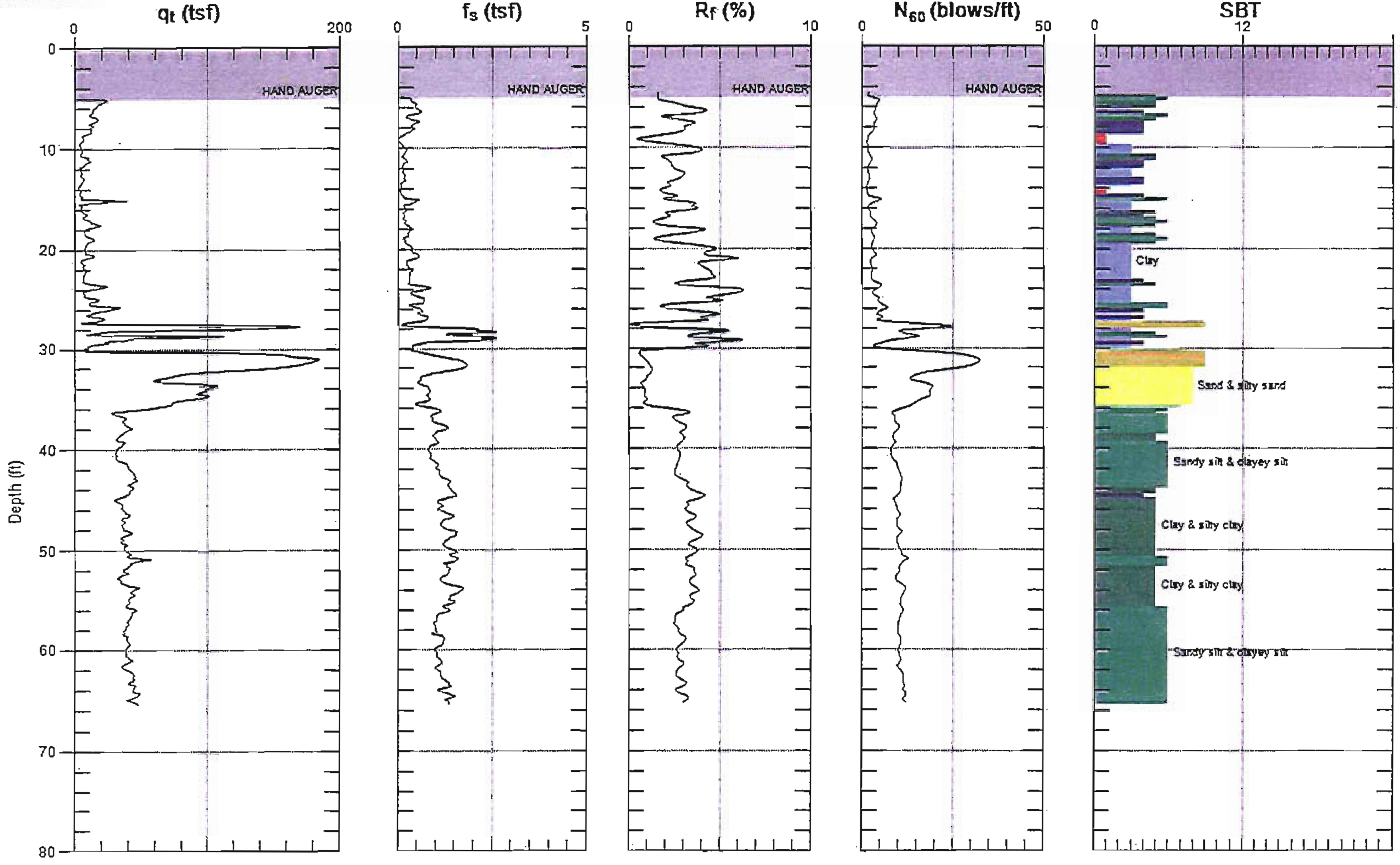
SBT: Soil Behavior Type (Robertson 1990)

GREGG

DIAZ YOURMAN

Site: POLA WAREHOUSE 1
Sounding: CPT-01

Engineer: N.ORLICZKY
Date: 5/4/2007 12:56



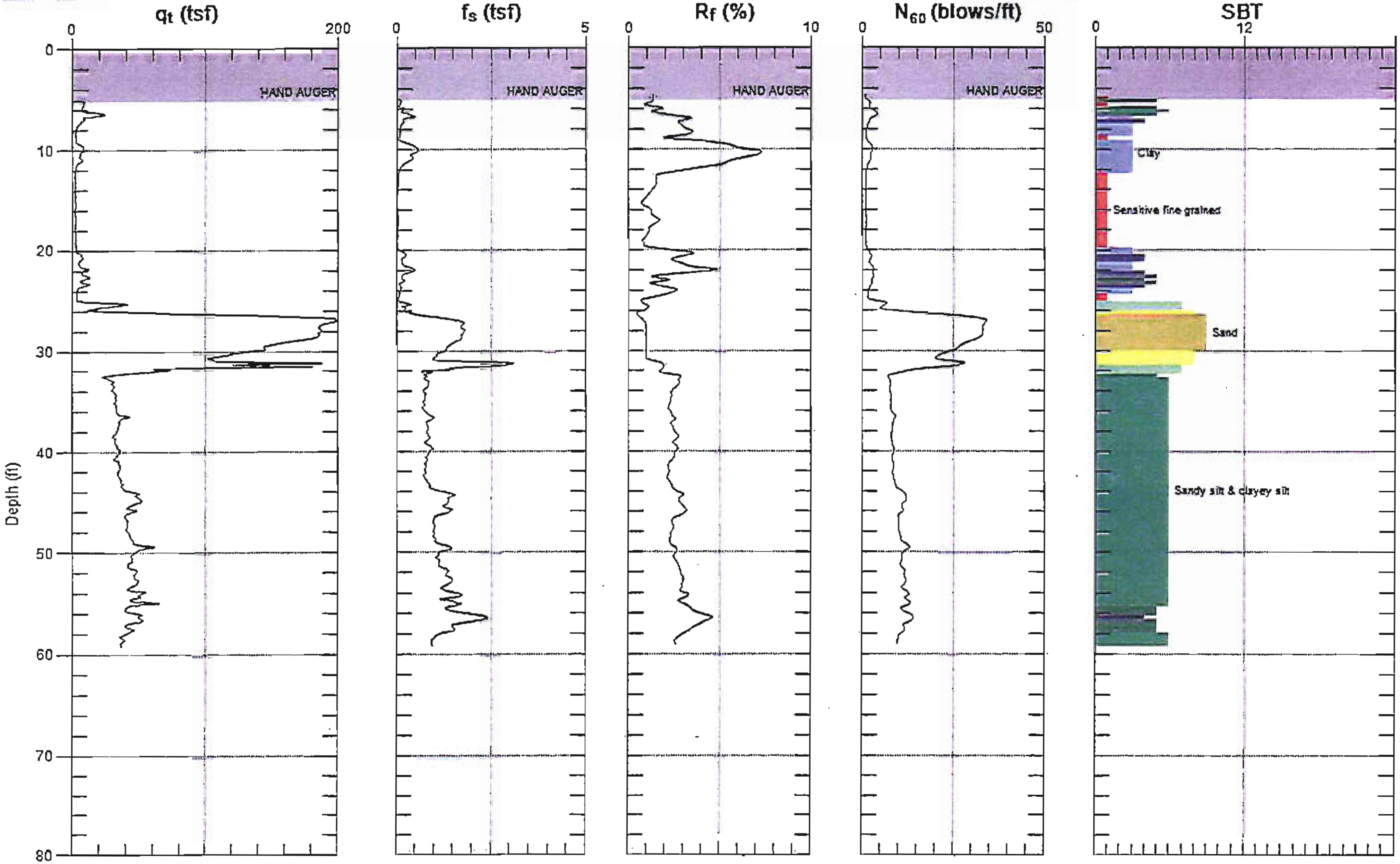
Max. Depth: 65.453 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG **DIAZ YOURMAN**

Site: POLA WAREHOUSE 1
Sounding: CPT-02

Engineer: N.ORLICZKY
Date: 5/4/2007 10:42



Max. Depth: 59.219 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

APPENDIX C
LABORATORY TESTING

APPENDIX C - LABORATORY TESTING

Diaz•Yourman & Associates (DYA) selected the soil samples to be tested and the tests to be performed on the selected samples. Laboratory testing was performed by AP Engineering, Inc., a City of Los Angeles certified testing laboratory. Laboratory data are summarized on the boring logs in Appendix B and presented on Plates C1 through C10. DYA has reviewed and concurs with the test results listed in Table C1 and accepts full responsibility for their use in our analysis. A summary of the geotechnical laboratory testing is presented in Table C2.

Table C1 - LABORATORY TESTING SUMMARY

TEST NAME	PROCEDURE	PURPOSE	LOCATION
Percent Passing the No. 200 Sieve	ASTM D1140-92	Classification, index properties	Boring Logs
Moisture Content, Dry Density	ASTM D2216-92	Classification, index properties	Boring Logs
Grain-Size Distribution	ASTM D422-63	Classification, index properties	Plate C1
Atterberg Limits	ASTM D-4318-93	Expansion potential, classification, index properties	Plate C2
Consolidation	ASTM D2435-90	Settlement	Plates C3 and C4
Direct Shear	ASTM D3080-90	Shear strength	Plates C5 through C10
pH	CTM 532	Corrosion potential	Table C2
Resistivity	CTM 532	Corrosion potential	Table C2
Soluble Sulfates	CTM 417-B	Corrosion potential	Table C2
Soluble Chlorides	CTM 422	Corrosion potential	Table C2

Notes:

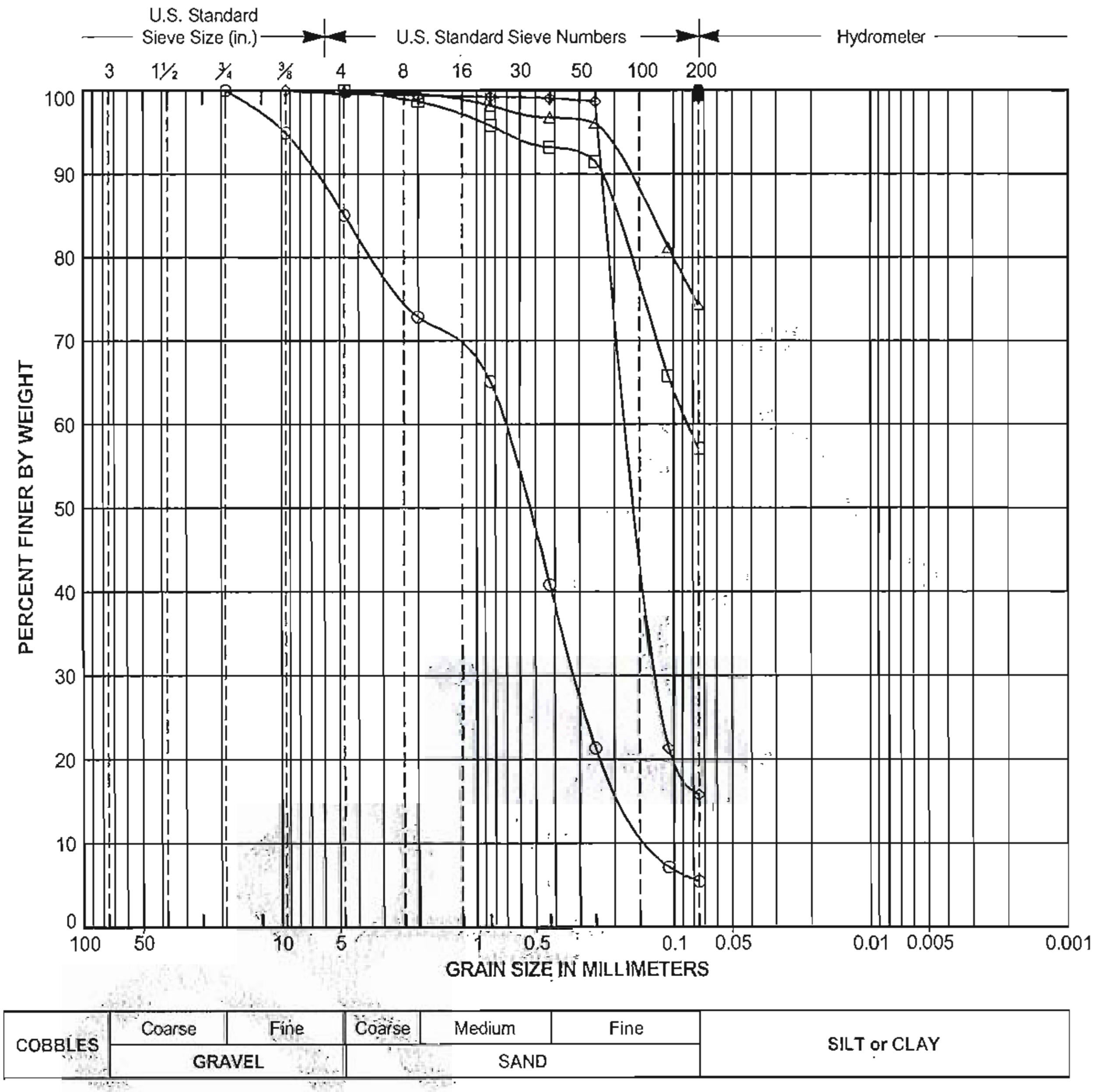
- ASTM = American Society for Testing and Materials
- CTM = Caltrans Test Method

Table C2 - CORROSION POTENTIAL TEST RESULTS

Boring No.	B-1
Depth (feet)	0 to 5
pH	10.2
Water Soluble Sulfate Content (ppm)	17
Water Soluble Chloride Content (ppm)	132
Minimum Resistivity (ohms-cm)	3,600

Note:

- ppm = parts per million



Laboratory Testing by: AP Engineering and Testing, Inc.

Symbol	Source	Depth (feet)	Classification	Natural M. C. (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
⊙	DYA-B1	4.7	POORLY GRADED SAND WITH SILT (SP-SM)				5
□	DYA-B1	10.0	SANDY SILT (ML)	59			57
△	DYA-B1	20.0	SILT WITH SAND (ML)	70	NP	NP	74
◇	DYA-B1	30.0	SILTY SAND (SM)	27	NP	NP	16
●	DYA-B1	33.0	ELASTIC SILT (MH)	58	69	19	100
■	DYA-B1	40.0	ELASTIC SILT (MH)	67	66	19	100
▲	DYA-B1	55.0	ELASTIC SILT (MH)	58	68	21	100
◆	DYA-B1	75.0	ELASTIC SILT (MH)	54	64	20	100

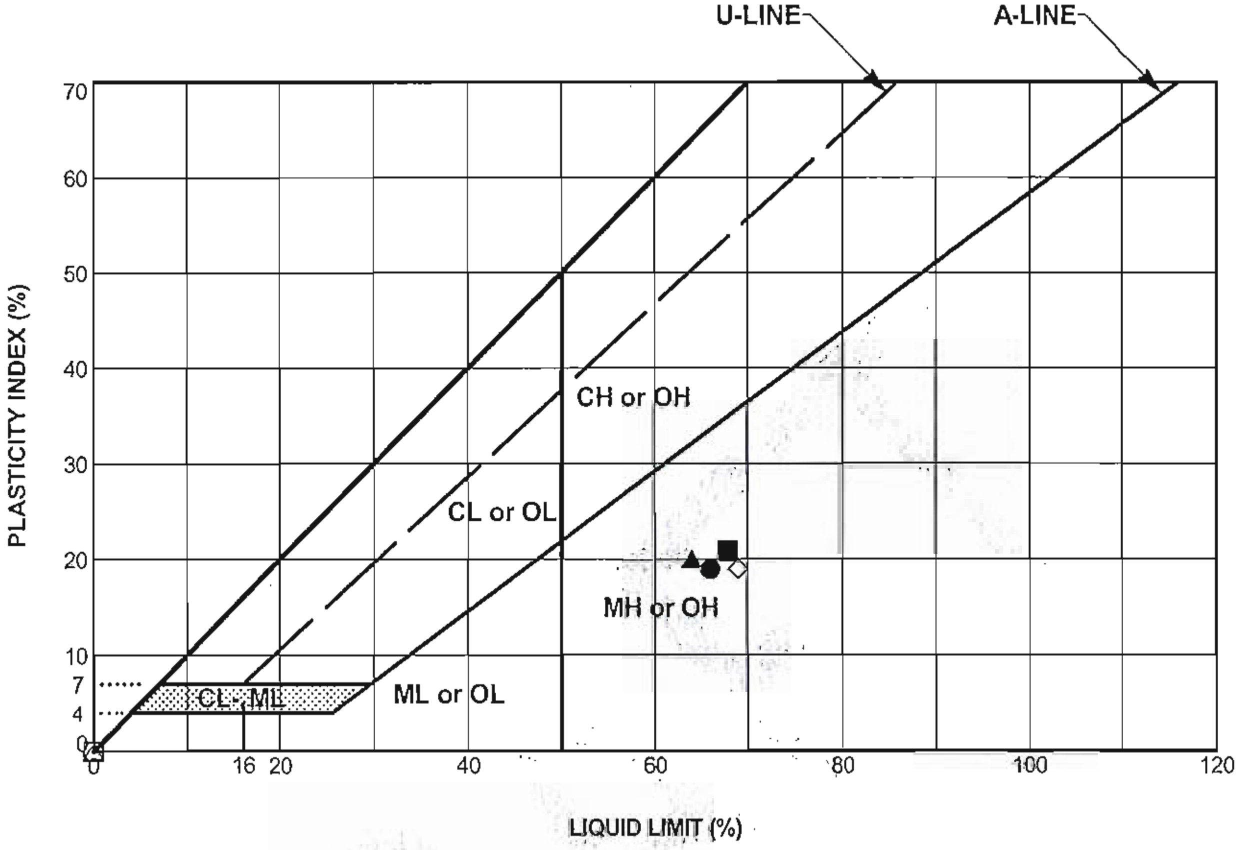
PARTICLE SIZE ANALYSIS

Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE

C1

Template: DY_ATTERBERG_CHART_WIN



Laboratory Testing by: AP Engineering and Testing, Inc.

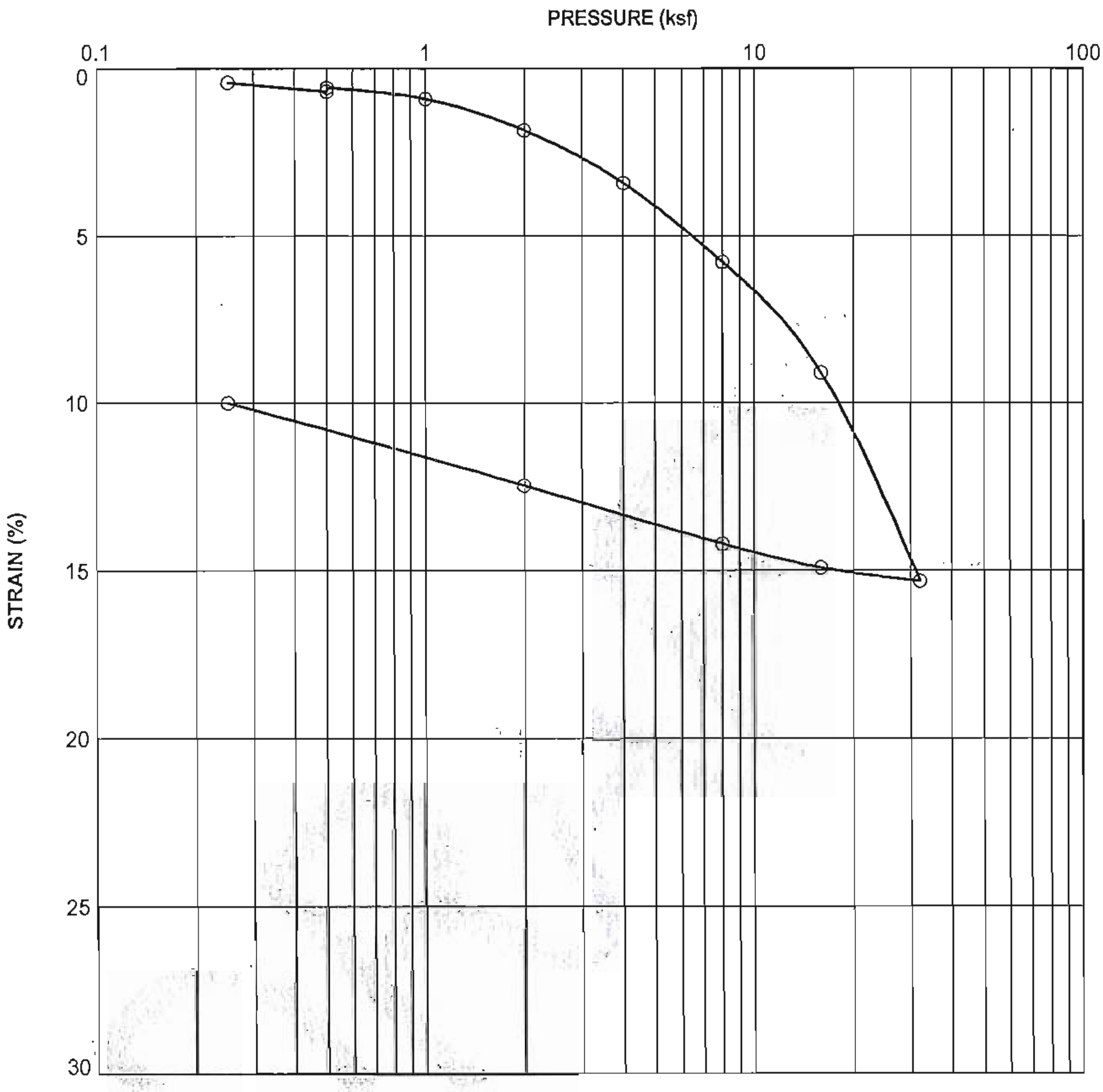
Symbol	Source	Depth (feet)	Classification	Natural M. C. (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
⊙	DYA-B1	6.0	SANDY SILT (ML)	29	NP	NP	NP	
□	DYA-B1	20.0	SILT WITH SAND (ML)	70	NP	NP	NP	74
△	DYA-B1	30.0	SILTY SAND (SM)	27	NP	NP	NP	16
◇	DYA-B1	33.0	ELASTIC SILT (MH)	58	69	50	19	100
●	DYA-B1	40.0	ELASTIC SILT (MH)	67	66	47	19	100
■	DYA-B1	55.0	ELASTIC SILT (MH)	58	68	47	21	100
▲	DYA-B1	75.0	ELASTIC SILT (MH)	54	64	44	20	100

PLASTICITY CHART

Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE
C2

Template: DY_C(_STRAIN_WIN



Source: DYA-B1 Depth (ft): 10.0	Sample Type: Tube+Ziploc		
Classification: SANDY SILT (ML)	**LL:**	**PI:**	**Specific Gravity:** 2.7
Sample Diameter (inches): 2.4	**Water Added:** 0.5		

Laboratory Testing by: AP Engineering and Testing, Inc. Test Method: ASTM D2435

Test Stage	Moisture Content (%)	Dry Density (pcf)	Saturation (%)	Void Ratio
Before	59	67	105	1.511
After	69	75	148	1.260

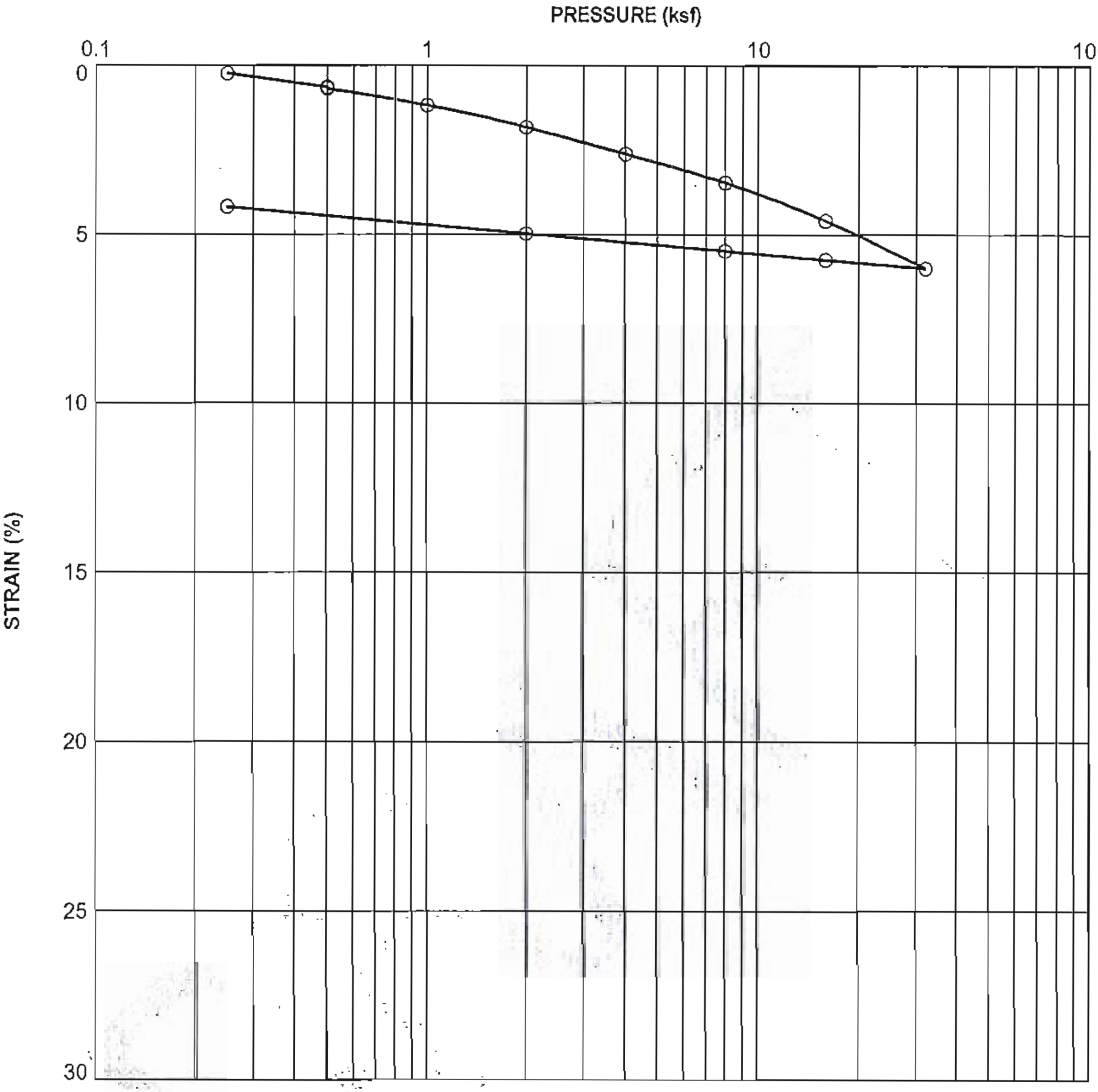
CONSOLIDATION TEST PLOT

Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE

C3

Template: DY_CC _STRAIN_WIN



Source: DYA-B1 Depth (ft): 30.0		**Sample Type:** Tube+Ziploc	
Classification: SILTY SAND (SM)	**LL:** NP	**PI:** NP	**Specific Gravity:** 2.7
Sample Diameter (inches): 2.4	**Water Added:** 0.5		

Laboratory Testing by: AP Engineering and Testing, Inc. Test Method: ASTM D2435

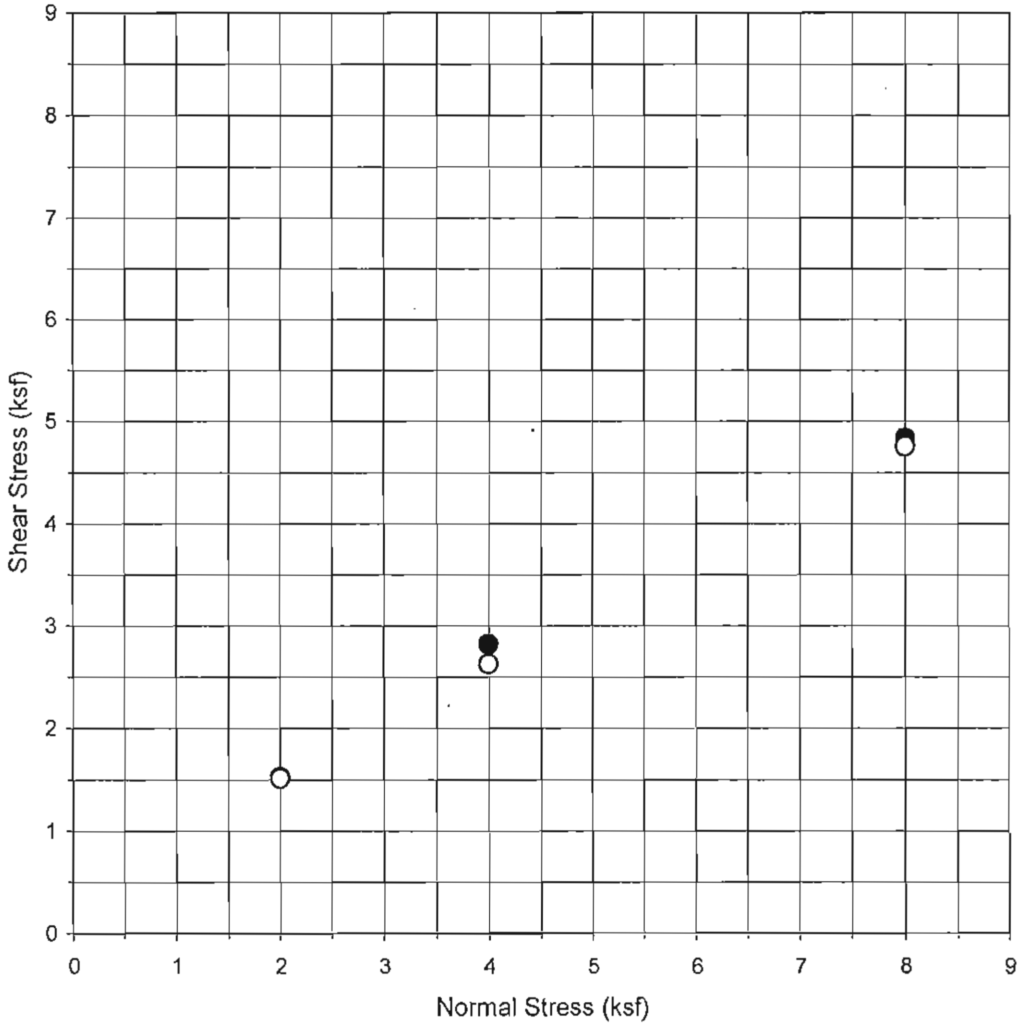
Test Stage	Moisture Content (%)	Dry Density (pcf)	Saturation (%)	Void Ratio
Before	27	97	99	0.737
After	27	101	108	0.665

CONSOLIDATION TEST PLOT

Warehouse No. 1 Seismic Retrofit
Project No. 2007-005.01

PLATE

C4



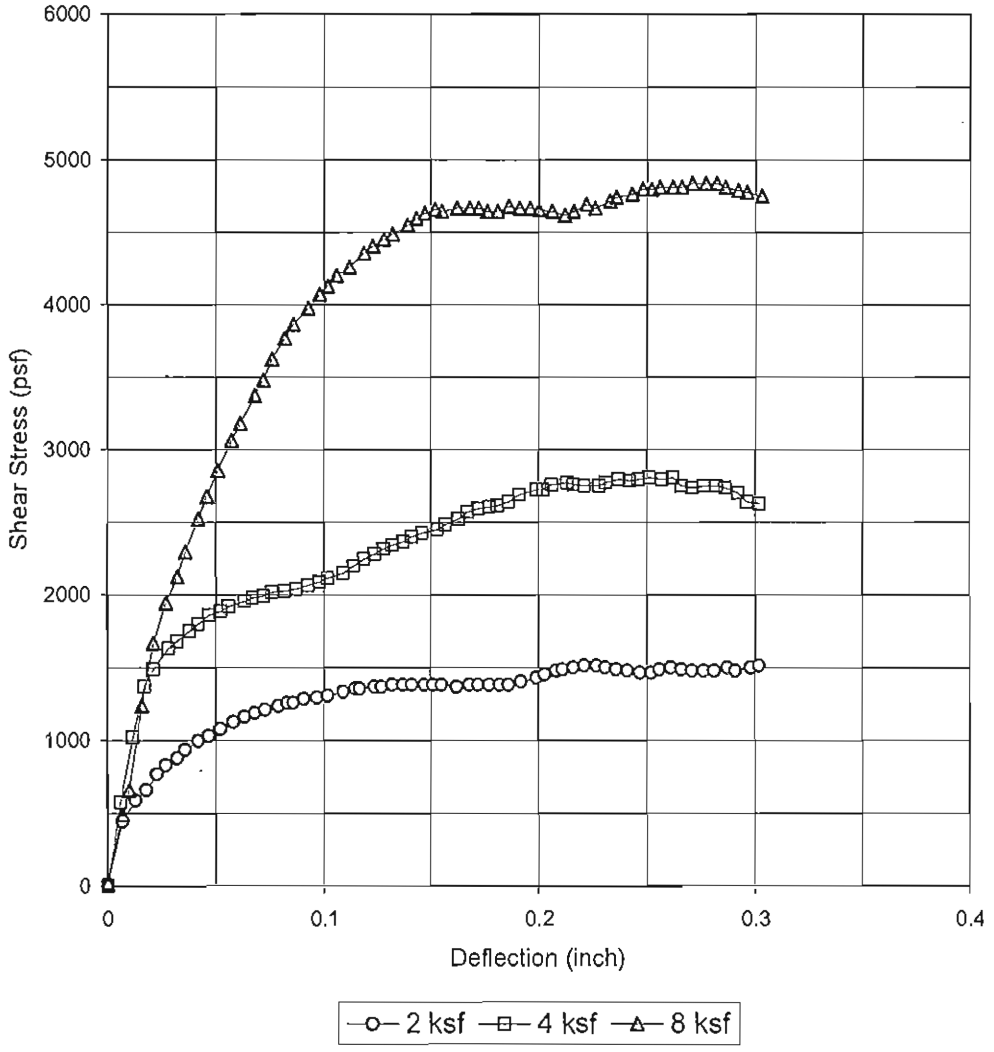
Project Name:	:	Warehouse No. 1 Seismic Retrofit
Project No.	:	2007-005.01
Boring No.	:	B-1
Sample No.	:	7
Depth (ft)	:	20
Sample Type	:	Tube
Soil Type	:	Organic Silt with fine sand layer
Test Condition	:	Saturated
Initial Dry Density	:	60.39 pcf
Moisture Content (before)	:	70.25 %
Moisture Content (after)	:	54.71 %
Shear Rate (in/min)	:	0.0653

Normal Stress (ksf)	Shear Stress Peak (ksf)	Shear Stress Ultimate (ksf)
2	1.524	1.512
4	2.820	2.628
8	4.836	4.752

AP ENGINEERING AND TESTING, INC.

DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

May-07 Figure No.

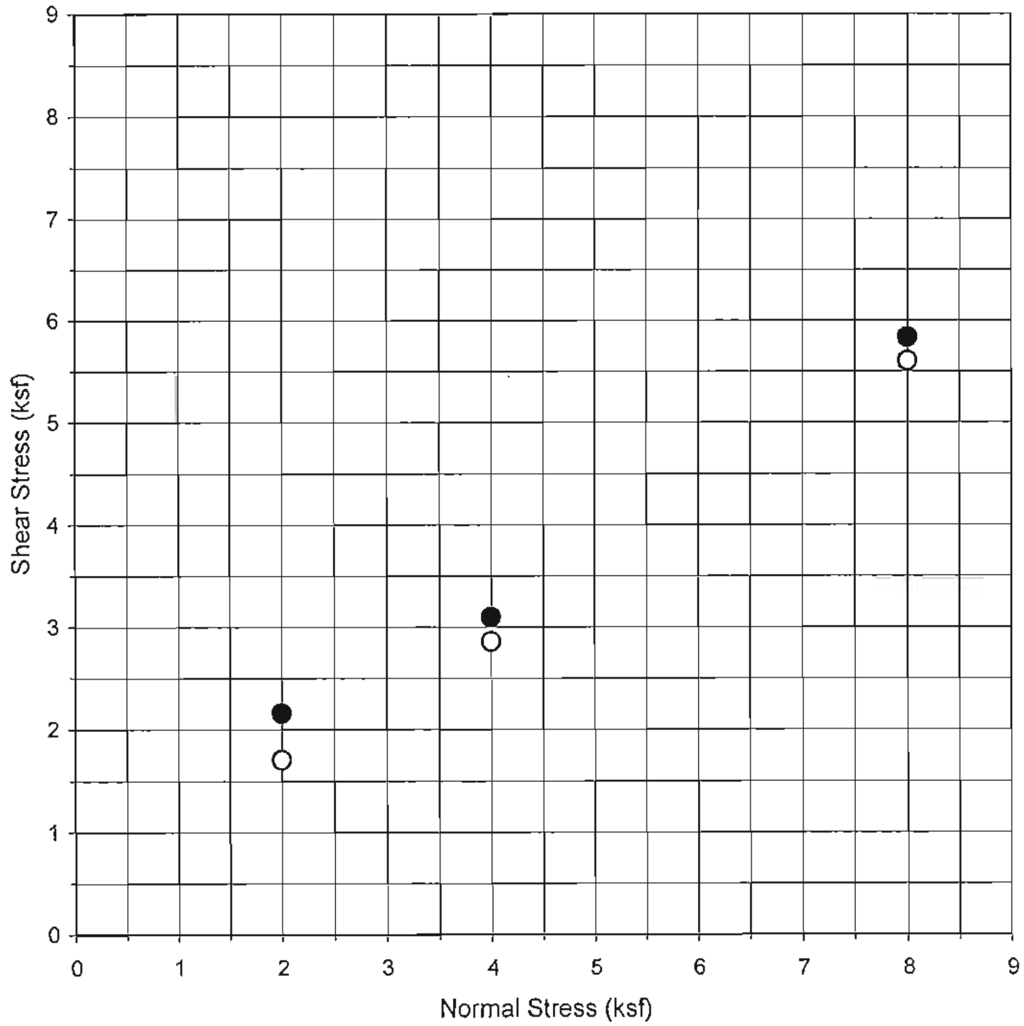


Project Name:	:	Warehouse No. 1 Seismic Retrofit	
Project No.	:	2007-005.01	
Boring No.	:	B-1	
Sample No.	:	7	
Depth (ft)	:	20	
Sample Type	:	Tube	
Soil Type	:	Organic Silt with fine sand layer	
Test Condition	:	Saturated	
Initial Dry Density	:	60.4	pcf
Moisture Content (before)	:	70.2	%
Moisture Content (after)	:	54.7	%

AP ENGINEERING AND TESTING, INC.

DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

May-07 Figure No.



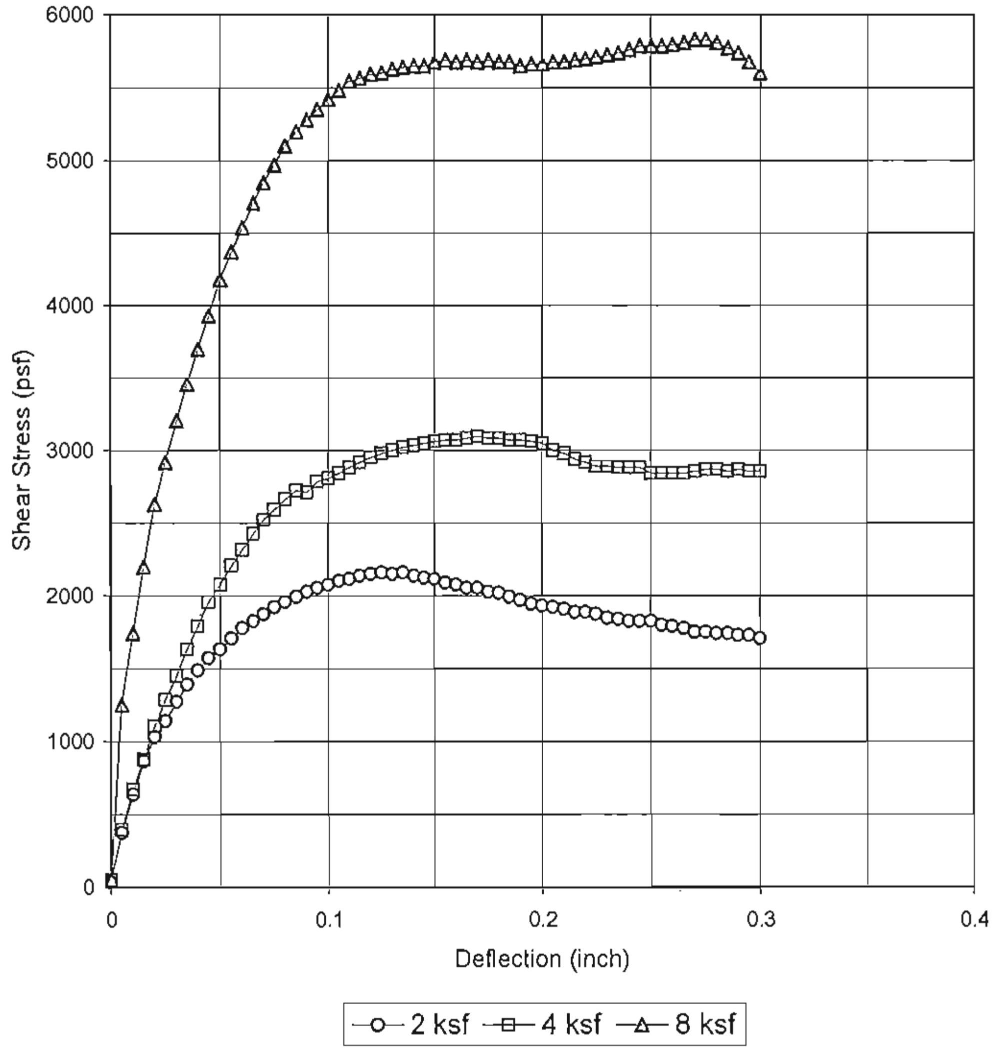
Project Name: : Warehouse No. 1 Seismic Retrofit
Project No. : 2007-005.01
Boring No. : B-1
Sample No. : 3A
Depth (ft) : 5
Sample Type : Tube
Soil Type : Silty Sand w/shell
Test Condition : Saturated
Initial Dry Density : 89.79 pcf
Moisture Content (before) : 29.09 %
Moisture Content (after) : 30.93 %
Shear Rate (in/min) : 0.0653

Normal Stress (ksf)	Shear Stress Peak (ksf)	Shear Stress Ultimate (ksf)
2	2.160	1.704
4	3.096	2.856
8	5.831	5.603

AP ENGINEERING AND TESTING, INC.

DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

May-07 Figure No.

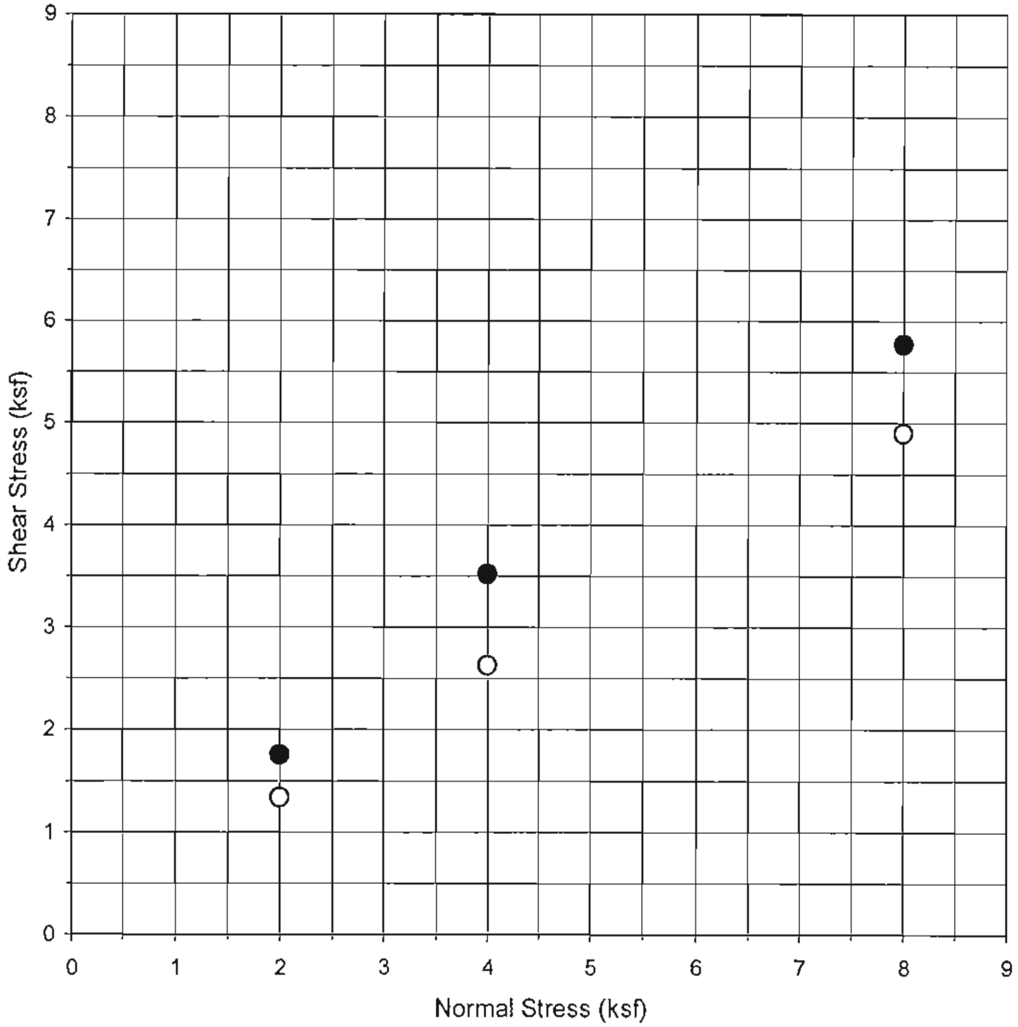


Project Name: : Warehouse No. 1 Seismic Retrofit
Project No. : 2007-005.01
Boring No. : B-1
Sample No. : 3A
Depth (ft) : 5
Sample Type : Tube
Soil Type : Silty Sand w/shell
Test Condition : Saturated
Initial Dry Density : 89.8 pcf
Moisture Content (before) : 29.1 %
Moisture Content (after) : 30.9 %

AP ENGINEERING AND TESTING, INC.

DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

May-07 Figure No.



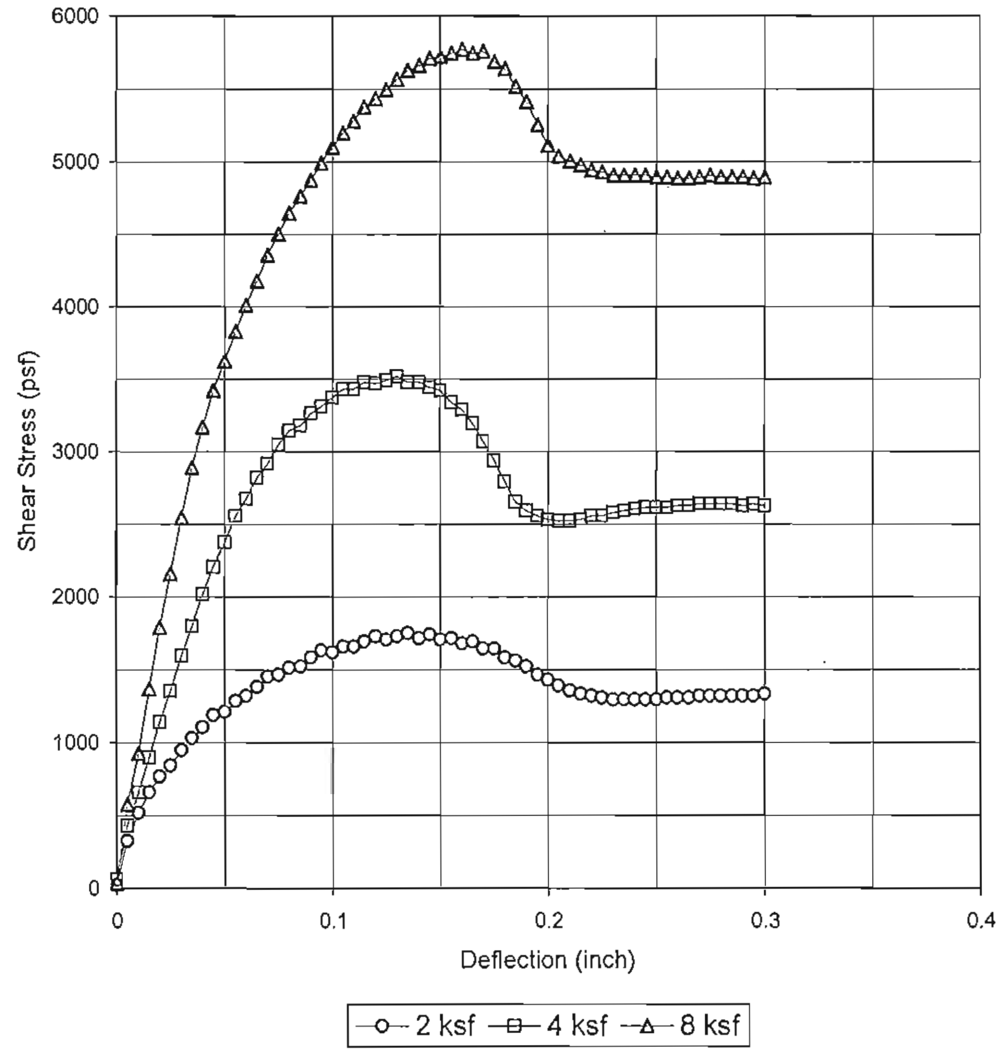
Project Name: : Warehouse No. 1 Seismic Retrofit
Project No. : 2007-005.01
Boring No. : B-1
Sample No. : 9B
Depth (ft) : 30.5
Sample Type : Tube
Soil Type : Silty Sand
Test Condition : Saturated
Initial Dry Density : 95.54 pcf
Moisture Content (before) : 25.43 %
Moisture Content (after) : 29.68 %
Shear Rate (in/min) : 0.0653

Normal Stress (ksf)	Shear Stress Peak (ksf)	Shear Stress Ultimate (ksf)
2	1.752	1.332
4	3.516	2.628
8	5.771	4.896

AP ENGINEERING AND TESTING, INC

DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

May-07 Figure No.



Project Name:	:	Warehouse No. 1 Seismic Retrofit	
Project No.	:	2007-005.01	
Boring No.	:	B-1	
Sample No.	:	9B	
Depth (ft)	:	30.5	
Sample Type	:	Tube	
Soil Type	:	Silty Sand	
Test Condition	:	Saturated	
Initial Dry Density	:	95.5	pcf
Moisture Content (before)	:	25.4	%
Moisture Content (after)	:	29.7	%

AP ENGINEERING AND TESTING, INC.

DIRECT SHEAR

TEST RESULTS

(ASTM D 3080)

May-07 Figure No.

DISTRIBUTION

3 copies:

Mr. Mark E. Peterson
Wilson & Company
200 South Los Robles Avenue, Suite 420
Pasadena, CA 91101

QUALITY CONTROL REVIEWER

V. R. Nadeswaran, P.E., G.E.
Principal

AMY/SW:cfp

APPENDIX 4-2 - WAREHOUSE ONE STRUCTURAL REPORT

miyamoto.

September 7, 2007

Mr. Mark Peterson
Wilson & Co
701 B Street, Suite 1220
San Deigo, CA 92101
Via Email: Mark.E.Peterson@wilsonco.com

Subject: **Port of Los Angeles Warehouse No 1 Renovation Feasibility Study**
Los Angeles, CA
(MI Project Number: LA0500028)

Dear Mr. Peterson:

We have prepared a schematic set of drawings and a detailed list of items for your use to estimate the cost of structural work to renovate Warehouse No 1. This scheme was developed in concert with Vaughan Davies at EDAW, and is primarily for an occupancy change from storage to office use. The structural strengthening measures noted are to meet FEMA 356 requirements for basic life safety.

The following items are structural cost items described in detail here, and shown in schematic form on the attached plans and elevations. Please refer to both in order to obtain a complete picture of the proposed structural renovation work.

1. Extensive demolition of existing concrete elements is proposed. Based on field visits there does not appear to be finish materials that would contain hazardous materials, however this would need to be verified at a future date. Any abatement required is likely to be minor in scope.
2. Demolition of existing concrete floor slabs, columns, and walls as noted on the plans. Existing floors are rated for heavy loads, and demolition will not require special care to avoid damage to existing finishes or floors.
3. Soil improvements and additional geotechnical/foundation investigation is required. Refer to the "Preliminary Geotechnical Investigation Warehouse No. 1 Seismic Retrofit" report prepared by Diaz Yourman & Associates, Dated June 6, 2007. Specifically refer to section 5.3 of this report. The favored solution for ground improvement is compaction grouting, and it is suggested this be included in the cost estimate at this time.
4. Infill of existing doors and openings is noted on the schematic plans. Where this is noted assume 3000 psi normal weight concrete of the same thickness as the existing walls, which is 8" thick at the basement and first floor, and 6" thick at the upper floors, with 2 lbs/sq.ft. of reinforcement and perimeter epoxied rebar dowels at 18" on center.
5. There are two existing railways running through the building. The westmost railway has been infilled and topped with a slab at the first floor level. It is proposed to infill the eastmost railway with compacted fill, and a new 6" concrete floor slab.
6. New steel braces are required at the perimeter of the roof. Assume approximately 80 lbs of round steel pipe per brace with epoxy anchors to the parapet and roof slab.
7. For information on the new skylights over the new atriums, please refer to the architect.

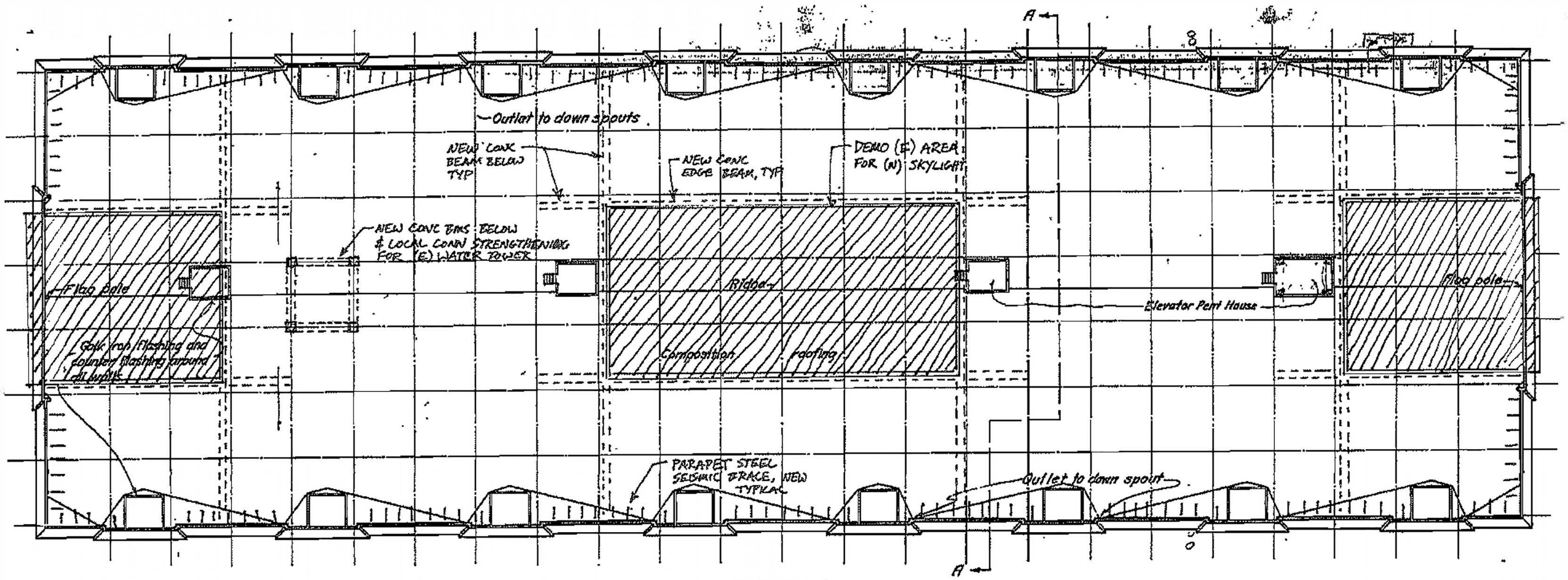
700 South Flower Street, Suite 1010 Los Angeles, CA 90017 t 213.362.7778 f 213.362.7783
Sacramento / Los Angeles / Orange County / San Francisco Bay Area / San Diego / Tokyo

8. At the areas of exterior wall demolition, the plan is to replace it with new exterior glass curtain walls. Assume 4 lbs/sq.ft of structural steel frame support in addition to the new glass system. Please refer to the architect for additional information.
9. New stairs and elevator modifications are not shown on these plans, please refer to the architect for additional information.
10. New concrete edge beams, and beams below slab are noted on the plans to support loads and seismic upgrade requirements. Assume approximately 12"x12" normal weight concrete 3000 psi beams with 12 lbs/ft of reinforcing steel. These beams will be doweled into the existing slab with approximately 4 epoxy bars per foot of length.
11. New pneumatically applied concrete referred to as "shotcrete" will be applied against existing walls as shown on the plans. This concrete may be assumed as normal weight 4000 psi concrete. At the basement and first floors, assume 8" thick applied shotcrete with 4 lbs/sq.ft. of reinforcement. At the second, third, and fourth floors, assume 6" thick applied shotcrete with 3 lbs/sq.ft. of reinforcement. At the fifth and sixth floors, assume 4" thick applied shotcrete with 2 lbs/sq.ft. of reinforcement. New shotcrete walls will be doweled into the existing walls with approximately 1 epoxied rebar per sq.ft. of existing wall. Rebar dowels at the top and bottom of each shotcrete wall will be cored through the floors at about 9" on center.
12. New vertical concrete boundary elements are required at the edges and intersections of strengthened walls. These are heavily reinforced column-like elements with horizontal ties doweled into the existing walls at approximately 4" on center along the height. Assume an additional 6"x24" to the shotcrete thickness, with an average of 30 lbs/ft of reinforcing steel.
13. Repair of existing exterior concrete damage due to weathering will be required. Please refer to the architect for an approximate estimate on the work to be performed. It is anticipated that approximately 15% of the parapets and remaining general exterior wall area will require some level of repair. Due to the extensive corrosion and spalling of the existing exterior stairs, assume at least 50% replacement of the remaining concrete stairs.
14. To meet FEMA 356 standards for the final design, additional material testing and investigation will be required, however this would be part of the design cost and may not be desired to be incorporated into the renovation cost at this point.

Very truly yours,
Miyamoto International, Inc.

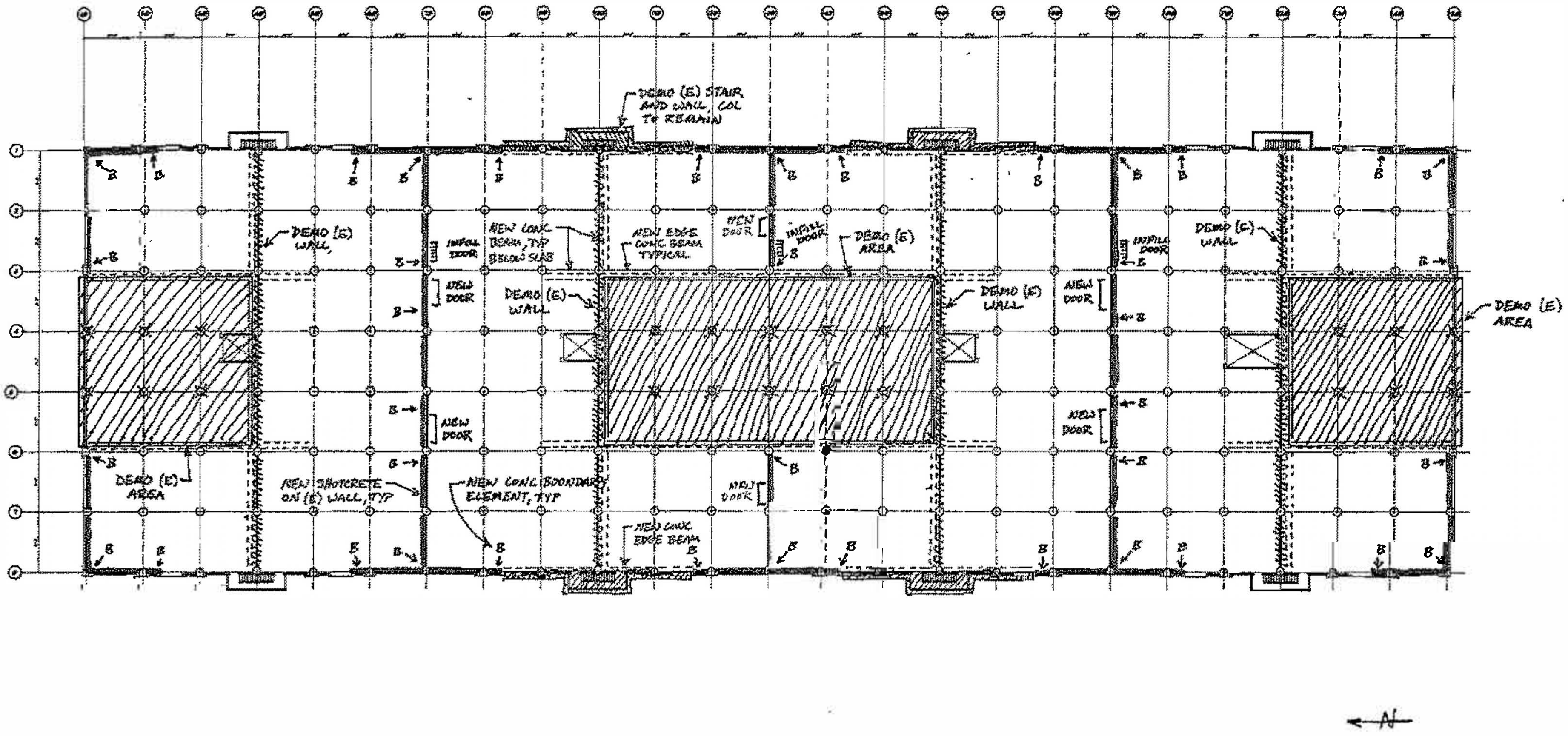
Josh Gebelein, M.S., P.E.
Project Manager

JG/ah
I:\2005\LA0500028 Waterfront Red Car Line Expansion Study\Engr\POLA Warehouse No1 Cost Estimate Information.doc

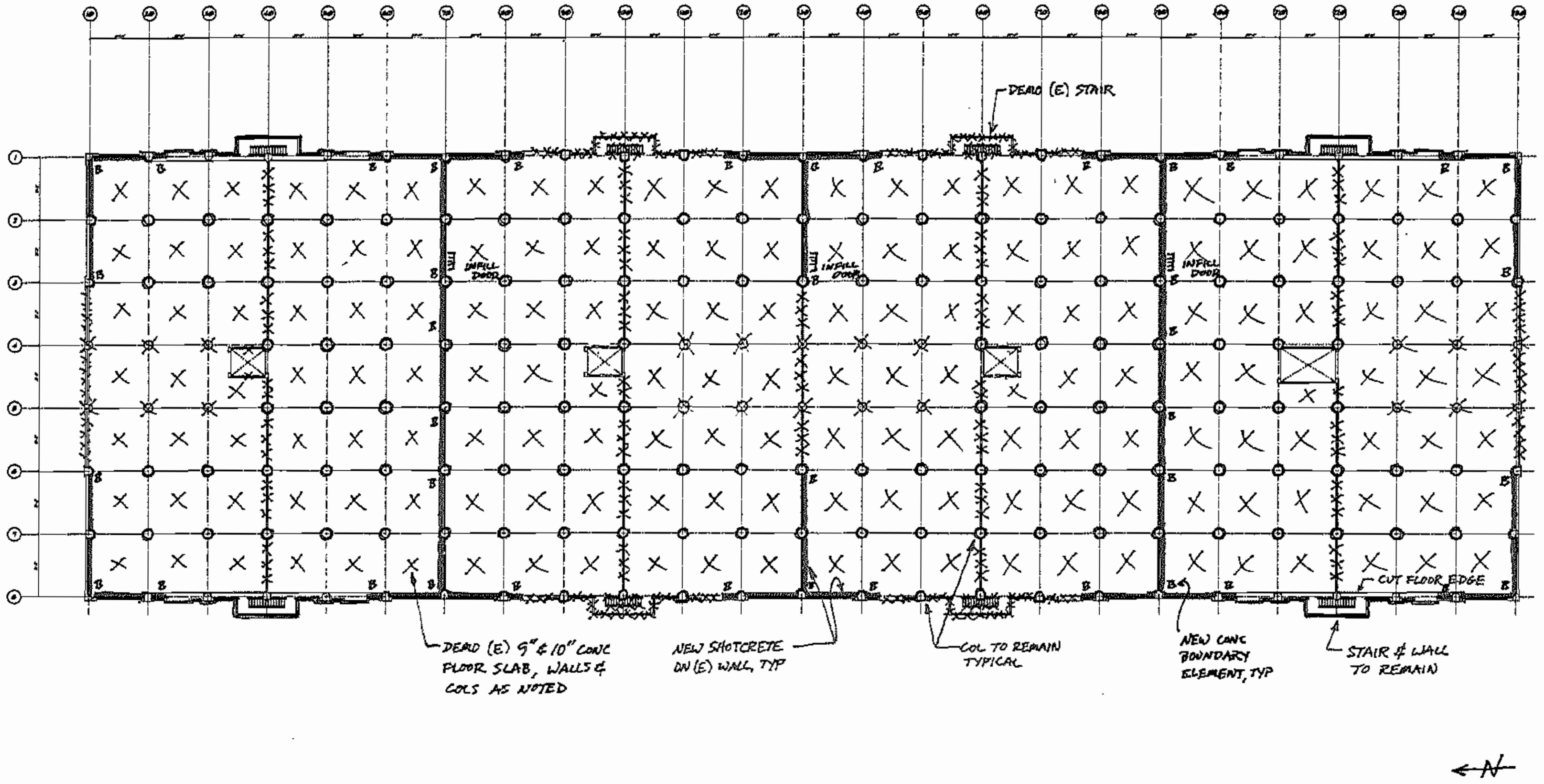

A
8
Outlet to down spouts
NEW CONC BEAM BELOW TYP
NEW CONC EDGE BEAM, TYP
DEMO (E) AREA FOR (N) SKYLIGHT
NEW CONC BMS BELOW & LOCAL CONN STRENGTHENING FOR (E) WATER TOWER
Flag pole
Ridge
Elevator Pent House
Flag pole
Calk iron flashing and counter flashing around all lights
Composition roofing
PARAPET STEEL SEISMIC BRACE, NEW TYPICAL
Outlet to down spout
A
N

ROOF PLAN

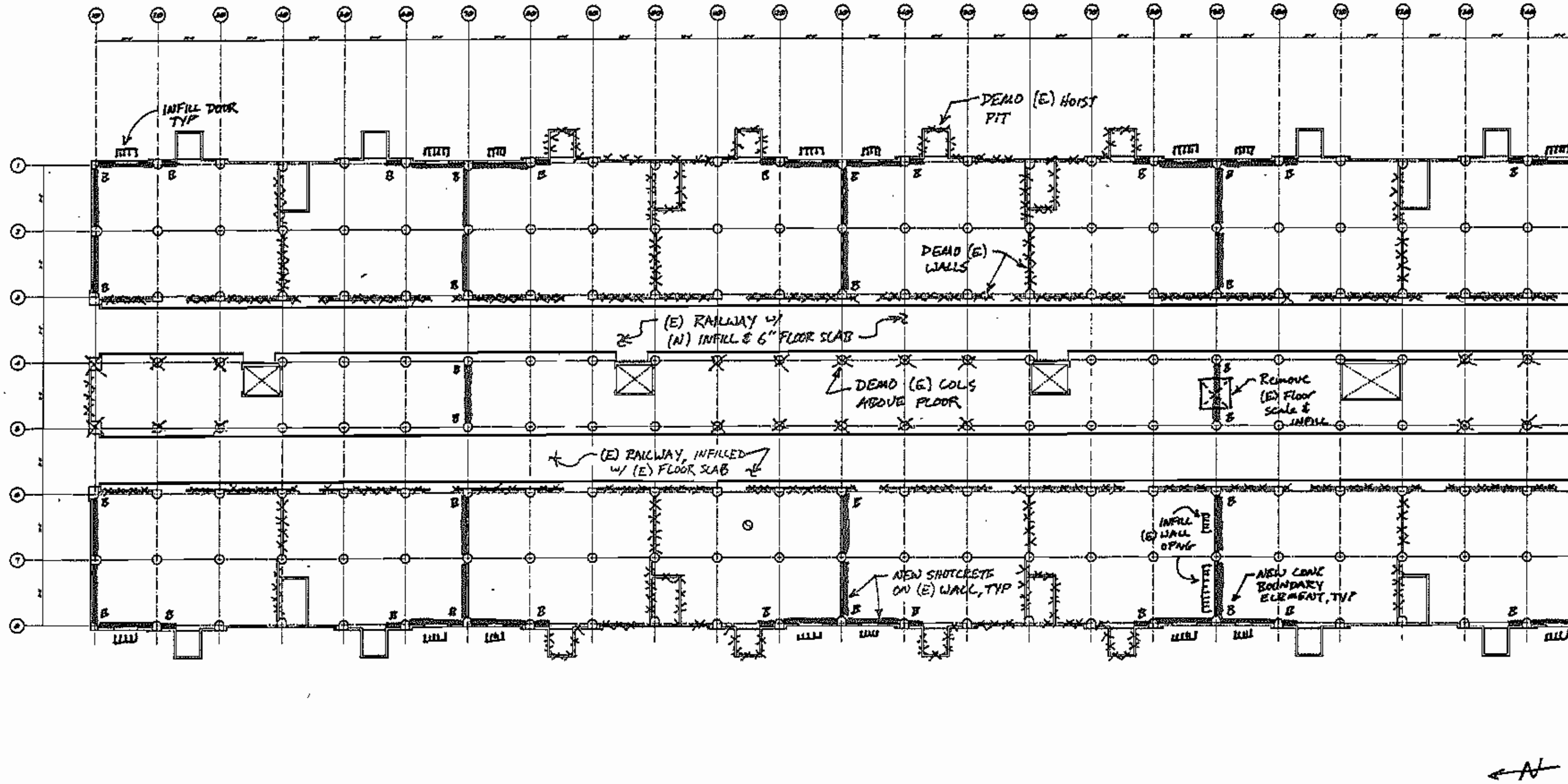
2ND, 4TH & 5TH FLOORS



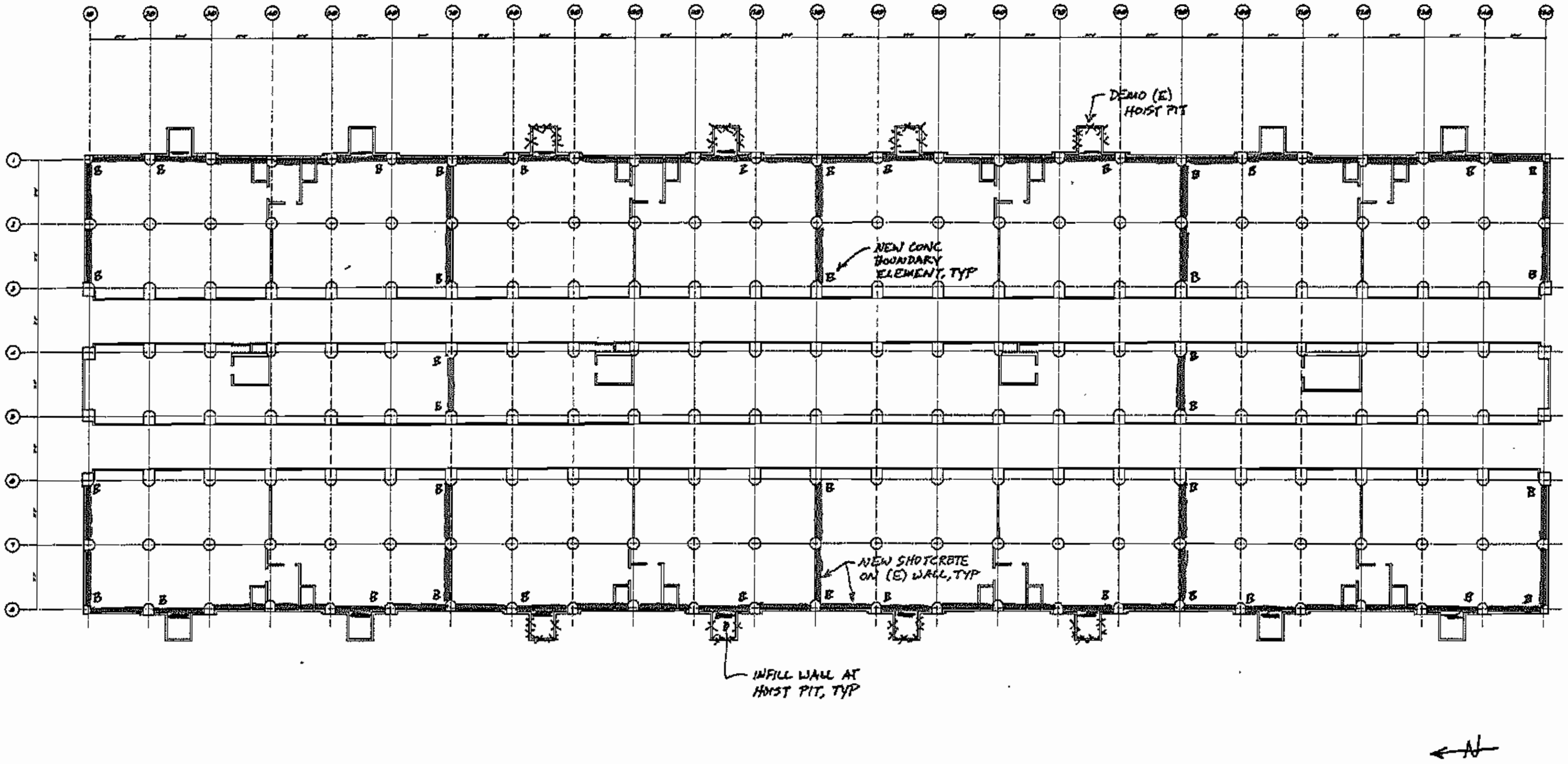
3rd & 6th FLOORS



FIRST FLOOR

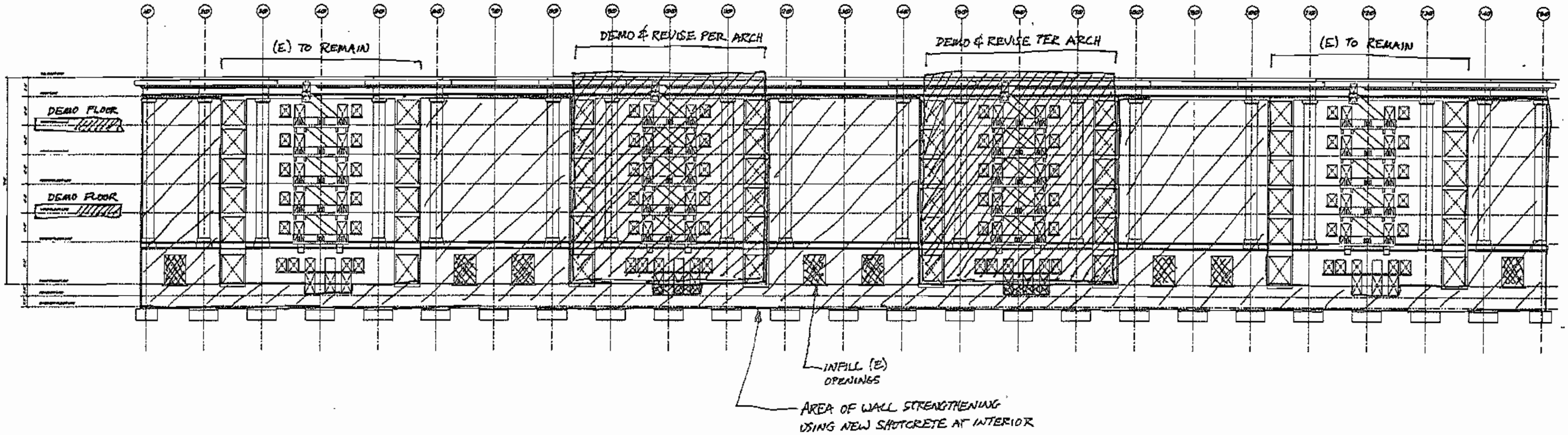

INFILL DOOR TYP
DEMO (E) HOIST PIT
DEMO (E) WALLS
(E) RAILWAY w/ (N) INFILL & 6" FLOOR SLAB
DEMO (E) COLS ABOVE FLOOR
Remove (E) Floor Scale & INFILL
(E) RAILWAY, INFILLED w/ (E) FLOOR SLAB
INFILL (E) WALL OPNG
NEW SHOTCRETE ON (E) WALL, TYP
NEW CONC BOUNDARY ELEMENT, TYP
B
1
2
3
4
5
6
7
8
N

BASEMENT


DEMO (E) HOIST PIT
NEW CONC BOUNDARY ELEMENT, TYP
NEW SHOTCRETE ON (E) WALL, TYP
INFILL WALL AT HOIST PIT, TYP
B
N

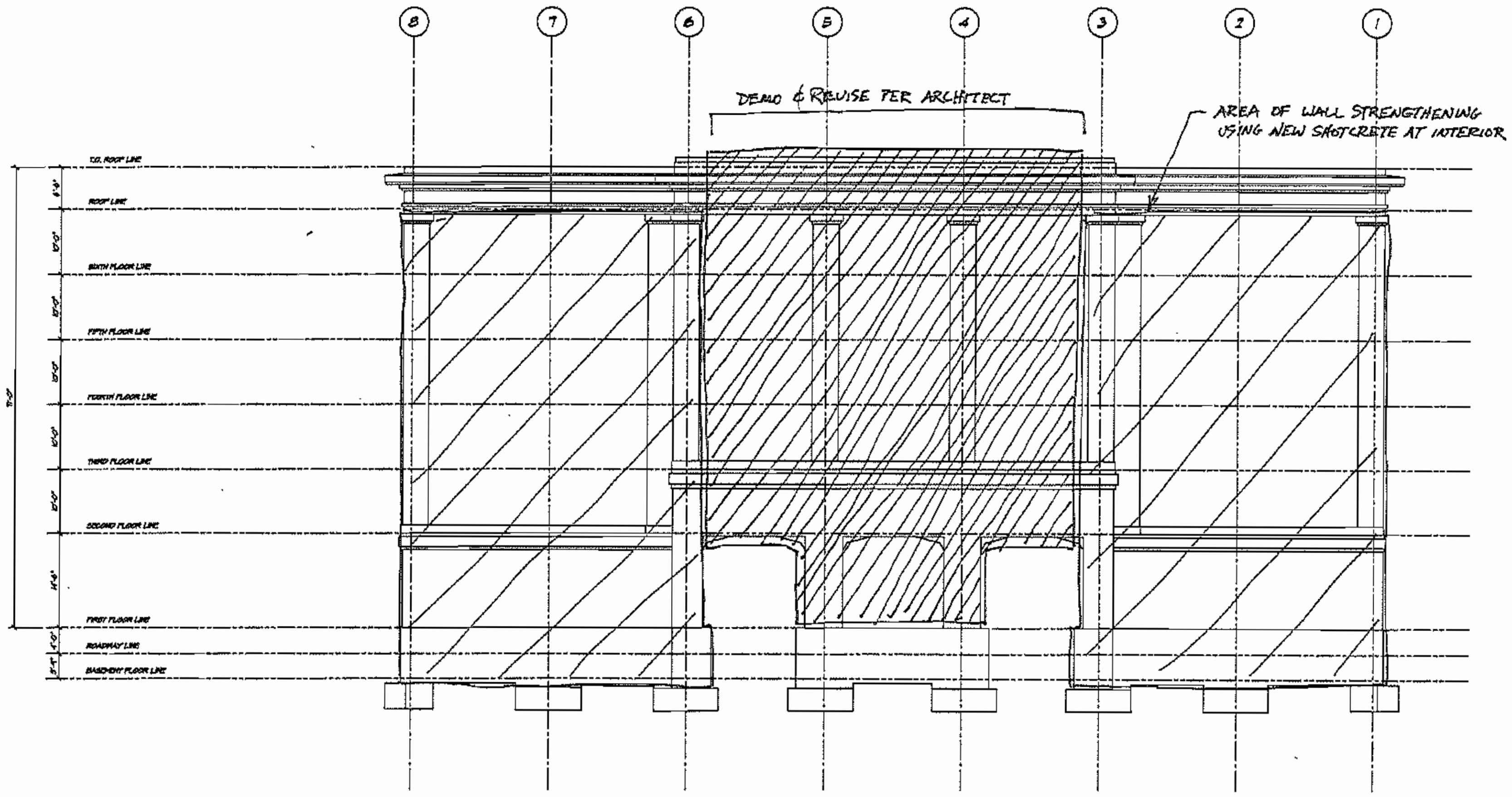
WEST ELEVATION

(EAST ELEV SIMILAR)



SOUTH ELEVATION

(NORTH ELEV SIMILAR)



APPENDIX 4-3 - WAREHOUSE ONE CAPITAL COST ESTIMATE

WAREHOUSE #1 RENOVATION
PORT OF LOS ANGELES **OCMI JOB #:05-166**
CONCEPTUAL COST ESTIMATE **DATE: 29 NOVEMBER 2007**

PROJECT SUMMARY

ELEMENT	TOTAL COST	$/SF AREA
A. TOTAL BUILDING COST	$6,637,871	$13.00
C. TOTAL SITEWORK COST	$14,000,305	$167.87
TOTAL PROJECT COST	**$20,638,176**	

GENERAL SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A. SUBSTRUCTURE		$954,134	$1.87
B. SHELL		$3,816,165	$7.47
NET DIRECT BUILDING COST		$4,770,299	$9.34
GENERAL CONDITIONS, OH&P,	15.0%	$715,545	$1.40
SUBTOTAL		$5,485,844	$10.74
DESIGN CONTINGENCY,	10.0%	$548,584	$1.07
SUBTOTAL		$6,034,428	$11.82
ESCALATION TO MIDPOINT OF CONSTRUCTION, 4/2010	10.0%	$603,443	$1.18
TOTAL BUILDING COST		**$6,637,871**	**$13.00**

GROSS FLOOR AREA:	510,720 SF
COST PER SQUARE FOOT:	$13.00

DETAIL SUMMARY

ELEMENT		**TOTAL COST**	**$/SF AREA**
A20 BASEMENT CONSTRUCTION		$954,134	$1.87
B20 EXTERIOR ENCLOSURE		$3,816,165	$7.47
NET DIRECT BUILDING COST		$4,770,299	$9.34
GENERAL CONDITIONS, OH&P,	15.0%	$715,545	$1.40
SUBTOTAL		$5,485,844	$10.74
DESIGN CONTINGENCY,	10.0%	$548,584	$1.07
SUBTOTAL		$6,034,428	$11.82
ESCALATION TO MIDPOINT OF CONSTRUCTION, 4/2010	10.0%	$603,443	$1.18
TOTAL BUILDING COST		**$6,637,871**	**$13.00**

GROSS FLOOR AREA: 510,720 SF

COST PER SQUARE FOOT: $13.00

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A - SUBSTRUCTURE				
A20 BASEMENT CONSTRUCTION				
A2020 Basement Walls				
Drill dowels - infill walls	160	EA	25.00	$4,000
Set dowels - infill walls	160	EA	30.00	$4,800
Reinforcing steel - infill walls	396	LBS	1.80	$713
Forms - infill walls	748	SF	11.00	$8,228
Place, finish & cure concrete - infill walls	5	CY	300.00	$1,500
Sack exposed surfaces - infill walls	350	SF	1.25	$438
Surface prep for shotcrete (sandblast)	19,066	SF	1.40	$26,692
Apply and finish 8" shotcrete to walls	544	CY	730.00	$397,120
Drill and set #4 dowels - 8" shotcrete	19,066	EA	20.00	$381,320
Drill and set #4 vert. dowels - 8" shotcrete	1,006	EA	30.00	$30,180
Reinforcing steel - 8" shotcrete	76,264	LBS	1.30	$99,143
A20 BASEMENT CONSTRUCTION				**$954,134**
A - SUBSTRUCTURE				**$954,134**
B - SHELL				
B20 EXTERIOR ENCLOSURE				
B2010 Walls and Slab				
Infill Walls				
Drill dowels - infill walls	22,026	EA	25.00	$550,650
Set dowels - infill walls	22,026	EA	30.00	$660,780
Reinforcing steel - infill walls	69,360	LBS	1.80	$124,848
Formwork - infill walls	21,830	SF	11.00	$240,130
Place, finish and cure concrete - infill walls	116	CY	300.00	$34,800
Sack exposed surfaces - infill walls	19,748	SF	1.25	$24,685
Patch concrete floor slab	25	CY	500.00	$12,375
Surface prep for shotcrete (sandblast)	23,308	SF	1.40	$32,631
Apply and finish shotcrete - 6"	496	CY	550.00	$272,800
Drill and set #4 dowels - 6" shotcrete	23,308	EA	20.00	$466,160
Drill and set #4 vert dowels - 6" shotcrete	3,381	EA	30.00	$101,430
Reinforcing steel - 6" shotcrete	69,923	LBS	1.30	$90,900
Surface prep for shotcrete (sandblast)	15,962	SF	1.40	$22,347
Apply shotcrete - 4"	224	CY	410.00	$91,840
Drill #4 dowels - 4" shotcrete	15,962	EA	20.00	$319,240
Drill #4 vert dowels - 4" shotcrete	2,277	EA	30.00	$68,310
Reinforcing steel - 4" shotcrete	47,885	LBS	1.30	$62,251
Apply shotcrete - at columns 6"	119	CY	550.00	$65,450
Formwork - at columns	2,966	SF	10.00	$29,660
Drill and set #4 dowels - at columns	16,492	EA	20.00	$329,840
Reinforcing steel - at columns	81,008	LBS	1.30	$105,310
Structural and Misc. Steel				
Steel frame support for curtain wall	10,648	LBS	4.00	$42,592
Channel frames at new doors	3,624	LBS	4.00	$14,496
Strengthen local connections ALLOWANCE	4	EA	1,000.00	$4,000
Seismic braces at exist parapet wall	12,160	LBS	4.00	$48,640
B20 EXTERIOR ENCLOSURE				**$3,816,165**
B - SHELL				$3,816,165

WAREHOUSE #1 RENOVATION **SITEWORK**
PORT OF LOS ANGELES **OCMI JOB #:05-166**
CONCEPTUAL COST ESTIMATE **DATE: 29 NOVEMBER 2007**

GENERAL SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
F. SPECIAL CONSTRUCTION AND DEMOLITION		$10,061,304	$120.64
NET DIRECT BUILDING COST		$10,061,304	$120.64
GENERAL CONDITIONS, OH&P,	15.0%	$1,509,196	$18.10
SUBTOTAL		$11,570,500	$138.74
DESIGN CONTINGENCY,	10.0%	$1,157,050	$13.87
SUBTOTAL		$12,727,550	$152.61
ESCALATION TO MIDPOINT OF CONSTRUCTION, 4/2010	10.0%	$1,272,755	$15.26
TOTAL BUILDING COST		**$14,000,305**	**$167.87**

GROSS FLOOR AREA: 83,400 SF

COST PER SQUARE FOOT: $167.87

DETAIL SUMMARY

ELEMENT		**TOTAL COST**	**$/SF AREA**
G10 SITE PREPARATION		$10,061,304	$120.64
NET DIRECT BUILDING COST		$10,061,304	$120.64
GENERAL CONDITIONS, OH&P,	15.0%	$1,509,196	$18.10
SUBTOTAL		$11,570,500	$138.74
DESIGN CONTINGENCY,	10.0%	$1,157,050	$13.87
SUBTOTAL		$12,727,550	$152.61
ESCALATION TO MIDPOINT OF CONSTRUCTION, 4/2010	10.0%	$1,272,755	$15.26
TOTAL BUILDING COST		**$14,000,305**	**$167.87**

GROSS FLOOR AREA:	83,400 SF
COST PER SQUARE FOOT:	$167.87

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G - SITEWORK				
G10 SITE PREPARATION				
G1020 Building Demolition				
Remove hoist pit steel doors and frames	8	PR	400.00	$3,200
Remove hoist pit steel covers and frames	8	EA	800.00	$6,400
Remove steel doors and frames	32	PR	200.00	$6,400
Remove sliding steel doors and frames	2	EA	500.00	$1,000
Remove metal covered steel doors with glass panels - 10'	16	PR	400.00	$6,400
Sawcut hoist pits concrete slab and walls	120	LF	20.00	$2,400
Break and remove hoist pits concrete slab and walls	1,011	CF	12.50	$12,638
Remove 10 ton platform scales	2	EA	500.00	$1,000
Remove railroad tracks	960	LF	2.00	$1,920
Chip and remove grout pockets	643	CF	5.00	$3,215
Sawcut, break and remove concrete columns				
Sawcut concrete	5,160	LF	6.00	$30,960
Break and remove concrete	12,156	CF	7.00	$85,092
Chip and remove concrete	195	CF	5.00	$975
Sawcut, break and remove concrete walls				
Sawcut concrete	16,508	LF	15.00	$247,620
Break and remove concrete - interior 6"	23,399	CF	10.00	$233,990
Break and remove concrete - exterior 8"	4,434	CF	20.00	$88,680
Chip and remove concrete	742	CF	5.00	$3,710
Wall bracing	53,416	SF	0.12	$6,410
Concrete floor slab and stairs, w/ landings				
Sawcut concrete	7,872	LF	20.00	$157,440
Break and remove concrete	152,861	CF	12.00	$1,834,332
Shore floor slab sections	199,197	SF	2.00	$398,394
Sawcut, break and remove concrete for new door openings	6	EA	1,200.00	$7,200
Elevator penthouse structure at roof				
Perimeter walls	400	SF	8.00	$3,200
Steel doors and frames	1	EA	200.00	$200
Floor framing and supports w/ concrete slab	100	SF	6.00	$600
Roof framing w/ sheathing and roofing	144	SF	5.00	$720
Remove flagpoles	2	EA	500.00	$1,000
Remove roofing	15,071	SF	0.25	$3,768
Remove elevator, hoistway and machinery	1	LS	37,540.00	$37,540
Sawcut AC paving	4,208	LF	2.00	$8,416
Break and remove AC paving	2,104	SF	3.00	$6,312
Patch AC paving - 8"	2,104	SF	4.00	$8,416
Sawcut concrete floor slab	24,912	LF	3.00	$74,736
Break and remove concrete floor slab	12,456	SF	5.00	$62,280
Drill and set dowels - #4	24,912	EA	45.00	$1,121,040
Place, finish and cure concrete	254	CY	300.00	$76,200
G1030 Soil Stabilization				
Allowance for Mobilization and Demobilization	1	LS	50,000.00	$50,000
Compaction grouting columns	109,200	LF	50.00	$5,460,000
Provide 6"O steel casing	300	LF	25.00	$7,500
G10 SITE PREPARATION				$10,061,304
G - SITEWORK				**$10,061,304**

STRUCTURAL FEASIBILITY STUDY

Port of Los Angeles
Warehouse No. 1 Renovation - Structural Feasibility Study
2500 Signal Street, San Pedro, CA

December 18, 2007
LA0500028

miyamoto.

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List of Tables & Figures

Executive Summary

Warehouse No. 1, a landmark building at the Port of Los Angeles built in 1917, is a six story-plus-basement, 500,000 square foot reinforced concrete structure. The primary goal of the renovation of Warehouse No. 1 is to create a new, usable space with an occupancy and functionality other than the current heavy storage use. This project will provide new useable space to the Port and extend the life of this historic building.

This report provides an evaluation of the structural system of the building for an occupancy change from heavy storage to office use. An architectural renovation concept was developed and may be found in Appendix A, and associated structural modifications may be found in Appendix B.

The existing building was investigated visually by Miyamoto International, plans and historic documents were reviewed. A geotechnical investigation was performed and material samples taken and tested.

Materials samples of concrete and steel reinforcement from areas throughout the structure were obtained and tested, the results may be found in Appendix D. The material types and strengths found are consistent with the as built drawings, and are of good quality for the period of construction.

Significant deterioration of the exterior stairs was observed and falling debris pose a hazard to passersby. This is partially addressed by chain link canopies installed over ground floor exits. Other areas of deterioration were observed, such as cornices near the roof and parapet features. This too, could pose a falling hazard to passersby. In general, the remainder of the building is in good condition for its age and exposure to the marine environment.

Any significant structural modifications to this structure will require foundation improvements. The existing pile foundations are not likely to meet current code requirements. A compaction grouting scheme is proposed for this feasibility study.

Warehouse No. 1 is situated in an area of high seismic risk. The structural evaluation for this renovation feasibility study was based on meeting the goals of the Basic Safety Objective (BSO) rehabilitation developed by the Federal Emergency Management Agency (FEMA) in FEMA 356. It is anticipated that the conclusions of this study will remain comparable and valid with the 2007 California Building Code requirements, which will be in effect January 2008 for renovations of existing buildings.

Structural analysis, calculations and modeling were performed to determine the necessary structural modifications necessary for the proposed renovation.

Based on the findings in this report it appears structurally feasible to renovate Warehouse No. 1 for office-type occupancy with the architectural scheme proposed.

The cost estimate for the proposed structural modifications and foundation improvements is $20,638,176. This estimate does not include non-structural modifications or the evaluation and upgrading of rooftop structures. The complete cost estimate may be found in Appendix C.

In the preparation of this report, Miyamoto International, Inc. has exercised the usual and customary professional care ordinarily exercised by members of the engineering profession under similar circumstances in the locality of the project. In addition, Miyamoto International, Inc. makes no warranties, express or implied in connection with this report.

Josh Gebelein, M.S., P.E. Project Manager	Ken Wong, M.S., S.E. Principal

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Introduction

This report presents Miyamoto International's findings resulting from a renovation feasibility study of Warehouse No. 1 located at 2500 Signal Street, San Pedro, California. Warehouse No. 1 is a landmark building at the Port of Los Angeles built in 1917. It is listed in the National Register of Historic Places with the US Department of the Interior.

The scope of this report is an initial evaluation of the structural system of the building for occupancy change from heavy storage to office use. A schematic set of drawings and description of work for the structural modifications is provided in Appendix B.

An architectural renovation concept was developed by EDAW/AECOM in conjunction with Miyamoto and Wilson Co., and reviewed by the Port of Los Angeles. See Appendix A for a look at this concept.

The findings contained in this report are based on an exhaustive review of the constructed condition of the building, as built plans, geotechnical data, and material sampling and testing. The structural evaluation of the proposed renovations was performed to the standards of FEMA 356. Modifications associated with architectural, mechanical, electrical, plumbing, etc. are beyond the scope of this report.

Description of Structure

General Information

The subject structure is located on man made fill in the Los Angeles Harbor at the southern end of the East Channel. The structure was constructed from 1915 to 1917. This six story plus basement, approximately 500,000 square foot structure is rectangular in shape with plan dimensions of 480 feet in the North-South direction by 152 feet in the East-West direction. The building has a 7'-9" tall basement level extending roughly 5 feet below grade, the first floor is 14'-6" tall, and the remaining floors are 10'-0" tall. The overall building roof level is approximately 68 feet above adjacent grade, and the basement level is approximately at sea level. A very large water tower is located on the Northern portion of the roof, and a light framed harbor station and antennas have been installed at the Southeast corner of the roof.

Figure 1 – Aerial Photo of Building Site

Structural System

The existing building consists of 8-inch thick reinforced concrete walls around the perimeter and interior at the basement and first floor, and 6-inch thick at the upper floors. The floors are constructed of 9 and 10-inch thick reinforced concrete two-way slabs, the roof is constructed of 6 and 7-inch thick slabs. Gravity columns are evenly spaced at 20'x21'-2" modules with slab drop panels, and range in size from 20" diameter at the upper floors to 48" diameter at the lower floors. Walls are evenly spaced at 60 feet on center along the North-South length of the building, and the perimeter. Columns are cast monolithically with the walls. The foundation is composed of approximately 192 pile caps under columns and walls with an average of 12 driven piles per pile cap, the specific pile material and design information is unknown at the time of this report. Based on available documentation and similar construction the existing piles may consist of 16-inch diameter driven redwood piles, and are likely driven roughly 28 feet to firm bedrock through loose sediments and man-made fill. There are no separation or expansion joints in the structure. The lateral force resisting system is composed of the concrete shear walls noted. The exterior wall has large loading door openings, and door/windows openings at regular intervals along the East and West walls. These openings are regularly spaced horizontally, and are stacked vertically in a manner which effectively separates adjacent shear walls. Floor openings occur at the elevators and stairs, but are minor in comparison with the overall size of the floor.

Reference Plans

Plans for the building dated September 10, 1915 "M.D. No. 1 – Warehouse No. 1" created by the City of Los Angeles Harbor Department, were made available by the client and reviewed in this study. The historical information and documentation developed for the National Parks Service was also provided.

Observations

Ken Wong of Miyamoto International visited the project site on April 5, 2007 to observe the exterior of the structure, and Josh Gebelein of Miyamoto International visited the building on June 5, 2007 for full interior and exterior observation of the structure. The site survey included visual observation from the roof, an interior walk of the basement, ground floor, half of the above ground floors, and an exterior walk of the structure.

Site Observation Findings

Overall Site

From visual observations only, based on observed crack patterns in the walls of the structure, the building has settled and/or spread at the Northmost and Southmost ends in a classic "hog back". Without surveying equipment the amount of settlement or spreading can not be quantified, however for the size of this building, the type of soil in the area, and age of the structure, differential settlement or movement is expected. The movements are gradual across the building, and are not easily perceptible.

The ground water levels were observable in both a test pit in the basement near the center of the building, and in an exterior pit on the West side of the building. In both cases standing water approximately 2 feet below the basement floor level were observed. It is assumed that the ground water levels fluctuate slowly based on the adjacent sea level tidal motion.

Material Deterioration

The interior of the building exhibits only minor deterioration of concrete. Floor slabs have regular cracks running East-West evenly spaced at approximately 40 feet on center, which appear to be at locations of cold joints. Typical deterioration of floors consists of minor spalling at cold joints, primarily at the ceiling of first floor. Wear and tear from equipment may also be found, but no significant structural damage was observed.

The interior face of the perimeter concrete walls exhibits evidence of minor water intrusion at sporadic locations on the upper floors. This generally consists of water stains and some laitance, very little rusting was observed and the resultant structural damage is expected to be minor.

The exterior concrete stairs have degraded to an extreme extent. Chain link canopies have been erected to catch falling concrete debris from the stairs, and a considerable amount of material debris was observed. Much of the concrete railings are deteriorated and falling from the building, significant rusting of reinforcement was observed on all stairs. The structural integrity of the stairs is assumed to be significantly reduced, and the railings are clearly unsafe.

In general the rest of the exterior of the concrete walls are in good condition, with minor spalling at occasional locations with exposed and corroded reinforcement steel. A few architectural cornices are spalling from the building near the roof line, and at the parapet. A few locations of spalling were observed on the inside face of the roof parapet. This deterioration is not structurally significant, but a potential falling debris hazard exists.

Figure 2 – Floor Crack at Ceiling of First Floor

Figure 3 – Water Damage at Exterior Wall on Second Floor

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Figure 4 – Exterior Stair Deterioration

Figure 5 – Exterior Stair Deterioration

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Figure 6 – Exterior Stair Deterioration

Figure 7 – Exterior Stair Deterioration

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Figure 8 – Roof Parapet Deterioration

Figure 9 – Northwest Corner Deterioration & Historical Plaque

Owner Modifications

At the first floor, nearly every interior wall has been modified from the original plans with a large doorway cut into each wall. Most of these have since been infilled back to a solid wall condition. Two bays of wall have been completely removed at the first floor near the Southwest corner, and a portion of the floor above exhibits cracking due to the removal of the supporting wall.

The Western railway pit has been infilled up to the level of the first floor and topped with concrete. This is indistinguishable from the original construction, and may be a design change not shown on the plans, or is an old modification.

A roof opening was cut to allow a new stair to be installed allowing access to from the 6th floor to the roof near the Southeast corner of the building.

Several CMU infill walls are installed along the elevator shafts on all the upper floors and some bathroom areas, and a clay block infill wall is installed at the Northern bays of the Second floor.

At all upper floors, a continuous hallway has been created by cutting doorways into the interior concrete cross walls down the center of the building immediately East of the elevator locations.

Figure 10 – Infilled Door Opening at First Floor

Figure 11 – Wall Openings at First Floor

Figure 12 – Infilled West Railway at First Floor

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Figure 13 – Roof Opening at Southeast Corner for Stair

Figure 14 – CMU Infill Wall at Second Floor Restroom

Figure 15 – Hallway Doorways At Upper Floor

Roof Structures

A very large water tank sits on the roof near the North end of the building, rising approximately 100 feet above the roof line. The tank is constructed of riveted steel plates with built up truss legs and tie rod bracing, and appears to be anchored directly over structural columns below. It is not known by Miyamoto if the water tank currently contains water or is in working order. The structure appears to be in good condition and well maintained. No drawings for this structure were made available for this report. Based on its construction would appear to be more than 75 years old, and may date to the original period of construction.

Small 10 feet by 15 feet equipment penthouse structures have been added on to the original elevator penthouse locations. The construction appears to consist of light gauge metal, with stucco finish. Spreader beams above the roof have been placed to support the equipment loads.

A harbor office of what appears to be timber construction on a raised steel platform has been installed on the Southeast corner of the building roof, along with a small equipment penthouse. These structures appear to be engineered to be supported directly onto the structural columns below. A small stair penthouse adjacent to the roof top office appears to be constructed of wood framing.

Figure 16 – Water Tank on Roof

Figure 17 – Water Tank Base on Roof

Figure 18 – Equipment Building on Roof

Figure 19 – Equipment Building on Roof

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Figure 20 – Harbor Office on Roof

Figure 21 – Harbor Office and Equipment Penthouse on Roof

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Figure 22 – Harbor Office Base on Roof

Figure 23 – Stair Penthouse on Roof

Site Geology & Seismicity

Subsurface Conditions

A geotechnical investigation was performed by Diaz Yourman & Associates in June 2007, with findings published in "Preliminary Geotechnical Investigation – Warehouse No. 1 Seismic Retrofit" (Project No. 2007-005.01) dated June 6, 2007.

This report notes that the subsurface materials consist of hydraulic man made fill of sand and silt up to a depth of about 28 feet. Underlying this fill is a natural formation of firm to very hard siltstone. The man made fill is saturated and tidally influenced, and is considered liquefiable in a seismic event.

Site Seismicity

The site is located near several active faults that are capable of producing moderate to large magnitude earthquakes. Table 1 lists the major active faults affecting the site. The closest major active fault to the project site is the Palos Verdes fault which is approximately 1.9 km away.

The Maximum Credible Earthquake (MCE) refers to the largest earthquake that can be expected to occur along a given fault or fault zone. The maximum magnitude of an earthquake for a fault is based on the length of the fault, its width (i.e., depth into the earth's crust), and to some extent the type of fault, such as thrust, normal or strike slip.

Major Active Faults	MCE Magnitude (Mw)	Distance to Site (km)	Recurrence Interval (years)
Palos Verdes	7.1	1.9	650
Compton Thrust	6.8	8.1	676
Newport-Inglewood (onshore segment)	6.9	12.3	1006
Elysian Park	6.7	29.6	549
Whittier	6.8	37.6	641

Table 1 – Major Active Earthquake Fault Affecting the Site

Seismic Fault Rupture

The property site is not located within a known fault rupture zone as delineated under the Alquist-Priolo Earthquake Fault Zoning Act. From a review of the California Department of Mines and Geology Alquist-Priolo fault trace maps for the region, the site is not located within a designated special study zone and therefore the potential for ground surface rupture due to seismic faulting is very low.

Seismic Hazard Level

The project site is located in an area of high seismic risk. This risk is quantified in a probabilistic manner due to the uncertainty of timing and magnitude of future seismic events. Structural analyses for this project are based on potential seismic hazard levels predicted by the USGS for the specific site and geology based on historic data and extensive research. For example, the Basic Safety Earthquake 2 (BSE-2) is defined by FEMA 356 as a seismic event with a 2% probability of exceedance in 50 years. The Basic Safety Earthquake 1 (BSE-1) is defined as the smaller of the seismic event with a 5% probability of exceedance in 50 years, or 2/3 the BSE-2.

For engineering calculations and design, the level of shaking that a building will experience is may be described using the Spectral Response Acceleration. The Spectral Response Acceleration describes the acceleration, and thus the force that will be experienced at a given site over a range of response periods.

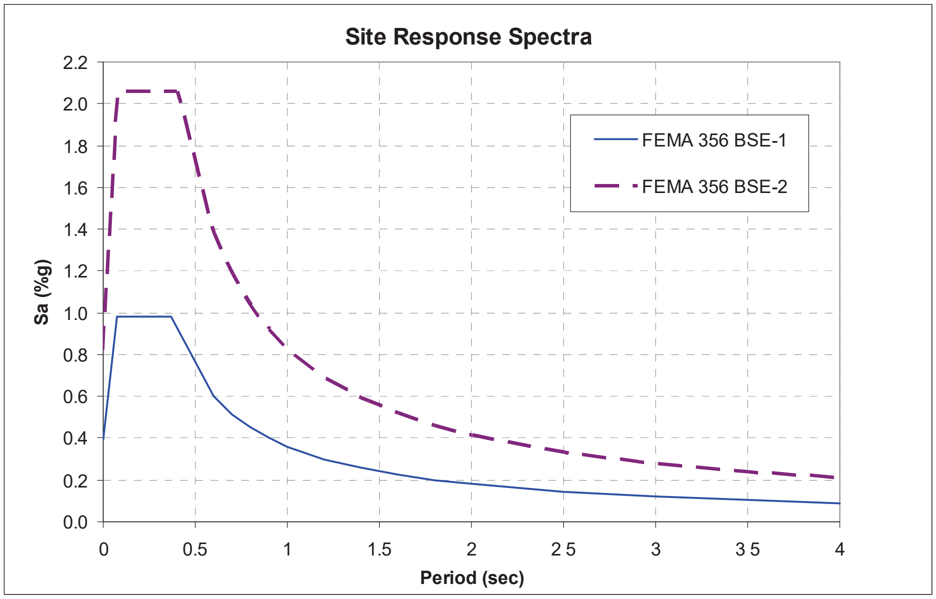


Figure 24 – Site Response Spectra

Historical Seismicity

This structure has experienced many seismic events throughout its lifetime of use. Information on seismic damage from these events was not available for this report, however it is assumed from the site observations that past damage, if any, was minor and easily repaired.

Notable seismic events:

On March 11, 1933 the Long Beach earthquake struck with a magnitude 6.3 and an epicenter 30 km from the site. This event may have generated a local peak ground acceleration of 0.10 g, which would impose a seismic force on the structure of roughly 20% considered for this study. There were approximately a dozen aftershocks with a magnitude greater than 5.0 near this site following the main shock.

On November 14, 1941 the Los Angeles Basin earthquake struck with a magnitude 5.4 and an epicenter 7 km from the site. This event may have generated a local peak ground acceleration of 0.16 g, which would impose a seismic force on the structure of roughly 35% considered for this study.

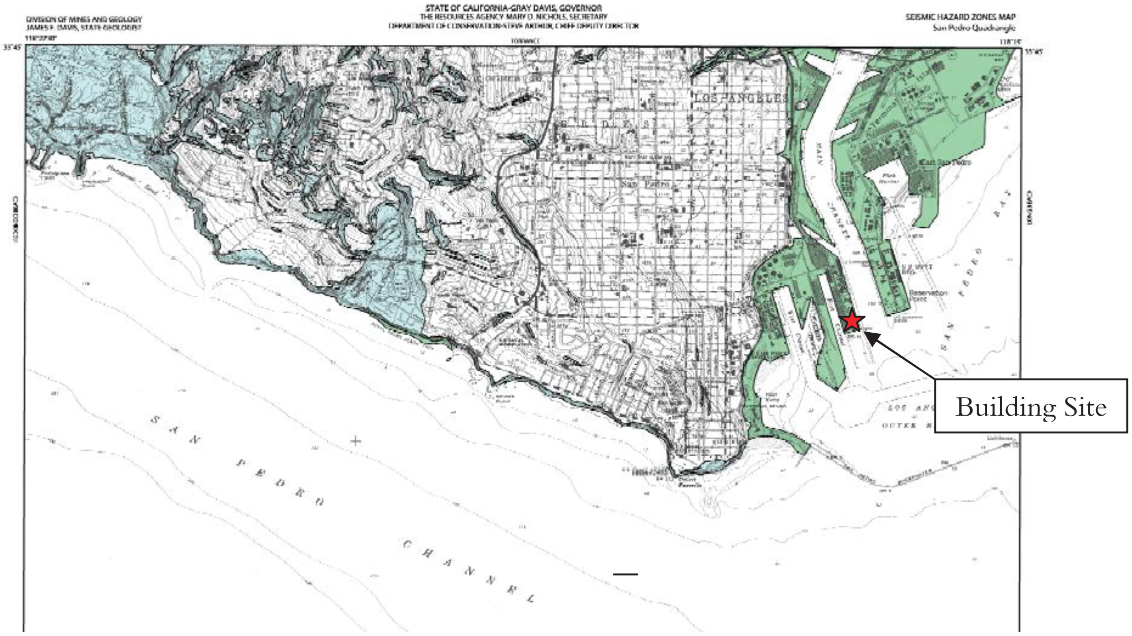
Historical data was obtained from the USGS database, and estimates of local peak ground accelerations determined using Boore, Joyner and Fumal Spectra.

Liquefaction

Soil liquefaction is the process by which saturated, unconsolidated soil or sand is converted into a state of suspension. In the case of seismically induced liquefaction, as occurred during the 1989 Loma Prieta Earthquake, sand boils and sudden loss of soil load carrying capacity can result in drastic and irregular settlement. For locations where liquefaction is likely to occur, a variety of factors must be considered including soil type, water table depth, and historic soil conditions.

Figure 4 represents a map produced by the California Geological Survey of the liquefaction zones in the area surrounding the subject site. The project site lies in the San Pedro Quadrangle.

Based on this map and the geotechnical report for this project, there is a high risk of liquefaction susceptibility at this site.



MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

🟩 **Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.**

Earthquake-Induced Landslides

🟦 **Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.**

NOTE: **Seismic Hazard Zones identified on this map may include developed land where delineated hazards have already been mitigated to city or county standards. Check with your local building/planning department for information regarding the location of such mitigated areas.**

Figure 25 – Liquefaction Zones in the San Pedro Quadrangle
(www.conservation.ca.gov/cgs/shzp)

Renovation Concept

The primary goal of the renovation of Warehouse No. 1 is to create a new, usable space with an occupancy and functionality other than heavy storage. The potential uses considered in this study are office space and/or public museum space. A renovation concept was developed by EDAW/AECOM in conjunction with Miyamoto and Wilson Co., and reviewed by the Port of Los Angeles; see Appendix A for a detailed look at this concept.

There are many Architectural issues that the proposed renovation concept addresses. The existing floor to floor story height of 10 feet is low for the potential occupancy change and the amount of exterior windows and interior natural light is limited. The number of interior walls restricts the flow of occupants throughout the building, and the existing stairs and elevators are clearly not up to current standards.

The proposed renovation will require structural modifications. For the structural impact of the proposed renovation, and to improve the overall seismic safety of the building, there are important alterations and remediation issues that must be addressed:

- Foundation improvements due to possible deterioration of piles
- Remediation of deteriorated concrete features and restoration of historic façade
- Removal of exterior wall for increased views and natural light
- Removal of interior walls for flow of occupants
- Remaining walls to be strengthened
- Removal of floor slab at the third and sixth floor to increase story height
- Removal of portions of the first, second, fourth floors and roof for atriums, elevators and stairwells.
- Evaluation and upgrade of the rooftop water tower, equipment and harbor office

Foundation Improvements

Based on available documentation and similar construction for the time period, it is probable that the existing piles consist of 16-inch diameter driven redwood piles, and driven roughly 28 feet to firm bedrock through loose sediments and man-made fill. Direct investigation of the integrity of the piles was not performed for this study, as they are not accessible without significant excavation and destructive investigation. Due to the age of the piles and their location within a tidal zone, it is the opinion of Miyamoto and the Geotechnical Engineer that until proven by investigation, it is unlikely that the full cross sections of the piles are intact. Even if the existing piles have not deteriorated, they are not likely meet current code requirements for renovation of the building.

The ground the building rests on is highly liquefiable during a seismic event. Without adequate support from piles, the building could be damaged by future ground settlement or ground failure during a significant seismic event.

A proposed solution for use in the renovation scheme is to use compaction grouting of the soft soils below the building. The preliminary scheme by the Geotechnical Engineer would use compaction grouting columns approximately 25 to 30 feet deep spaced at five feet on center throughout the building and extending ten feet outside the building footprint, except for the southern end of the building where it would extend 25 feet beyond the building footprint. Compaction grouting will provide the required vertical bearing capacity, and mitigate settlement and seismic ground failures.

For more information, refer to the report by Diaz Yourman & Associates in June 2007, "Preliminary Geotechnical Investigation – Warehouse No. 1 Seismic Retrofit" (Project No. 2007-005.01) dated June 6, 2007.

Evaluation Criteria

The structural evaluation for this renovation feasibility study was based on meeting the goals of the Basic Safety Objective (BSO) rehabilitation developed by the Federal Emergency Management Agency (FEMA) as FEMA 356, "Prestandard and Commentary for the Seismic Rehabilitation of Buildings." The BSO is achieved by designing the renovated structure to meet the Life Safety (LS) Performance objective at BSE-1, and meet Collapse Prevention (CP) Performance objectives at BSE-2.

The seismic demands of BSE-1 and BSE-2 are discussed and shown in the "Site Geology & Seismicity" chapter of this report. The Collapse Prevention performance criterion is defined as the post-earthquake damage state that includes damage to structural components such that the structure continues to support gravity loads but retains no margin against collapse. After an earthquake a structure designed to the collapse prevention performance criterion may not be practical to repair and is not safe for occupancy, since aftershock activity could induce collapse. The Life Safety performance criterion is defined as building performance that includes damage to both structural and non-structural components during a design earthquake, such that: (a) partial or total structural collapse does not occur, and (b) damage to nonstructural components is non-life threatening.

FEMA 356 directs the designer to incorporate the requirements of the current material standards. At the time of this feasibility study the current material standards of 2001 California Building Code (CBC) were used. It is important to note that future renovation work for this project will likely be subject to the requirements of the 2007 CBC (or later edition). Due to the nature of the relationship of the 2007 CBC with FEMA 356, the conclusions of this study are anticipated to remain comparable and valid.

Material Investigation Results

Material sampling and testing was performed by Twining Laboratories in April 2007, the results were published in "Report of Field Investigation and Materials Testing – Port of Los Angeles Warehouse No. 1" (Project No. 070212.1) dated June 14, 2007, see Appendix D for the full report. Materials samples consisted of concrete and steel reinforcement from areas throughout the structure. The quantity of samples taken do not meet the requirements for FEMA 356, however enough samples were obtained and tested to provide preliminary data for this study.

The material data knowledge factor used for this study was 1.0, which assumes that all required testing will be performed prior to finalizing the renovation design. From the testing performed, the lower bound expected concrete strength is 3000 psi, and reinforcement is consistent with Grade 40 Intermediate with a lower bound yield strength of 40000 psi. Existing reinforcement is plain round bars, with a few locations of twisted square bar. Lower bound strength for new concrete and reinforcement is the specified strength, 4000 psi and 60000 psi respectively. Lower bound strengths are used for checking force controlled elements.

For checking deformation controlled elements, expected strengths for existing concrete and reinforcement in this study are taken as 4500 psi and 50000 psi, and for new material, 6000 psi and 70000 psi respectively.

The effect of plain bars and the use of actual lap splice lengths shown on the as built plans are incorporated into the renovation recommendations and evaluations of existing reinforced concrete member capacity.

Structural Analysis

A Systematic Rehabilitation Method was used per FEMA 356 to determine the structural modification requirements for the renovated scheme. Both a Linear Static Procedure (LSP) and a Linear Dynamic Procedure (LDP) was performed using a three dimensional finite element model in ETABS version 9. Additional hand calculations were performed for element checks. Detailed calculations and modeling results are available upon request.

Highlights of the structural analysis technical requirements, assumptions and findings:

1. The building has rigid floor diaphragms.
2. Accidental 5% eccentricity of mass, and actual torsion was analyzed. No additional amplification required.
3. Foundations were modeled as fixed. Soil-structure interaction will decrease the spectral accelerations by lengthening the fundamental period, and should be considered in future studies. Overturning was checked and found to be adequate.
4. P-delta effects are included in the analysis, but effects are minimal. The stability coefficient is determined to be acceptable.
5. Multi-directional effects are considered at wall intersections using 100% + 30% load combination of seismic forces.
6. No structural irregularities exist currently, or would exist with the proposed renovation scheme.
7. It is acceptable to perform both LSP and LDP for this structure, all requirements are met for the conditions allowing their use.
8. Checks of member capacities are determined using ACI 318-95 with strength reduction factors of 1.0.
9. Flexural strength of rehabilitated walls are based on the capacity of only the new reinforcement. The shear strength of existing walls with reinforcement spaced at less than 18 inches on center is considered to be fully effective.
10. For walls with “L” or “T” shapes, the benefit of wall returns of existing construction is excluded as new boundary elements are designed to resist flexural and overturning demands.
11. It is assumed that compressive axial loads are carried primarily by the existing columns.
12. It is assumed that soil remediation is performed to obtain a type SD soil, which is conservative for the determination of the seismic demands over type SE soil.
13. The demolition of the third and sixth floors, partial demolition of all raised floor slabs for new atriums, partial demolition of existing walls, and the change in occupancy from heavy storage to office space results in significantly lighter loads

on the foundation, structural elements, and less seismic mass. Existing columns are be capable spanning of the longer floor to floor heights with the aid of glass fiber composite wrapping at noncompliant lap splice locations of vertical rebar. Exterior and interior walls that are not strengthened will require a portion of the slab at the removed areas to remain and be designed for out of plane seismic support.

14. The existing parapets have inadequate reinforcement lap splice lengths at the roof level; new bracing supports will be required on the parapet for most of the roof perimeter.

15. The existing concrete column elements incorporated in the walls have inadequate lap splice length to be considered as wall boundary elements in tension, therefore new boundary elements will be required to meet the current code requirements of ACI 318. Existing walls will be strengthened with shotcrete and can be reinforced to meet the seismic demands.

16. It has been assumed that the existing piles are not capable of resisting uplift forces due to the possibility of deterioration as well as lack of positive attachment in the as built details. To this effect the proposed option is to modify the foundation to perform as a monolithic unit during a seismic event. The existing basement level is open and continuous, providing adequate room to install a new perimeter grade beam element linking strengthened shear walls together at their base. This will allow the existing piles caps to act as spread footings on grout compacted modified soil, and uplift resisted by dead loads.

Structural Modifications for Proposed Renovation

The structural modification measures below are necessary to meet the requirements noted in this report for the proposed renovation scheme of Warehouse No 1. These items are structural cost items described in detail here, and shown in schematic form on the attached plans and elevations in Appendix B. Please refer to both in order to obtain a complete picture of the proposed structural renovation work.

1. Extensive demolition of existing concrete elements is proposed. Based on field visits there do not appear to be finish materials that would contain hazardous materials, however this would need to be verified at a future date. Any abatement required is likely to be minor in scope.
2. Demolition of existing concrete floor slabs, columns, and walls as noted on the plans. Existing floors are rated for heavy loads, and demolition will not require special care to avoid damage to existing finishes or floors.

3. Soil improvements and additional geotechnical/foundation investigation are required. Refer to the “Preliminary Geotechnical Investigation Warehouse No. 1 Seismic Retrofit” report prepared by Diaz Yourman & Associates, Dated June 6, 2007, specifically section 5.3. The favored solution for ground improvement is compaction grouting.
4. Infill of existing doors and openings is noted on the schematic plans consisting of 3000 psi normal weight concrete of the same thickness as the existing walls, which is 8” thick at the basement and first floor, and 6” thick at the upper floors, with 2 lbs/sq.ft. of reinforcement and perimeter epoxied rebar dowels at 18” on center.
5. New steel braces are required at the perimeter of the roof to brace the existing concrete parapet consisting of approximately 80 lbs of round steel pipe per brace with epoxy anchors to the parapet and roof slab.
6. New concrete edge beams, and beams below slab are noted on the plans to support loads and seismic upgrade requirements consisting of approximately 12”x12” normal weight concrete 3000 psi beams with 12 lbs/ft of reinforcing steel. These beams will be doweled into the existing slab with approximately 4 epoxy bars per foot of length.
7. New pneumatically applied concrete referred to as “shotcrete” will be applied against existing walls as shown on the plans. This concrete would consist of normal weight 4000 psi concrete. At the basement and first floors, approximately 8” thick applied shotcrete with 4 lbs/sq.ft. of reinforcement. At the second, third, and fourth floors, 6” thick applied shotcrete with 3 lbs/sq.ft. of reinforcement. At the fifth and sixth floors, 4” thick applied shotcrete with 2 lbs/sq.ft. of reinforcement. New shotcrete walls will be doweled into the existing walls with approximately 1 epoxied rebar per sq.ft. of existing wall. Rebar dowels at the top and bottom of each shotcrete wall will be cored through the floors at about 9” on center.
8. New vertical concrete boundary elements are required at the edges and intersections of strengthened walls. These are heavily reinforced column-like elements with horizontal ties doweled into the existing walls at approximately 4” on center along the height, approximately an additional 6”x24” to the shotcrete thickness, with an average of 30 lbs/ft of reinforcing steel.
9. Repair of existing exterior concrete damage due to weathering will be required. Please refer to the architect for an approximate estimate on the work to be performed. It is anticipated that approximately 15% of the parapets and remaining general exterior wall area will require some level of repair. Due to the extensive corrosion and spalling of the existing exterior stairs, assume at least 50% replacement of the remaining concrete stairs.
10. To meet FEMA 356 standards for the final design, additional material testing and investigation will be required, however this would be part of the design cost and may not be desired to be incorporated into the renovation cost at this point.

11. Glass fiber composite wrapping at noncompliant lap splice locations of vertical rebar at interior columns where existing floor slab and drop panels are removed.

Additional nonstructural considerations for the proposed renovation include:

1. There is one existing railway running through the building. It is proposed to infill the eastmost railway with compacted fill, and install a new 6" concrete floor slab at the first floor level.
2. New skylights over the new atriums and will involve a small amount of new structural steel or concrete supports.
3. At the areas of exterior wall demolition, new exterior glass curtain walls are proposed. This would require approximately 4 lbs/sq.ft of structural steel frame support in addition to the new glass system.
4. New stairs and elevator modifications are not shown on these plans, and will involve a small amount of new structural steel supports.
5. Evaluation and upgrade of the rooftop water tank, equipment and harbor office.

Costs and modifications associated with architectural, mechanical, electrical, plumbing, etc. are beyond the scope of this report.

Conclusion

Based on the findings outlined in this report it appears structurally feasible to renovate Warehouse No. 1 for office-type occupancy with the architectural scheme proposed. This project will provide new useable space to the Port and extend the life of this historic building.

See Appendix B for the Conceptual Cost Estimate provided by O'Connor Construction Management dated November 29, 2007, which is based on the information provided in this report. This estimate covers structural modifications for the proposed renovation scheme, and does not include evaluation and upgrading of rooftop structures.

The conceptual cost estimate for the proposed structural modifications and foundation improvements is $20,638,176.

Appendix A: Architectural Renovation Concept

Appendix B: Structural Renovation Concept

Appendix C: Conceptual Cost Estimate

Appendix D: Materials Testing

HISTORIC RESOURCES EVALUATION REPORT

Final

PORT OF LOS ANGELES MUNICIPAL PIER NO. 1

Historic Resources Evaluation Report

Prepared for
Port of Los Angeles

February 2011

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Cover Image: Aerial view of completed Municipal Pier No. 1 showing Warehouse No. 1 (right), Municipal Shed No. 1 (Transit Shed Berths 58-6) (left) and the Pan American Petroleum Co. in the background, October 17, 1925. Source: POLA.

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HISTORIC RESOURCES EVALUATION

Port of Los Angeles Municipal Pier No. 1

1. Introduction

The Los Angeles Harbor Department (LAHD) has contracted with ESA to perform a historic resources survey and evaluation of Municipal Pier No. 1 (see Figure 1, Location Map). The Port of Los Angeles (POLA) is planning to implement the City Dock project, which would make a number of alterations and improvements to the sheds at Berths 57-60, as well as to Municipal Pier No 1 which supports these sheds.

Previous studies[1] of the site suggested that, in addition to the sheds at Berths 57-60, Municipal Pier No. 1 supports these structures, may also be eligible for listing in the National Register of Historic Places (NRHP) either individually, or as a potential historic district. The LAHD requested that ESA provide a conclusive evaluation of the eligibility of Municipal Pier No. 1 for the LAHD City Dock project.

This report documents ESA's methods and findings of an intensive architectural survey and evaluation of Municipal Pier No. 1. Efforts included performing a review of previous studies; conducting additional archival research; surveying Municipal Pier No. 1; and applying the eligibility criteria for listing in the NRHP, CRHR, and City of Los Angeles Landmark criteria. All survey and evaluation work was conducted by ESA's senior preservation specialist, Brad Brewster, who meets the Secretary of Interior's professional qualification standards for both architectural history and preservation planning. Mr. Brewster supervised additional research conducted by Candace Ehringer, Registered Professional Archaeologist. Mr. Brewster and Ms. Ehringer have more than 25 years of combined experience working on cultural resources studies.

1.1 Methods

Previous Study Findings

ESA reviewed previous inventories and evaluations of the Signal Street properties at the Port of Los Angeles, including those by San Buenaventura Research Associates in the late 1990s, and ICF Jones & Stokes in 2000 and 2008.

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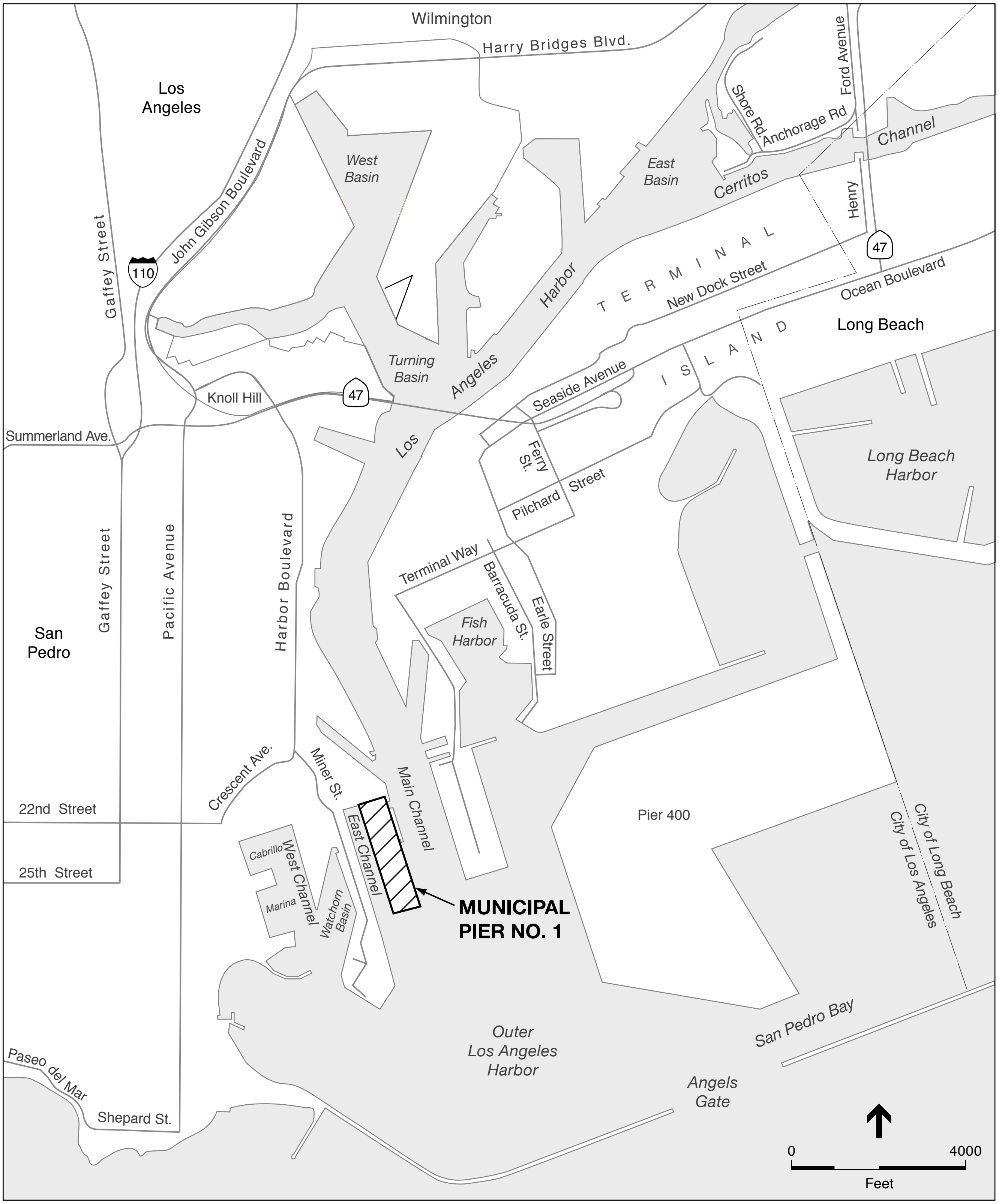
[1] ICF Jones & Stokes, *Final Architectural Survey and Evaluation of Signal Street Properties Port of Los Angeles, Los Angeles, California,* 2008.



Historic Resources Evaluation Report for Port of Los Angeles - Municipal Pier No. 1 . 201278.14

SOURCE: POLA; ESA, 2011

Figure 1
Location Map

In the late 1990s, San Buenaventura Research Associates under subcontract for Fugro West, Inc. prepared for the POLA Environmental Management Division Phase I and Phase II of a Cultural Resources Reconnaissance Survey of 7,500 Acres of land and water for the Port of Los Angeles. The purpose of the phased reconnaissance survey was to identify “potentially” eligible historic resources located on the POLA property and make recommendations of eligibility for the NRHP and for designation as City of Los Angeles Historic Cultural Monuments for individual buildings, and “potential” historic districts at the Port. As part of the Phase II report, San Buenaventura Research Associates proposed a historic district encompassing the entire Pier One area south of 22nd Street. As recommended, the potential historic district includes but may not be limited to transit shed structures at Berths 57-60, Municipal Warehouse No. 1, the U.S. Immigration Station, the former Pan American Petroleum Company site (Berth 70, Westway building), and the Municipal Fish Market. Recommended potential districts, such as “Pier One,” were not formally defined and documented in the report (Fugro West, Inc. 1997).

In 1999, the large, concrete, 6-story Warehouse No. 1, completed in 1917 and located at the southern end of Municipal Pier No. 1, was surveyed and evaluated by Jones & Stokes. This massive structure was identified as a property eligible for listing in the National Register of Historic Places (Jones & Stokes, 1999). Warehouse No. 1 was subsequently nominated to, and listed in, the Register in the following year.

In 2008, ICF Jones & Stokes surveyed and evaluated six properties located on or near Signal Street, which are either located on, or immediately adjacent to, Municipal Pier No. 1. These are the Transit Shed Berths 58-60, Immigration Station (Canetti’s Restaurant, 309 E. 22nd Street), Transit Shed Berth 57, Pan American Petroleum Company Marine Loading Station Facility – Berth 70 (Westway Terminal Building), 264 and 270 E 22nd Street, and Pan-Am Terminal Facility – Berth 56 (California Fish and Game Building). ICF Jones & Stokes found that all six properties appear to be eligible for listing in the NRHP and the CRHR, as well as appear eligible for listing as Los Angeles Historic –Cultural Monuments (ICF Jones & Stokes, 2008).

Although Municipal Pier No. 1 itself was not surveyed and evaluated at an intensive level by Jones & Stokes in 2008, they inferred that the Pier has potential historical significance because it was an integral part of the Port during the early half of the 20th Century, and the basic layout and facilities at the Pier have changed little since the late 1920s. They also inferred that Municipal Pier No.1 was eligible as part of a potential historic district, with multiple other contributing structures, upon future intensive-level survey and evaluation.

1.2 Archival Research

Archival research for the current evaluation of Municipal Pier No. 1 was conducted at POLA, the Los Angeles Public Library, various online sources, and the South Central Coastal Information Center (SCCIC) at the California State University at Fullerton.

1.3 Fieldwork

On December 10, 2010, Mr. Brewster conducted an intensive field survey of Municipal Pier No. 1. As part of this survey, Mr. Brewster took photographs and prepared descriptions of the Pier and associated structures atop the Pier. These descriptions are provided in Section 5, below, as well as in California Department of Parks and Recreation (DPR) Forms 523A and B, located in Appendix B. With 17 years of experience surveying and evaluating historic resources throughout the West Coast, Mr. Brewster meets the Secretary of the Interior's qualifications for architectural history.

1.4 Area of Potential Effects (APE)

The Area of Potential Effects (APE) was delineated as the entire Municipal Pier No. 1 south of 22nd Street. The APE map is shown in Figure 2 below. The APE includes the geographic areas within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist, including all ground-disturbing activities, staging areas, and construction zones. As such, the APE includes not only the Pier structure itself, but also the sheds and warehouses which are located atop the structure.

2. Regulatory Context and Significance Criteria

2.1 Federal Regulations

To establish the significance of a property, the National Register of Historic Places (National Register) criteria for evaluation set forth in 36 CFR Part 60.4 must be applied. The following criteria are designed to guide the states, federal agencies, and the Secretary of the Interior in evaluating potential entries for the National Register. The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess at least one of the following:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

The question of integrity is another factor that must be addressed when determining the eligibility of a resource for listing in the National Register. The Secretary of the Interior describes integrity as "the ability of a property to convey its significance." A property must retain certain intact physical features in order to convey its significance under one or more of the NRHP criteria.

▬ ▬ ▬ APE Boundary

SOURCE: Google Earth, 2011

Figure 2
APE Map

Integrity is judged on seven aspects; location, design, setting, workmanship, materials, feeling, and association. If a particular resource meets one of these criteria and retains sufficient integrity to convey its historic significance, it is considered as an eligible “historic property” for listing in the National Register. Additionally, unless exceptionally significant, a property must be at least 50 years old to be eligible for listing.

Section 106

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally-assisted undertaking, or issuing licenses or permits, must consider the effect of the proposed undertaking on historic properties. An historic site or property may include a prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register maintained by the U.S. Secretary of the Interior. Federal agencies must also allow the Advisory Council on Historic Preservation (ACHP) to comment on the proposed undertaking and its potential effects on historic properties.

The implementing regulations for Section 106 of the NHPA (36 CFR 800) require consultation with the State Historic Preservation Officer (SHPO), the ACHP, federally recognized Indian tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- initiate the Section 106 process (36 CFR 800.3);
- identify historic properties, resources eligible for inclusion in the NRHP (36 CFR Section 800.4);
- assess the effects of the undertaking on historic properties within the area of potential effect (36 CFR 800.5); and
- resolve adverse effects (36 CFR 800.6).

Adverse effects on historic properties are often resolved through preparation of a memorandum of agreement or programmatic agreement developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to participate. The agreement describes stipulations to mitigate adverse effects on historic properties or listing in the National Register of Historic Places (36 CFR §60).

Significance Criteria under NHPA

A significant impact would occur if a proposed action results in an adverse effect to a property that is listed in or eligible for inclusion in the National Register. The specific Criteria of Effect and Adverse Effect, as defined in 36 CFR 800.9, used to evaluate an undertaking’s effect on a historic property, are as follows:

- An undertaking has an effect on a historic property when it may alter the characteristics of the property that qualify the property for inclusion in the National Register. For the purpose of determining effect, alteration to features of the property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.

- An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

  (1) Physical destruction, damage, or alteration of all or part of the property;

  (2) Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

  (3) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

  (4) Neglect of a property resulting in its deterioration or destruction; and

  (5) Transfer, lease, or sale of the property.

2.2 State Regulations

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

California Register of Historical Resources

The CRHR includes resources that are listed in or formally determined eligible for listing in the NRHP and some resources designated as California State Landmarks and Points of Historical Interest (PRC Section 5024.1, 14 California Code of Regulations [CCR] Section 4850). Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (State CEQA Guidelines Section 15064.5[a][2]). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on the importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it (see 14 CCR Section 4852):

(1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(2) is associated with the lives of persons important in our past;

(3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(4) has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one of the four criteria listed above, a resource eligible for listing in the California Register must retain historic integrity, and is typically fifty years old or older, except where it can be demonstrated that sufficient time has passed to understand the historical importance of the resource.

Significance Criteria under CEQA

The California Environmental Quality Act (CEQA) specifically addresses the protection of historic resources. Based on the Appendix G of the CEQA Guidelines, a project would have a significant impact on historic resources if it would, “result in a substantial adverse change in the significance of a historical resource that is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources or a local register of historic resources.”

2.3 Local Regulations

The Los Angeles Municipal and Administrative Codes address the preservation of historic and cultural monuments, and Preservation Zones. A list of historical and cultural monuments has been compiled and is maintained by the Cultural Heritage Commission, a board of five persons appointed by the Mayor and approved by the City Council. It is the responsibility of the Cultural Heritage Commission to oversee and approve the establishment of Preservation zones (LA Municipal Code Sec. 12.20.3) and to preserve monuments when such action is not in conflict with the public health, safety, and general welfare (LA Administrative Code Sec. 22.128).

According to Section 22.130 of the Los Angeles Municipal Code, a historical or cultural monument is “any site (including significant trees or other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, State or local history or which embody the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age.”

According to Section 22.171 of the Los Angeles Municipal Code, ‘The [Historic Preservation] Commission shall take all steps necessary to preserve Monuments not in conflict with the public health, safety and general welfare, powers and duties of the City of Los Angeles, or its several boards, officers or departments. These steps may include assistance in the creation of civic citizens' committees; assistance in the establishment of a private fund for the acquisition or restoration of designated Monuments; and recommendation that a Monument be acquired by a governmental agency where private acquisition is not feasible.”

3. Historical Setting – Port of Los Angeles

The following historical setting has been adapted, in part, from the intensive-level surveys of the Port of Los Angeles prepared by Jones & Stokes in 2008, as well the reconnaissance-level surveys by San Buenaventura Research Associates from 1992 to 1996. Additional historical information developed by ESA has been inserted into the historic setting where appropriate.

3.1 Early History

The Port of Los Angeles is located approximately 20 miles from downtown Los Angeles, at the southernmost point in Los Angeles County. Due to its location on the Pacific Ocean, the surrounding area historically served as a port facility to varying degrees. Commonly referred to as San Pedro, the port is located within the boundaries of three historic ranchos: Rancho San Pedro, Rancho Los Palos Verdes, and Rancho Los Cerrios. These ranchos, conferred by Governor Pedro Fages to three veterans of the 1769 Portola expedition, possessed combined acreage equaling almost 84,000 acres (Beck and Haase 1974). Owners of the rancho lands earned a living through the raising of cattle and participation in the hide and tallow trade, and by 1830, San Pedro was considered a leading hide center on the west coast (Rawls and Bean 1993; Queenan 1986).

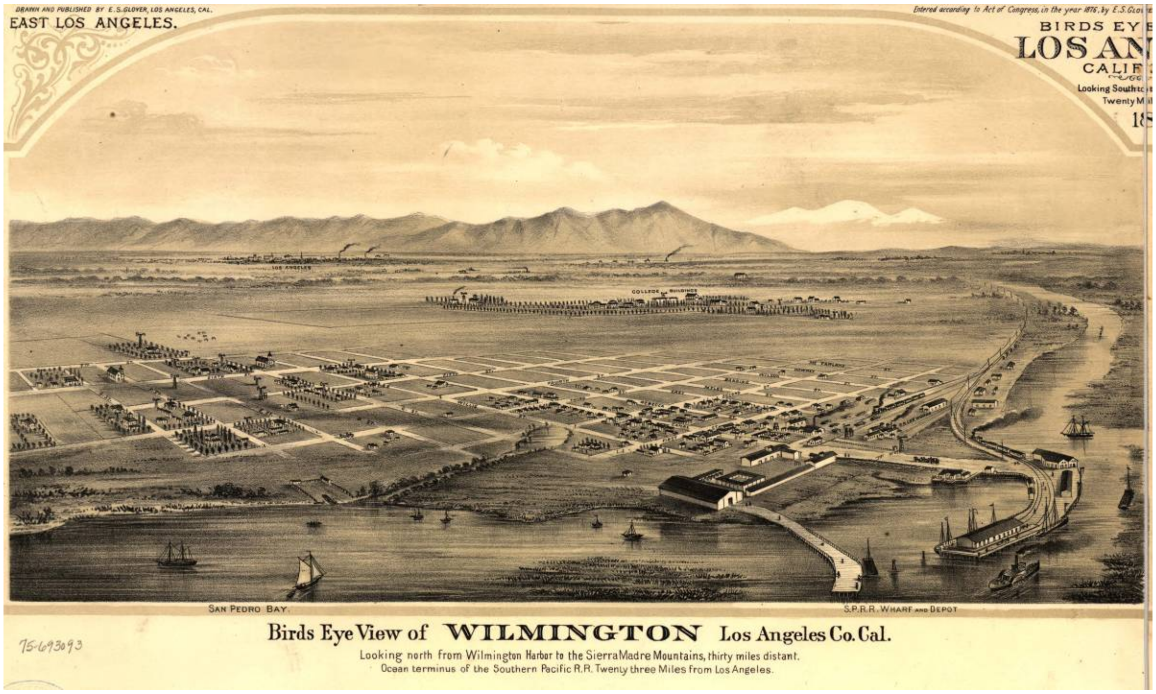
Following the annexation of California by the United States and the subsequent Gold Rush, an influx of new settlers descended upon the San Pedro area. While some residents realized the area’s potential as a port area, the region was underused as a port during this period. Cattle and sheep ranching continued to dominate the economy, with one of the largest sheep operations in California, Flint, Bixby & Company, establishing the largest portion of its operation in San Pedro (Queenan 1986; Beck and Hasse 1974).

3.2 Commercial Shipping, 1857–1897

One of the earliest residents of the area, Phineas Banning, realized the potential of the area as a commercial shipping port, and in 1857, he constructed new docks to take advantage of the increasing trade coming in and out of Los Angeles. Two primary routes to the southwest gold fields, the Gila River Trail and the Old Spanish Trail, ended in Los Angeles. Banning shuttled materials on smaller boats from his base in Wilmington to and from a second location on the Rancho San Pedro waterfront.

Banning also realized the importance of rail transportation between his operation on the bay and the growing city of Los Angeles. In 1869, Banning and his investors organized the Los Angeles & San Pedro Railroad (LA&SP), marking the beginning of a period of fierce rail competition in the San Pedro and Los Angeles area. Banning’s LA&SP was the first route to establish a reliable means of moving cargo from the ships coming into San Pedro Harbor to the City of Los Angeles.

Although the LA&SP was the first short line in southern California, by 1872 it had been purchased by the Southern Pacific Railroad (SPRR). In an attempt to break the stranglehold that the SPRR had on shipping in the area, Senator John P. Jones from Nevada established the Los Angeles and



SOURCE: POLA

Figure 3
Library of Congress Map of Wilmington,
Los Angeles County, CA, 1877

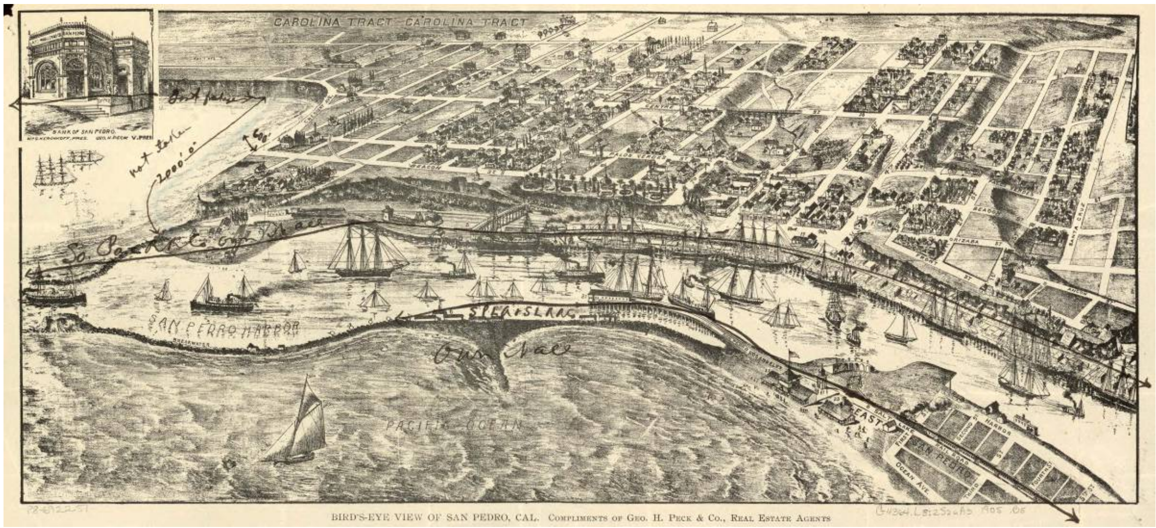
Independence Railroad (LA&I) a year before the SPRR's acquisition of the LA&SP. However, like the LA&SP, the LA&I soon was part of the SPRR system (Queenan, 1986).

Due in part to the improved transportation to and from the harbor, Los Angeles experienced rapid growth during the late nineteenth century. From a population in 1880 of 11,000, the city grew to 50,000 by 1890 and to 102,000 by the turn of the century (Matson, 1920). The increased population brought with it the need for more construction and living supplies, much of which came from ships destined for San Pedro shores.

3.3 San Pedro Bay and the Founding of Port of Los Angeles, 1897–1913

Growing commerce in Los Angeles eventually required the formal establishment of a shipping port. The federal government agreed to assist the City of Los Angeles by establishing its official harbor in San Pedro after several studies recommended it over other sites, including a Santa Monica site pursued by Collis Huntington, an influential member of the "Big Four" railroad barons. Following an extensive battle with Huntington, the San Pedro Harbor site won authorization from Congress in March 1897.

In 1906, in preparation for the opening of the Panama Canal, the City of Los Angeles extended its boundaries to coastal tidewaters when it annexed San Pedro. The Port of Los Angeles and the Los Angeles Harbor Commission were officially created in December 1907, and numerous



SOURCE: POLA

Figure 4
Library of Congress Map of San Pedro, CA, circa 1905

harbor improvements followed, including the completion of the 2.11-mile breakwater, the broadening and dredging of the main channel, the completion of the first major wharf by the SPRR, construction of the Angel's Gate lighthouse, and the construction of the first municipal pier and wholesale fish market. The construction of the breakwater was a "monumental engineering feat" requiring crane operators to place large boulders in precise locations 40 to 50 feet below the surface of the water. Both Wilmington and San Pedro were part of the City of Los Angeles by 1909, and because of this citywide growth, the Port of Los Angeles became the world's largest lumber importer by 1913 (Marquez and de Turenne, 2007; Matson 1920).

A 9-mile outer breakwater was completed in 1913, splitting the harbor into Inner and Outer Harbors. The Inner Harbor was known as Wilmington Harbor and the Outer Harbor was known as San Pedro Bay. The same year, dredging and filling of Mormon Island (Inner Harbor) allowed for its conversion from swamp land to land suitable for wharves and sheds (Marquez and de Turenne, 2007.) The first industries to use these new facilities were boatbuilding companies.

The opening of the Panama Canal in August 1914 decreased the amount of time spent by ships traveling between eastern and western U.S. ports, and promised to open up new trade opportunities worldwide. In preparation for this new trade, the City of Los Angeles completed one of many large municipal terminals in the harbor. However, the outbreak of World War I that same year temporarily stalled the movement toward expanded worldwide trade (Queenan, 1986).

3.4 Wartime Changes, 1914 – 1950

The principal use of the port changed again when England declared war on Germany. At the onset of World War I, the U.S. Navy took possession of a portion of the harbor for a training and submarine base in order to establish a significant presence on the Pacific coast. During the war, the Port was one of the chief sources of employment for residents of the area, with shipbuilding enterprises turning out vessels by the dozens for the war effort. The Port of Long Beach, established only two years before the onset of the war, offered the only southern California competition to the Port of Los Angeles in terms of shipping or shipbuilding.

Despite the previous use of the Port for the shipment of goods, it was not until 1915 that the Port of Los Angeles began constructing its first warehouse. Warehouse No. 1, located on 60 acres, was six stories in height, with a total storage capacity of 500,000 square feet. Warehouse No. 1 opened on March 6, 1917 to great fanfare, with over 10,000 people in attendance. The completion of this building symbolized the Port's transition to a significant seaport able to handle deep sea ships of varied cargo (Marquez and de Turenne, 2007; Queenan, 1986).

In 1917, Terminal Island was dredged and filled. Boatbuilding companies moved their facilities from Mormon Island to Terminal Island. Oil terminals and petroleum facilities took their place on Mormon Island (Marquez and de Turenne, 2007).

Between 1917 and 1930, distributors constructed a large number of new wharves, warehouses and sheds, indicating a significant increase in trade at the Port. In the 1920s, over 25 million tons of cargo passed through the port (Marquez and de Turenne, 2007).

Transportation systems improvements also encouraged the growth of the import and export trade in the harbor area. By 1917, a vast railroad network existed around the harbor and Los Angeles, which facilitated the efficient movement of goods throughout the country. Los Angeles had an advantage over the Port of San Francisco in that it did not have the Sierra Nevada posing an impediment to cargo shipments en route to the east coast (San Buenaventura Research Associates, 1992).

During the period following the end of World War I in 1918, the Port was increasingly used for importing lumber and other types of raw materials. Similar to the prewar period, the vast majority of inbound cargo to the Port consisted of lumber to satisfy the rapid growth of the Los Angeles area. Exceptional levels of new construction of houses and factories necessitated the importation of lumber on a large scale (Matson, 1920). Comparatively, the biggest export product passing through the Port during the postwar years was crude oil.

Following the end of the war, many trade restrictions were lifted, and the Port provided for the transportation of a wide variety of products. Although lumber and crude oil were the biggest commodities to pass through the Port at the time, Los Angeles featured almost all types of industry. Soon after the war's end, many different types of commerce and business activities developed in the area. Although existing harbor facilities continued to be used for products such as oil, lumber, ships, and fish, new facilities were developed to handle products such as cotton, borax, citrus crops, and steel. In 1923, the City of Los Angeles passed a harbor improvement bond measure, resulting in the construction of additional wharves to meet the demands of increased imports and exports. In order to streamline the railroad portion of shipping in the harbor, the various railroad companies serving the Port consolidated operations by 1929 under the title the Harbor Belt Line Railroad (Queenan, 1986; San Buenaventura Research Associates, 1992).

Harbor traffic slowed during the Depression years and the harbor witnessed a sharp decline in international trade. The Harbor Commission continued to make improvements, however, including a new breakwater extension, completed by 1937, and the construction of new cargo and passenger terminals. The federal government's Works Progress Administration (WPA) helped the Port finance improvements, including passenger and freight terminals and wharf (Queenan, 1986).

As one of the major American ports closest to the fighting in the Pacific Ocean, San Pedro experienced new life and distinction during World War II. Ship and aircraft production facilities in the harbor area worked day and night between 1941 and 1945 to manufacture more than 15 million tons of war equipment. In addition, hundreds of thousands of personnel passed through the Port when departing for and returning from combat.

The LAHD launched a broad restoration program following the war, as many facilities in the harbor required maintenance which had been delayed during the war years. During this time, the LAHD improved several of its buildings and removed many temporary wartime buildings (Queenan, 1986).

3.5 Containerization: 1950 to Present

With the rise of containerization following the end of World War II, methods of shipping changed dramatically. Prior to this new method, cargo loading was labor intensive, with individual pieces of cargo, drums, boxes, bags or crates, loaded into ships. Cargo was brought to the dock by truck or train and the individual pieces of cargo were unloaded into transit sheds, sorted and organized, and then moved to the wharf for loading as individual packages into the ship's cargo holds by either ship-based or shore-based cranes where it was then stowed. Alternatively, longshoremen would place the individual pieces of cargo in cargo nets that were hoisted into the ship where the individual pieces of cargo were unloaded and stowed. Some efficiency was achieved by placing several individual containers (e.g., drums, bags, or boxes) on a pallet and then loading the pallet into the cargo hold.

Containerization ships appropriate cargo in standard sized, sealable steel boxes, typically 20 or 40 feet long. Special trailers transport these boxes to and from the port by trucks or rail. An empty container is delivered by truck to a location (manufacture, warehouse, or other enterprise), is loaded with cargo and sealed, then transported by truck or train to the port, where shore-based cranes lift the container from the trailer and place it in the ship's cargo hold or on the ship's deck. After the container is delivered to the destination port, the process was repeated in reverse. This consolidation of cargo in standard-sized containers improves the overall efficiency of transport and allows greater integration of transport by truck, train, and ship.

The adaptation of the maritime industry to containerization involved not only the creation of new ships, truck trailers, rail cars, and cargo cranes designed and built specifically to handle the standard cargo containers, but also the construction of new port facilities. As the loading and unloading of ships and the associated handling was the most time consuming aspect of moving cargo through the Port, under the old loading methods, cargo terminals were designed to maximize the “surface area” of the terminal by providing as much berthing space as possible, with little backland (transit sheds) to service each wharf.

The containerization method required large-volume terminals, with extensive backlands, and internal roadways to service each wharf. The increased backlands reflected the need for storage of trailers and containers awaiting a ship’s arrival, area needed for the loading and unloading of containers onto ships, and area needed to process the containers into and out of the terminal by truck or train. With the increased efficiency, the limiting factor of transferring of cargo became the organization and optimization of storage of containers awaiting shipment, movement to and from the wharf, and cargo flow into and out of the terminal via road or rail. This meant that ports had to either develop new terminals to meet the needs of the new geometry required by containerization or redevelop older terminals. In addition, with containerization, the weight of cargo “packages” (i.e., containers) increased dramatically, requiring much larger cranes and a corresponding move from timber to concrete wharves.

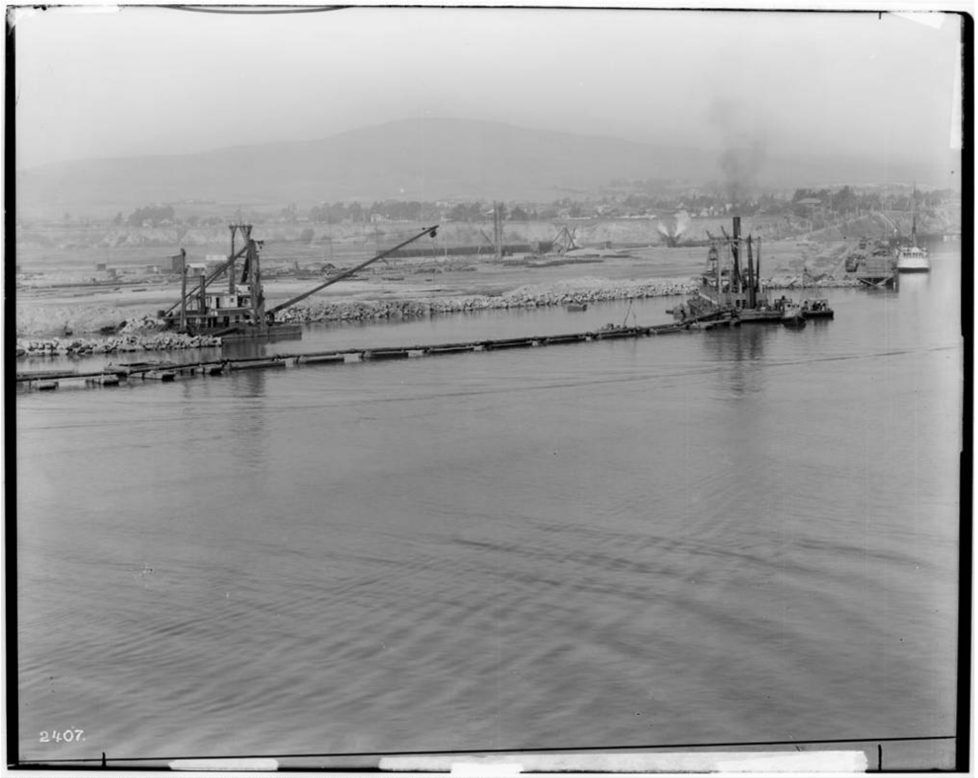
Major improvements to the Port in the 1970s included the deepening of the main channel to accommodate the larger container vessels entering the bay, the purchase of land to expand terminals, and the replacement of older wharves that could not bear the increased weight of newer containers.

Worldwide shipments through the Port increased during the latter half of the 20th century as ocean-going vessels grew to sizes no longer able to negotiate the Panama Canal. Using a “land-bridge” system, shippers wishing to pass materials from the Pacific Ocean to the Atlantic Ocean employed the more efficient practice of unloading at the Port of Los Angeles, moving materials cross country via truck or train, and loading materials onto ships on the east coast.

The following provides a historical context focused on Municipal Pier No. 1.

4. Historical Context – Municipal Pier No. 1

In anticipation of increased shipping due to the construction of the Panama Canal, to be completed in 1914, the Los Angeles Board of Harbor Commissioners initiated several improvements at the Port of Los Angeles in the early 1910s to capture a greater portion of the increased shipping traffic in the Pacific. Improvements to the Outer harbor included the construction of the massive Municipal Pier No. 1. Work on the Pier began with the filling of the Huntington Concession (also called the “Huntington Fill”) during the spring of 1912. Over 60 acres were in-filled with materials taken from dredging the adjacent channel to a new depth of 35 feet (Marquez and De Turenne, 2007; Board of Harbor Commissioners, 1912-1913; LAT, February 6, 1912). According to the Los Angeles Times, this area provided the best opportunity for deep water wharfage at the Port (LAT, March 26, 1911). The Board of Harbor Commissioners Report for 1912-1913 called the construction of Municipal Pier No. 1 as, “one of the best pieces of wharf construction in the country,” and also noted that, “This will be the finest wharf construction that can be built, and is designed for the deep sea commerce of the great ocean lines that will come through the Panama Canal from Europe, or engage in trans-Pacific trade. Figure 5 shows the dredging and fill operations circa 1913.



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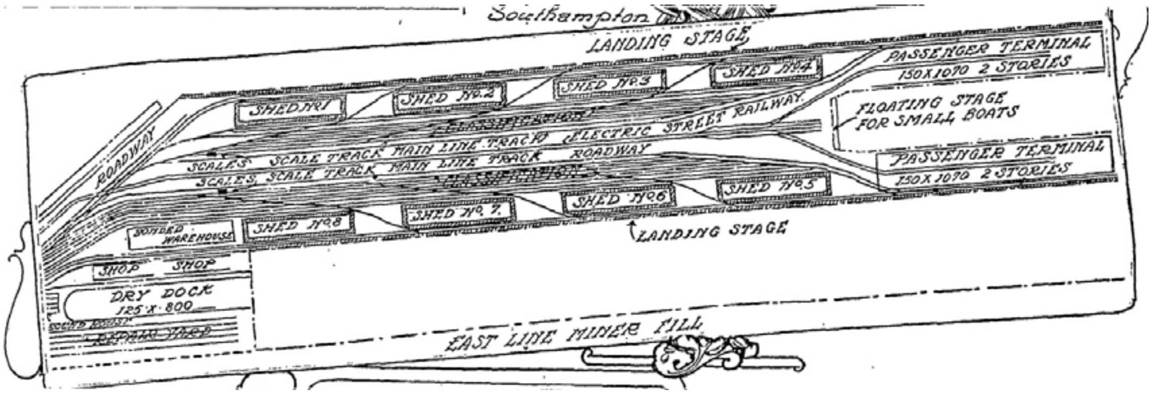
SOURCE: USC Digital Archive

Figure 5
Dredgers at Work on the
“Huntington Fill,” circa 1913

The successful construction of the adjacent Miner Fill with a reinforced concrete pier (as opposed to a traditional timber pier) provided the model for the construction methods used at Municipal Pier No. 1 (LAT, March 26, 1911). Although he was met with some opposition from City Engineer Homer Hamlin, Harbor Commission board member T.E. Gibbon promoted concrete over timber construction. Gibbon believed that timber construction was obsolete and concrete structures were the wave of the future, especially where oil was involved. Concrete construction helped prevent fires, and given that the Port of Los Angeles was predicted to be one of the largest oil ports in the country, was preferred (LAT, February 6, 1912). This same article compared the Port’s project with existing concrete piers in other major ports around the world, including those in Hamburg, Germany, Southampton, England, and Antwerp Belgium; a clear attempt to position the Port of Los Angeles in an international perspective, and exemplifying the enthusiasm for capturing a larger share of the increased world trade resulting from the anticipated opening of the Canal.

The layout of Municipal Pier No. 1 was proposed by Consulting Engineer E.P. Goodrich of New York and prepared by City Engineer Homer Hamlin and Harbor Engineer Vincent (LAT, October 19, 1912). Plans included a 12-foot-high concrete sheet piling retaining wall (bulkhead). The interior was to be filled with dredged materials and raised to a height of 16 feet above the low-water level. The area was surrounded by 40 feet of docking space placed on concrete pilings.[2] The dock would include modern traveling cranes, 16 railroad tracks, and a roadway wide enough to accommodate an electric railway, as well as provide almost 2 miles of wharfage (LAT, February 6, 1912). The construction contract, in the amount of $444,777 was awarded to Snare & Triest in December 1912 (LAT, December 20, 1912). See Figure 6 showing the original layout of the pier.



SOURCE: Los Angeles Times, February 6, 1912

Figure 6
Preliminary Site Plans for Municipal Pier No. 1.

Municipal Pier No. 1, located between the Main Channel and East Channel, was completed in 1914. At that time, the Pier was about 2,520 feet long and 650 feet wide. The pier could be extended an additional 1400 feet into the harbor if increased shipping traffic necessitated additional wharfage (LAT, December 6, 1914). Over 1200 concrete piles and 1100 sheet piles were used in construction. The dock was paved in asphalt by subcontractor Barber Asphalt Company (LAT, May 31, 1914). Dredging of the Main Channel and East Channel to a depth of 35 feet was conducted by the Standard American Company in 1915 (LAT, January 26, 1913; Board of Harbor Commissioners, 1913-1915).

A June 20, 1914 Los Angeles Times article called Municipal Pier No. 1 “the finest reinforced concrete wharf in the world” and praised the work of the Standard American Dredging Company (LAT, June 20, 1914). The article also noted that, “Within a short time the city will have sufficient wharves to accommodate a great volume or traffic, and others will be built as rapidly as they are needed.” Figure 7, below, shows a newly completed Municipal Pier No. 1 circa 1914, prior to the construction of sheds or warehouses.

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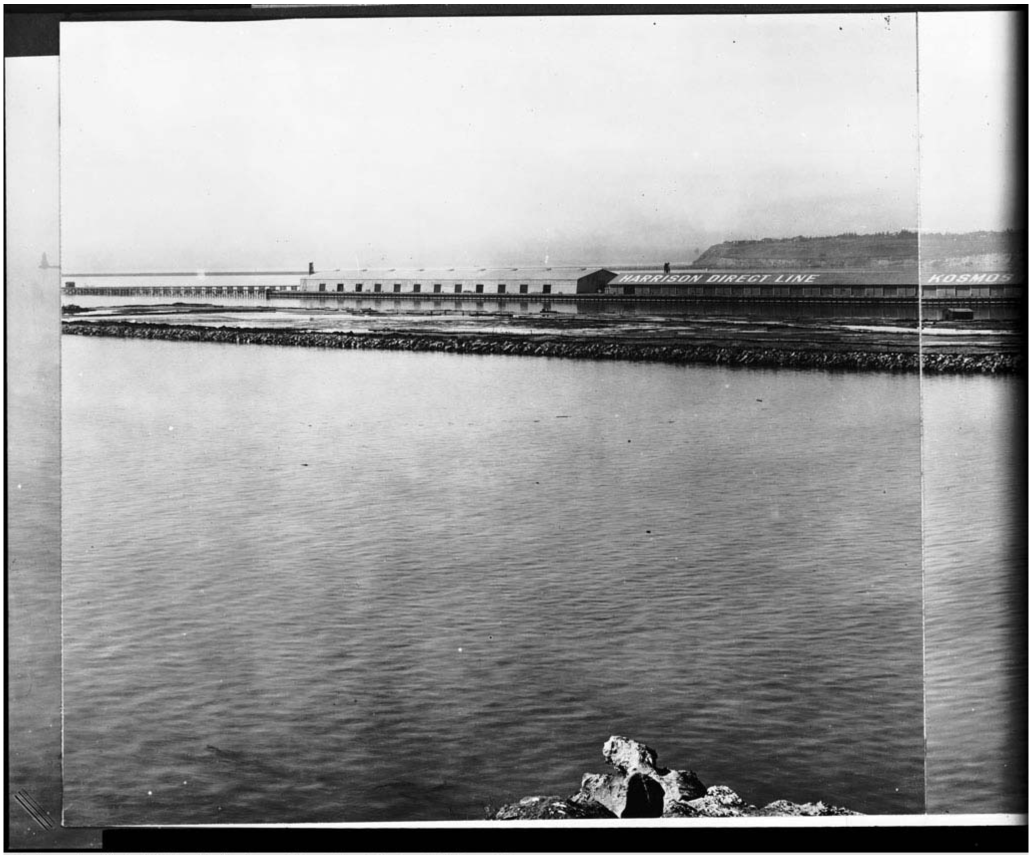
[2] The concrete pile construction was not completed without difficulties, however. According to the 1912-1913 Port of Los Angeles Board of Harbor Commissioners Annual Report, “Difficulty was encountered in the construction of the reinforced concrete wharf along the west side of Municipal Pier No. 1 through the failure of the first piles manufactured for the wharf. In accordance with the specifications prepared by E. P. Goodrich, consulting engineer, of New York, a waterproofing compound was used in making the piles, but at the end of the 30 days when the piles were allowed to cure under the specifications, they cracked and crumbled when lifted. Other piles were then made without the waterproofing, and they have proven satisfactory when cured 30 days. The construction of the wharf is now going forward without delay.”



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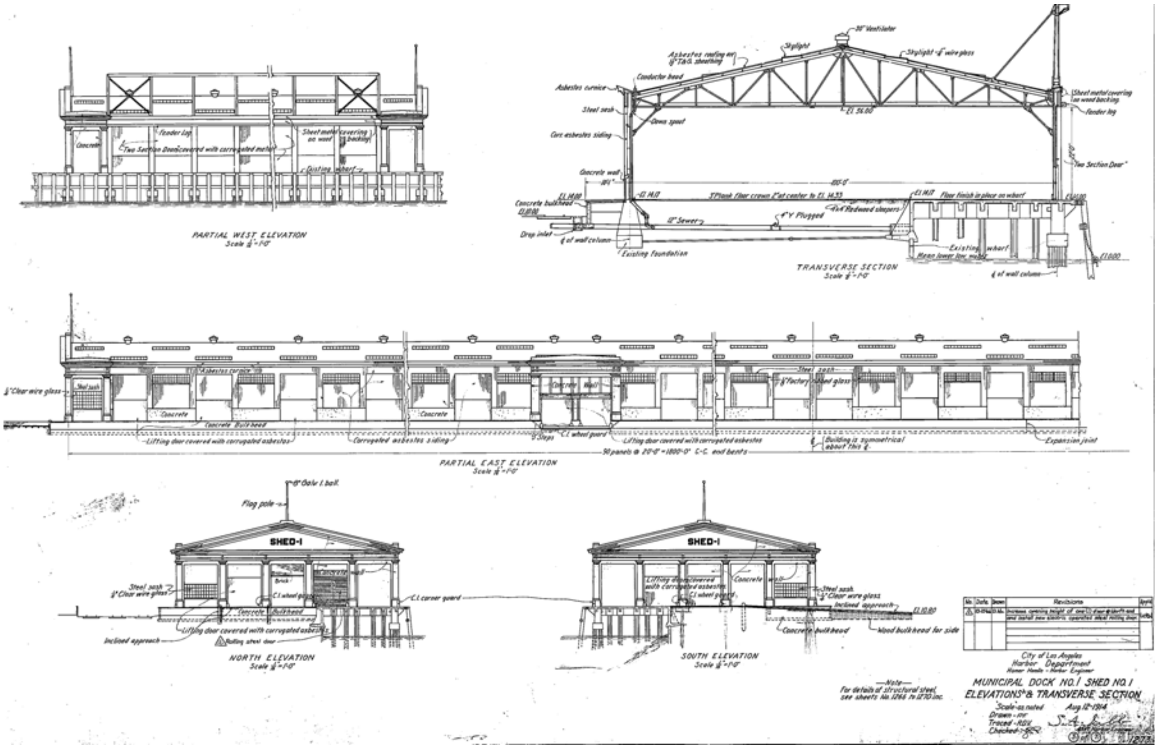
SOURCE: USC Digital Archive

Figure 7
Newly Completed Municipal Pier No.1 looking Southwest across the Main Channel, circa 1914 (Miner Fill and associated sheds located in background)

Harbor Commission President Woodman was quoted in a Los Angeles Times article of December 6, 1914, as stating, “The progress in the harbor at the present time is most satisfactory. All the slow and difficult operations, such as dredging, filling, and bulkheading have been attended to, and the dock itself is as complete as could be desired. From now on until the probably distant time when the growth of shipping shall have made additional docks on other city frontage necessary, the development of the Outer Harbor will be simple. Los Angeles is now fully ready to go ahead with wharves, sheds and warehouses as fast as they are needed” (LAT, December 6, 1914).

Los Angeles Municipal Shed No. 1 (Berths 58-60) was constructed on site by 1915 (LAT, May 31, 1914; Board of Harbor Commissioners, 1913-1915). The shed, a one-story steel-frame building, measured 1800 feet long by 100 feet wide. The shed was constructed for, and operated by, the American-Hawaiian Steamship Company (see Figure 8). A portion of the Municipal Pier No. 1 structure can be seen supporting Shed No. 1 in Figure 8.



SOURCE: POLA

Figure 8
Plans for Municipal Transit Shed No. 1 (Berth 58-60), 1914

Additional transit sheds and other structures were added to the dock over the next several years, including Municipal Warehouse No. 1, a massive, six-story concrete warehouse, which was completed in 1917 (Board of Harbor Commissioners, 1913-1915; Marquez and De Turenne, 2007). See discussion of Municipal Warehouse No. 1, below. The Los Angeles Times article from 1914, anticipating the construction of Warehouse No. 1, claimed that the structure will be the “largest west of Chicago,” and noted that together with adjacent Municipal Shed No.1, “the port is expected to meet all shipping requirements for the present” (LAT, December 6, 1914).

Figure 9 shows an aerial view of Municipal Pier No. 1 with completed warehouses and sheds.

Municipal Warehouse No. 1

Municipal Warehouse No. 1 is a large, six-story structure containing 500,000 square feet in its 475 by 150-foot rectangular plan (see Figure 10 on page 20). The building was designed in 1915 by Peter Ficker, then an employee of the Harbor Engineers office.[3] It was constructed with steel reinforced, poured-in place concrete, and has a flat roof with a short parapet wall with an unornamented cornice. The building is characterized by vertical elements on all elevations,

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[3] Peter Ficker also designed Municipal Transit Shed No. 1.

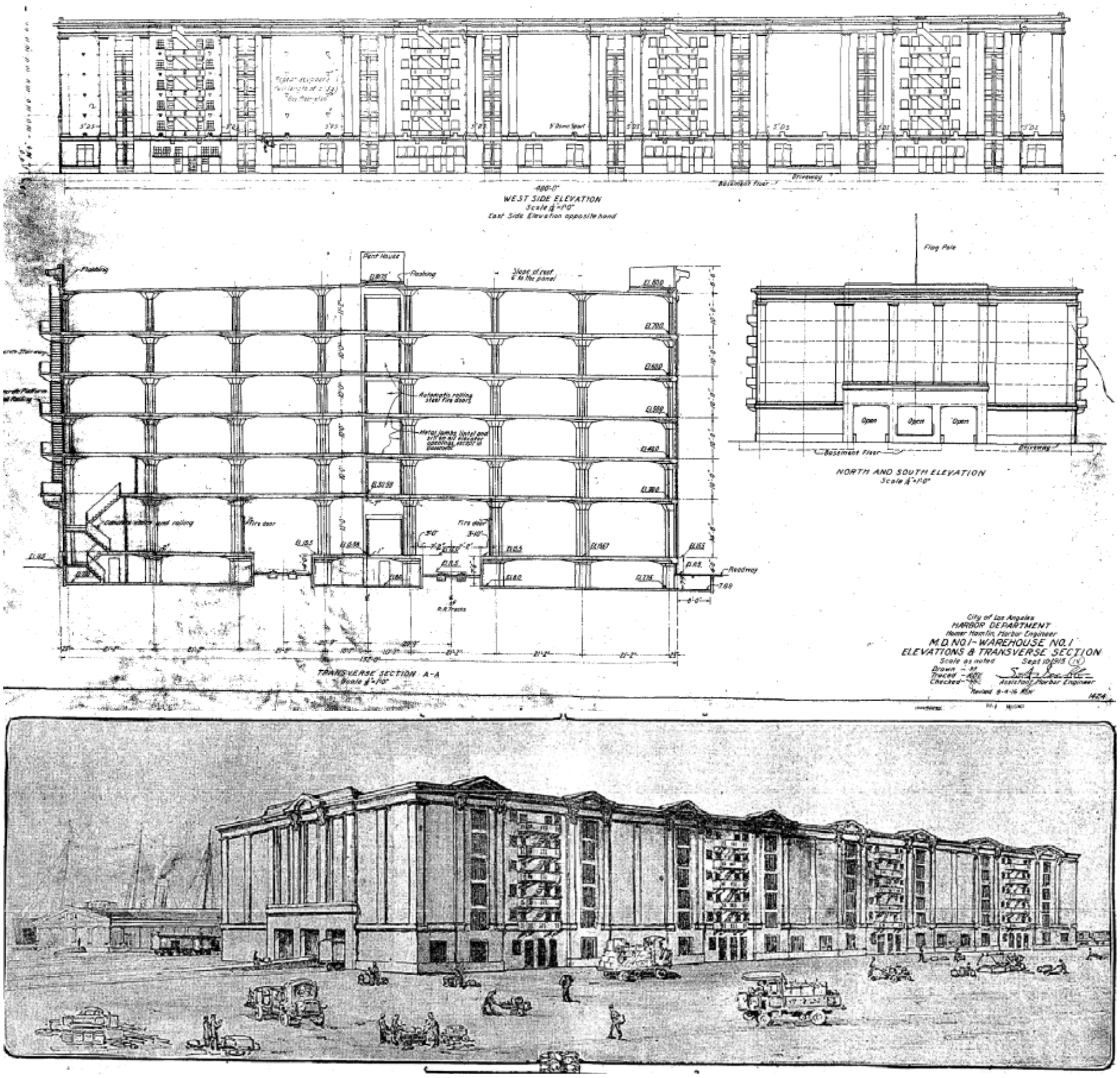
SOURCE: LAPL Photo Database

Figure 9
Aerial View of Completed Municipal Pier No. 1 showing Warehouse No. 1 (right), Municipal Shed No. 1 (Transit Shed Berths 57-60) (left) and the Pan American Petroleum Co. in the background, October 17, 1925

including full-height engaged pilasters, projecting concrete fire-escape stairways, steel loading bay doors at each floor level, and cast-concrete gargoyle drain spouts at each floor level. The building sits at the southeastern end of Municipal Pier No. 1 adjacent to Berths 59-60, located between Signal Street to the west, the Main Ship Channel on the east and the Outer Harbor to the south. Completed in 1917, Warehouse No.1 served as the Port's only bonded warehouse. International trade required a bonded location for the temporary storage of goods that would go through customs. The bonded portion of a warehouse was also used for particularly valuable goods. During the era of break-bulk cargo handling, warehousing at the port terminals was important for efficient commerce, and Warehouse No.1 served a leading role in warehousing at the Port of Los Angeles from 1917 through the 1950s (Jones & Stokes, 1999).

Transit Sheds 57-60

Transit Shed at Berth 57 was constructed in 1923, immediately north of Municipal Shed No 1. (Sheds at Berths 58-60). The one-story shed, 93 feet wide by 500 feet long, was erected by the James A. Lynch Construction Company under contract with the Port of Los Angeles at a cost of approximately $200,000.



SOURCE: POLA

Figure 10
Plans and Drawings for Municipal Warehouse No. 1, 1917

Plans on file with the Port of Los Angeles indicate that a timber wharf extension had been planned along the western edge of the all-concrete pier adjacent to Transit Sheds 57-60 as early as 1924 (Port of Los Angeles, 1924). However, these plans were abandoned in favor of an all-concrete wharf, which was constructed nearly 14 years later in July, 1938. This effort widened the pier by another 30 feet and provided new trackage for railcars loading and unloading goods at Berths 57-60.

The Pan American Petroleum Company Marine Loading Station Facility at Berth 70, including the Westway Terminal Building, was also constructed in 1923.

Summary

Municipal Pier No. 1 became an integral part of the Port during the early half of the 20th Century as several private industries, local and federal government established buildings in the area. Portions of the Pier were also used for US naval functions during World War II. The basic layout and facilities at the Pier have changed little since the late 1920s beyond additions to the tank farms on the east side of the Pier (Los Angeles Board of Harbor Commissioner Annual Report 1924-25). Other minor changes to the Pier itself which occurred within the last 20 years include of newer timber fender piles along the western edge, and a floating dock for a water taxi service constructed on the southern end.

As noted in Jones & Stokes' National Register Nomination form for Municipal Warehouse No. 1. "The process of transshipment dictated the order in which the Harbor Commission funded construction activities: dredging of the ship channel, construction of [Municipal] Pier 1 and associated wharves, transit sheds, and rail lines, and construction of the massive, bonded warehouse. With these facilities in place, the Port of Los Angeles entered into international commerce, and by 1923 had surpassed all the other west coast ports in tonnage and value of cargo" (Jones & Stokes, 1999).

5. Description and Evaluation of Municipal Pier No. 1

5.1 Description

Municipal Pier No. 1 consists of a continuous, earthen-fill pier, with a concrete perimeter wall (bulkhead) extending south from 22nd Street along Signal Street. The Pier is approximately 2,600 feet long (measured from 22nd Street) and about 600 feet wide, or about 36 acres in size. The Pier is approximately 16 feet above the low-water level. Signal Street runs north-south down the approximate center of the Pier, providing vehicular access to the sheds and warehouses on the Pier. Photos of the structure are provided in Appendix A, and period plans and drawings can be found in Appendix C.

The entire eastern edge of the Pier is comprised of sloped, rip-rap edge oriented at a 45-degree angle to the water. A sloped rip-rap edge can also be found on the majority of the southern end of the Pier, for a length of approximately 530 feet. The remaining 70 feet of the southern end is comprised of concrete pilings and decking. The western edge of the Pier is comprised entirely of concrete pilings, formed in two distinct, parallel, rows. The landward row of concrete pilings is about 40 feet wide and 2,520 feet long, and dates to the Pier's original construction in 1912-1914. Lengthwise, the reinforced concrete piles are spaced about 15 feet apart, and are seven rows deep. Each piling row is spaced approximately 5.5 to 6 feet apart. The pilings, which are roughly octagonal in plan, range in length from 50 to 60 feet in length, and support a board-formed concrete deck of the same width and length (40 feet by 2,520 feet). The landward row of pilings is only visible from the southern edge of the Pier, where the rows of pilings are exposed.

Located immediately west from, and attached to, this first landward row of pilings is a second row of seaward pilings which are about 30 feet wide and 2,520 feet long, and were constructed during the Pier's westward expansion in 1938. Lengthwise, the reinforced concrete piles are spaced about 15 feet apart, and are five rows deep. Each piling row is spaced approximately 5.5 feet apart. The reinforced concrete pilings are generally square in plan, and range in length from about 62 to 78 feet. Steel-wrapped cross-bracing piles set at an approximate 45 degree angle are visible beneath the deck. These pilings support a reinforced, board-formed, concrete deck of the same width and length (30 feet by 2,520 feet). The fendering system along the western edge consists of newer timber piles attached to the outer (westernmost) row of concrete pilings.

The majority of the decking on Municipal Pier No. 1 is primarily asphalt over earth fill, while smaller portions along the western edge of the Pier are asphalt over concrete decking. Smaller amounts of all-concrete decking are also visible, such as along loading ramps leading to Warehouse No. 1, and between the sheds at Berths 57 and 58. Three rows of railroad tracks are embedded in the Pier and are located between Signal Street and the Sheds at Berths 57-60. Curving side tracks can also be found leading to the northern end of Warehouse No. 1, and to the tank farm located along the Pier's northeastern edge. Two rows of railroad tracks can also be found along the western edge of the Pier where the concrete pile-supported wharf is located adjacent to Sheds 57-60. Wood bullrails are located along the westernmost edge of the Pier, interspersed with iron cleats located at regular intervals. A floating wooden dock and ramp for the water taxi service is located on the southeastern end of the Pier.

The majority of the pier appears to be in original condition, although some spalling and exposure of the reinforcement steel is visible on the pilings at the southernmost end of the structure (and especially within the first row of concrete pilings). Newer concrete and asphalt overlays are visible on the pier decking, some of which obscures the original railroad tracks in various locations.

Numerous structures are located on Municipal Pier No. 1. Six of these structures were previously recommended eligible for listing in the NRHP and CRHR, and are briefly described in the section below. The following is an evaluation of the historical significance of Municipal Pier No. 1. Although the Municipal Fish Market is located on the northeast corner of Municipal Pier No. 1, it has separate historical associations from this structure, and is not described below.

5.2 Evaluation

Municipal Pier No. 1 is representative of the Los Angeles Harbor's massive expansion effort in anticipation of the completion of the Panama Canal in 1914, resulting in vastly increased shipping capacity at the Port, and allowing Los Angeles to compete with other world cities for international shipping traffic. As a facility that has been in continuous use since its construction, Municipal Pier No. 1 is an excellent representation of the growth and development of the Port of Los Angeles during the planning and the completion of the Panama Canal. Completion of the massive, earth-fill pier allowed the construction of Warehouse No. 1, Municipal Shed No. 1 (Transit Sheds at Berths 58-60), as well as Transit Shed at Berth 57 to follow in rapid succession as part of a overall plan for port expansion envisioned by harbor commissioners in the 1910s. The local press extolled the initial proposal to construct the Pier in 1912, and as chronicled its completion in 1914, thereby expressing the enthusiasm of the era to capture a larger share of the increased world trade resulting from the opening of the Canal, and by comparing the Pier with other major piers in ports around the world in an attempt to position the Port of Los Angeles in an international perspective. During the early half of the 20th Century, Municipal Pier No. 1 became an integral part of the Port as several private industries, local and federal government established buildings in the area. Portions of the pier were also used for U.S. naval functions during World War II. The basic layout of the Pier has changed little since the late 1930s. Therefore, Municipal Pier No. 1, inclusive of the entire 36-acre earth-filled pier plus the concrete pile-supported structure along its western edge, appears to meet **NRHP Criterion A** for its association with events that have made a significant contribution to the broad patterns of our history. For similar reasons, Municipal Pier No. 1 appears to meet the criteria for listing in the **CRHR under Criterion 1**, as well as the City of Los Angeles CHC Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles.

Although not an example of the first use of an earth-fill pier with a reinforced concrete perimeter wall (bulkhead) and a reinforced concrete pile-supported wharf at the Port of Los Angeles, Municipal Pier No 1. was one of the earliest examples to employ this method of construction in favor of timber construction, which had been the standard method at this time. The successful construction of the adjacent Miner Fill with a reinforced concrete pier provided the model for the construction method of Municipal Pier No. 1. Although this construction method initially met with some opposition from City Engineer Hamlin, Harbor Commission Board members prevailed and promoted reinforced concrete and earth-fill over timber construction. Commissioners believed that concrete structures were the wave of the future, and would help prevent fires given that the Port of Los Angeles was predicted to be one of the largest oil ports in the country. In addition, the reinforced concrete wharf pilings and decking constructed along the western edge of the Pier in 1912 are some of the earliest of such structures found at the Port. Timber pile-supported wharves, by comparison, were built throughout the Port well into the 1940s, and were generally phased out by the 1950s as all-concrete pier construction became favored. Therefore, Municipal Pier No. 1 appears to meet **NRHP Criterion C** because it embodies the distinctive characteristics of a method of construction (early use of and earth-fill pier with a reinforced concrete perimeter wall). For similar reasons, Municipal Pier No. 1 appears to meet the criteria for listing in the **CRHR under Criterion 3**, as well as the City of Los Angeles CHC Criterion as a historic structure that is inherently valuable for a study of a period, style, or method of construction.

Municipal Pier No. 1 does not appear to be significantly associated with the lives of persons significant in our past (NRHP/CRHR B/3), or is likely to yield information important in prehistory or history (NRHP/CRHR D/4).

5.3 Period of Significance

The historic significance of Municipal Pier No. 1 relates to the role that the Port facilities played in expanding the commercial and economic success of Los Angeles, which anticipated and coincided with the opening of the Panama Canal in 1914, the emergence of Los Angeles as an “international” city in the early 1920s, and ending with the initiation of containerization in the 1950s. Therefore, the period of significance for Municipal Pier No. 1 is from 1912 (beginning of pier construction) to 1950 (beginning of containerization).

6. Previously-Identified Historical Resources on or Near Municipal Pier No. 1

A number of buildings and structures located on or near Municipal Pier No. 1 at the Port of Los Angeles were previously evaluated by ICF Jones & Stokes in 1999 and 2008, and were identified as historical resources under federal, state, and local criteria (see Table 1). One facility, Warehouse No. 1, was ultimately listed in the NRHP. Brief statements of each property’s historical significance under federal, state, and local criteria are provided below, excerpted from the 1999 and 2008 Jones & Stokes reports.

TABLE 1
PREVIOUSLY-IDENTIFIED HISTORICAL RESOURCES ON MUNICIPAL PIER NO. 1

Name	Date	Historical Status
Warehouse No. 1	1917	Listed in the NRHP/CRHR
Transit Shed Berths 58-60 (Municipal Shed No. 1)	1914	Individually eligible for listing in the NRHP/CRHR
Transit Shed Berth 57	1923	Individually eligible for listing in the NRHP/CRHR
Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building)	1923	Individually eligible for listing in the NRHP/CRHR
Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building)	1930, moved c. 1940	Individually eligible for listing in the NRHP/CRHR
Immigration Station (Canetti’s Restaurant, 309 E. 22nd Street)	1921	Individually eligible for listing in the NRHP/CRHR

SOURCE: Jones & Stokes, 1999, and ICF Jones & Stokes, 2008.

Warehouse No. 1

The following is an excerpt of the Statement of Significance from the National Register Nomination form completed for Warehouse No. 1 by Jones & Stokes in 1999.

> Completed in 1917, Warehouse No.1 served as the Port's only bonded warehouse, a function that was critical to the Los Angeles' entry into international trade markets. During the era of break-bulk cargo handling, warehousing at the port terminals played a critical role in achieving economically efficient commerce. Warehouse No.1 served a leading role in warehousing at the Port of Los Angeles from 1917 through the early 1960s when cargo containerization revolutionized cargo handling by nearly eliminating the need for warehousing. Warehouse No.1 continues to serve in its original capacity, and remains a prominent visual landmark for ships entering the deep water channel and for residents and visitors of San Pedro. This building was recommended as eligible for individual listing in

> the NRHP by the US Army Corp of Engineers (Roberts, 1978; Schwartz, 1983), and appears to remain eligible under Criterion A (events), for its close association with the rise to international prominence of the modern port. Since no exceptionally important events or trends are related to the period of 1950-1965, the period of significance is that period of break-bulk cargo transshipment between 1917 and 1950 (Jones & Stokes, 1999).

Transit Shed Berths 58-60

Since their completion in 1914, Transit Shed Berths 58-60 have served as a symbol of the Los Angeles Harbor's expansion period during the build up and completion of the Panama Canal in 1914, which resulted in increased shipping traffic at the port. As a facility that has been in continuous use since its construction, the subject property is an excellent representation of the growth and development of the Port of Los Angeles during the planning and the completion of the Panama Canal. Therefore, Transit Shed Berths 58-60 appears to meet **NRHP Criterion A**. In addition, Transit Shed Berths 58-60 appears significant under **NRHP Criterion C** as an excellent example of neo-classical ornamentation, indicating the importance assigned to architectural design for utilitarian buildings used for Port commerce in the Outer Harbor before the dredging of the Main Channel. For similar reasons, Jones & Stokes found Transit Shed Berths 58-60 to meet the criteria for listing in the **CRHR under Criterion 1** and **Criterion 3**, and appears to meet City of Los Angeles Cultural Heritage Commission (CHC) Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles (ICF Jones & Stokes, 2008).

Transit Shed Berth 57

Built in 1923, the Transit Shed at Berth 57 is representative of the general growth of the Port of Los Angeles, specifically the Outer Harbor area during the early 1920s. The shed served as a symbol of the Los Angeles Harbor's dramatic growth during the post World War I period, which was largely stimulated by an increase in worldwide commerce and the 1920s oil boom. Expansion at the Port included the development of several berths and oil shipping facilities such as the Transit Shed at Berth 57. Consequently, when considered as part of the larger Outer Harbor area, Transit Shed at Berth 57 is indicative of a period of tremendous growth and progress at the port in the early 20th century and appears to meet the criteria for listing in the **NRHP under Criterion A** individually, and as a possible contributor to a potential Pier No. 1 historic district. For similar reasons, Jones & Stokes found Transit Shed Berth 57 to meet the criteria for listing in the **CRHR under Criterion 1**, and appears to meet City of Los Angeles Cultural Heritage Commission (CHC) Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles (ICF Jones & Stokes, 2008).

Pan American Petroleum Company Marine Loading Station Facility – Berth 70 (Westway Terminal Building)

Constructed in 1923, the Pan American Petroleum Company Marine Loading Station Facility – Berth 70 (Westway Terminal Building) appears to meet **NRHP Criterion A**. The building gains significance for its contribution to the broad patterns of local history through its association with development of the oil industry in Los Angeles, the early days of oil shipping from the Port of Los Angeles, and as an example of the rise and fall of Pan American Petroleum Company; one the Nation's top oil producers in the 1920s. For similar reasons, Jones & Stokes found the Westway Terminal Building appears to meet the criteria for listing in the **CRHR under Criterion 1**, and appears to meet City of Los Angeles Cultural Heritage Commission (CHC) Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles (ICF Jones & Stokes, 2008).

Pan-Am Terminal Facility – Berth 56 (California Fish and Game Building)

Built circa 1930 and moved to its current location in 1940, the Pan Am Terminal Facility at Berth 56 (California Fish and Game Building) appears eligible under **NRHP Criterion A**, for its association with Pan Am and its China Clipper pioneering flight service which expanded passenger travel service at the Port of Los Angeles in the years prior to World War II. As a Pan Am ticket office, the building played a key role in the development of aviation transportation heritage of the Southern California region through it association with Pan-Am revolutionizing long distance and transoceanic seaplane flights from Los Angles to the Far East. The structure marks the site of the first Pan Am China Clipper flights from Los Angeles to the Antipodes Islands and New Zealand. For similar reasons, Jones & Stokes found the California Fish and Game Building appears to meet the criteria for listing in the **CRHR under Criterion 1**, and appears to meet City of Los Angeles Cultural Heritage Commission (CHC) Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles (ICF Jones & Stokes, 2008).

Immigration Station (Canetti's Restaurant, 309 E. 22nd Street)

Constructed in 1921, the former United States Immigration Station appears eligible for the **NRHP under Criteria A** for its association with the Federal Government activities at the Port, as the only extant building designed and used for civilian federal purposes, as well as an excellent representation of the continued use of Port facilities in Cannetti's Restaurant which has become an important part of the Port's cultural heritage. The restaurant, a local institution, has served the Port and surrounding community for well over 50 years, thereby becoming an integral piece of the Port's historic fabric. For similar reasons, Jones & Stokes found the Immigration Station appears to meet the criteria for listing in the **CRHR under Criterion 1**, and appears to meet City of Los Angeles Cultural Heritage Commission (CHC) Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles (ICF Jones & Stokes, 2008).

7. Evaluation of Municipal Pier No. 1 and Associated Structures as a Potential Historic District

Municipal Pier No. 1, as well as associated structures Warehouse No. 1, Municipal Shed No. 1 (Sheds at Berths 58-50) and the Shed at Berth 57, were designed by City Engineer Homer Hamlin and built as part of a master plan by the Harbor Commission in the 1910s to capture increasing international ship traffic in the Pacific in anticipation of the opening of the Panama Canal; an historic event in worldwide shipping. The planning and construction of these facilities occurred during a time of great expansion of the Port of Los Angeles, while their immense size and Neo-Classical detailing of utilitarian structures reflected the optimism and enthusiasm of the era when the City of Los Angeles as a whole was striving to become a major player on the world stage. The very existence of Warehouse No. 1 Municipal Shed No. 1 (Shed at Berths 58-50) and the Shed at Berth 57 would not be possible without the massive earth-filled and concrete pier that underpins their structures and allows them to function as originally designed and connects them by rail and road to the City at large. With a common function, design, and history, Municipal Pier No. 1 and its associated structures appear to meet **NRHP Criterion A as a potential historic district** for their association with events that have made significant contribution to the broad patterns of our history. For similar reasons, Municipal Pier No. 1 and its associated structures appear to meet the criteria for listing in the **CRHR under Criterion 1 as a potential historic district**, as well as the City of Los Angeles CHC Criterion as a potential historic district that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles.

Due to the early use of reinforced concrete construction at the Port of Los Angeles, which reflected both the permanence and the importance of the facility, Municipal Pier No. 1, and associated structures also appear to meet **NRHP Criterion C as a potential historic district** because they embody the distinctive characteristics of a method of construction. Additionally, Warehouse No. 1 and Municipal Shed No. 1 (Transit Shed at Berths 58-60) are excellent examples of neo-classical ornamentation, indicating the importance assigned to architectural design for utilitarian buildings used for Port commerce. For similar reasons, Municipal Pier No. 1 and its associated structures appears to meet the criteria for listing in the **CRHR under Criterion 3 as a potential historic district**, as well as the City of Los Angeles CHC Criterion as a historic structure that is inherently valuable for a study of a period, style, or method of construction.

As structures intimately tied to the early 20th Century history of Municipal Pier No. 1 and identified as potential historical resources in prior studies, the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building), the Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building), and the Immigration Station (Canetti's Restaurant, 309 E. 22nd Street) also contribute to the historical significance of a potential Municipal Pier No. 1 historic district. As such, contributors to a potential Municipal Pier No. 1 historic district would include; 1) the entire Municipal Pier No. 1 south of 22nd Street, 2) Warehouse No. 1, 3) Shed at Berths 58-60, 4) Shed at Berth 57, 5) the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building), 6) the Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building), and 7) the Immigration Station (Canetti's Restaurant).

Non-contributors to the potential Municipal Pier No. 1 historic district would include the tank farm and loading docks on the northeastern end of the pier. Although some of the tanks date to the 1920s, many have been removed, and many new facilities have been constructed within the past 50 years which have degraded the overall integrity of the facility and reduced its ability to convey direct historic associations with Municipal Pier No. 1.

Table 2, below, and Figure 11 on the following page, identify the potential Municipal Pier No. 1 historic district and contributing resources.

TABLE 2
CONTRIBUTORS AND NON-CONTRIBUTORS TO THE POTENTIAL MUNICIPAL PIER NO. 1 HISTORIC DISTRICT

Potential Contributors	Potential Non-Contributors
Municipal Pier No. 1 (from 22nd Street south to the end of Signal Street)	Tank farm and loading docks (northeastern end of the pier)
Warehouse No. 1	Water Taxi docks and trailer buildings
Shed at Berths 58-60	
Shed at Berth 57	
Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building)	
Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building)	
Immigration Station (Canetti's Restaurant at 309 E. 22nd Street)	

Although the Municipal Fish Market is located on the northeast corner of Municipal Pier No. 1, it has historical associations that are distinct from this structure, and is therefore located outside of the potential historic district.

8. Conclusions

Based on an intensive-level survey and evaluation of Municipal Pier No. 1, this facility appears to be individually eligible for listing in the NRHP and CRHR under Criteria A/1 and C/3. The facility also meets the City of Los Angeles CHC Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles, and as a historic structure that is inherently valuable for a study of a period, style, or method of construction.

Based on this recommendation, as well as the review and incorporation of prior evaluations of the buildings and structures located on or near this facility, Municipal Pier No. 1 is also recommended eligible for listing in the NRHP/CRHR and local register as a potential historic district. Contributors to the potential historic district would include Warehouse No. 1, the Shed at Berths 58-60, the Shed at Berth 57, the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building), the Pan-Am Terminal Facility at Berth 56 (California Fish and

SOURCE: Google Earth, 2011

Figure 11
Historic District Map

Game Building), and the Immigration Station (Canetti's Restaurant). In summary, these structures appear eligible for listing as contributors to a potential historic district under NRHP/CRHR criteria A/1 for their association with events that have made significant contribution to the broad patterns of our history.

The potential Municipal Pier No. 1 historic district also meets the City of Los Angeles CHC Criterion because it exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles. Municipal Pier No. 1 as an entire engineering structure, as well as Municipal Shed No. 1 (Transit Shed at Berths 58-60) additionally appear eligible for listing as contributors to a potential historic district under NRHP/CRHR criteria C/3 because they embody the distinctive characteristics of a type, period, or method of construction (Municipal Pier No. 1 for the early use of reinforced concrete construction, and Municipal Shed No. 1 for the excellent use of neo-classical ornamentation applied to a utilitarian building).

As a result of prior evaluations, the following buildings have been recommended individually eligible for listing in the NRHP, CRHR, and the City of Los Angeles CHC: the Shed at Berths 58-60, the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building), the Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building), and the Immigration Station (Canetti's Restaurant).

Warehouse No. 1 is currently listed in the NRHP as an individual resource, and is recommended as a contributor to a potential Municipal Pier No. 1 historic district, as described above.

9. Recommendations

Specific recommendations regarding the treatment of identified historical resources are typically provided after Port review of the draft conclusions of this report, as well as after receipt of project plans which may identify demolition of, or substantial alterations to, identified historical resources. The Port's proposed City Dock. No. 1 project, which would rehabilitate and reuse the Transit Shed Berths 57-60 for use as a marine research center, and which may require extensive retrofit or replacement of the concrete pile-supported pier which partially supports these sheds, is currently being designed and is not yet fully developed. Regardless, the typical treatment method for the avoidance of significant impacts to historical resources is the application of the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (NPS, 1995).

The proposed transit shed rehabilitation project would likely be subject to the Secretary of the Interior's Standards for *Rehabilitation* (other treatments that would likely not apply include preserving, restoring, and reconstructing). The National Park Service defines *Rehabilitation* as, "the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."

Some of the most important recommendations contained within the *Standards for Rehabilitation* state that, 1) the historic character of a property shall be retained and preserved, and the removal of historic materials or alteration of features and spaces that characterize a property shall be avoided, and 2) new additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment. More specific guidance will be provided in a subsequent report following Port review of the initial conclusions of this report, and after receipt of project plans.

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City of Los Angeles, Bureau of Harbor Improvement, City of Los Angeles Harbor Department, *Outer Harbor Wharf General Plan*, August 1912. (Drawing No. 1169)

City of Los Angeles Harbor Department, J.W. Ludlow, Harbor Engineer, *Wharf at Berths 57-60, Plan of Proposed Extension,* June 30, 1924. (Drawing No. 5784).

City of Los Angeles, Bureau of Harbor Improvement, *Outer Harbor Wharf, Plan and Section of Typical Panel for 40-Foot Warf.* May, 1912. (Drawing No. 1170)

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City of Los Angeles Harbor Department, Office of the Harbor Engineer, Wharf at Berths 57 to 60, Typical Section and Plan, July 7, 1938. (Drawing No. 11685-5)

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The Port of Los Angeles Engineering Division, *Warehouse at Berth 57, Building Layout Plan*, no date.

The Port of Los Angeles Engineering Division, *Warehouse at Berth 58-60, Building Layout Plan*, no date.

APPENDIX A

Photos

Photos – Municipal Pier No. 1
ESA, December 9, 2010


PORT OF LOS ANGELES
BERTH 60 - 59 - 58
PORT OF LOS ANGELES
5
MPH


US

APPENDIX B

Site Record Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code **Reviewer** **Date**

Page 1 **of** 6 ***Resource Name or #:** Port of Los Angeles Municipal Pier No. 1

P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Los Angeles
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad:** San Pedro **Date:** 1964/1981 **T** ;5S **R** 13W; **¼ of ¼ of Sec** 19**;** M.D. **B.M.**
c. Address: Signal Street at 22nd Street City: San Pedro Zip: 90731
d. UTM: Zone: 11 ; mE/ mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Municipal Pier No. 1 consists of a continuous, earthen-fill pier, with a concrete perimeter wall (bulkhead) extending south from 22nd Street along Signal Street at the Port of Los Angeles in San Pedro, California. The pier is approximately 2,600 feet long (measured from 22nd Street) and about 600 feet wide. The Pier is approximately 16 feet above the low-water level. Signal Street runs north-south down the approximate center of the pier providing vehicular access to the sheds and warehouses on the pier. Photos of the structure are provided in Appendix A. The entire eastern edge of the pier is comprised of sloped, rip-rap edge oriented at a 45-degree angle to the water. A sloped rip-rap edge can also be found on the majority of the southern end of the pier, for a length of approximately 530 feet. The remaining 70 feet of the southern end is comprised of concrete pilings and decking. The western edge of the pier is comprised entirely of concrete pilings, formed in two distinct, parallel, rows. The first row of concrete pilings is about 40 feet wide and 2,520 feet long, and dates to the pier's original construction in 1912-1914. Lengthwise, the reinforced concrete piles are spaced about 15 feet apart, and are seven rows deep. Each piling row is spaced approximately 5.5 to 6 feet apart. The pilings, which are roughly octagonal in plan, range in length from 50 to 60 feet in length, and support a board-formed concrete deck of the same width and length (40 feet by 2,520 feet). The first row of pilings is only visible from the southern edge of the pier, where the rows of pilings are exposed. (see Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) AH13: Wharf
***P4. Resources Present:** ☐Building ■Structure ☐Object ☐Site ☐District ■Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
Southern end of pier looking east
12/9/10

***P6. Date Constructed/Age and Sources:** ■Historic
☐Prehistoric ☐Both
1914 (F)

***P7. Owner and Address:**
Los Angeles Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:** (Name, affiliation, and address)
Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94104

***P9. Date Recorded:** 12/9/10

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ESA, *Historic Resources Evaluation Report for Port of Los Angeles Municipal Pier No. 1*, January, 2011

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☐Continuation Sheet ■Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

***Resource Name or #** (Assigned by recorder) Port of Los Angeles Municipal Pier No. 1

***Recorded by:** Brad Brewster, ESA ***Date:** 1/20/11 ■ Continuation ☐ Update

P3a. Description (continued)

Located immediately west from, and attached to, this first row of pilings is a second row of pilings which are about 30 feet wide and 2,520 feet long, and were constructed during the pier's westward expansion in 1938. Lengthwise, the reinforced concrete piles are spaced about 15 feet apart, and are five rows deep. Each piling row is spaced approximately 5.5 feet apart. The reinforced concrete pilings are generally square in plan, and range in length from about 62 to 78 feet. Steel-wrapped cross-bracing piles set at an approximate 45 degree angle are visible beneath the deck. These pilings support a reinforced, board-formed, concrete deck of the same width and length (30 feet by 2,520 feet). The fendering system along the western edge consists of newer timber piles attached to the outer (westernmost) row of concrete pilings.

The majority of the decking on Municipal Pier No. 1 is primarily asphalt over earth fill, while smaller portions along the western edge of the pier are asphalt over concrete decking. Smaller amounts of all-concrete decking are also visible, such as along loading ramps leading to Warehouse No. 1, and between the sheds at Berths 57 and 58. Three rows of railroad tracks are embedded in the pier located between Signal Street and Sheds at Berths 57-60. Curving side tracks can also be found leading to the northern end of Warehouse No. 1, and to the tank farm located along the pier's northeastern edge. Two rows of railroad tracks can also be found along the western edge of the pier where the concrete pile-supported wharf is located adjacent to Sheds 57-60. Wood bullrails are located along the westernmost edge of the pier, interspersed with iron cleats located at regular intervals. A floating wooden dock and ramp for the water taxi service is located on the southeastern end of the pier. The majority of the pier appears to be in original condition, although some spalling and exposure of the reinforcement steel is visible on the pilings at the southernmost end of the structure (and especially within the first row of concrete pilings). Newer concrete and asphalt overlays are visible on the pier decking, some of which obscures the original railroad tracks in various locations.

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **HRI#**

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 3 **of** 6 ***NRHP Status Code** 3B

***Resource Name or #** (Assigned by recorder) Port of Los Angeles Municipal Pier No. 1

B1. Historic Name: Municipal Pier No. 1
B2. Common Name: Pier 1.
B3. Original Use: Shipping Pier B4. Present Use: same
***B5. Architectural Style:** utilitarian/industrial
***B6. Construction History:** (Construction date, alterations, and date of alterations)

Completed in 1914, concrete wharf extension along western edge in 1938. Numerous buildings on top of pier added and removed.

***B7. Moved?** ☒**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**
***B8. Related Features:**

Municipal Shed No. 1 (Transit Shed at Berths 58-60 [1915]), Municipal Warehouse No. 1 (1917), Transit Shed at Berth 57 [1923], Immigration Station (Canetti's Restaurant, 309 E. 22nd Street [1921]), Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building [1923]), and Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building [1930]).

B9a. Architect: Homer Hamlin, Harbor Engineer b. Builder: Snare & Triest
***B10. Significance: Theme:** International Shipping **Area:** Los Angeles
Period of Significance: 1912-1950 **Property Type:** Wharf **Applicable Criteria:** A and C
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

<u>Individual Evaluation</u>.

Municipal Pier No. 1 is representative of the Los Angeles Harbor's massive expansion effort in anticipation of the completion of the Panama Canal in 1914, resulting in vastly increased shipping capacity at the port, and allowing Los Angeles to compete with other world cities for international shipping traffic. As a facility that has been in continuous use since its construction, Municipal Pier No. 1 is an excellent representation of the growth and development of the Port of Los Angeles during the planning and the completion of the Panama Canal. Completion of the massive, earth-fill pier allowed the construction of Warehouse No. 1, Municipal Shed No. 1 (Transit Sheds at Berths 58-60), as well as Transit Shed at Berth 57 to follow in rapid succession as part of a overall plan for port expansion envisioned by harbor commissioners in the 1910s. The local press extolled the initial proposal to construct the pier in 1912, as chronicled its completion in 1914, thereby expressing the enthusiasm of the era to capture a larger share of the increased world trade resulting from the opening of the Canal, and by comparing the pier with other major piers in ports around the world in an attempt to position the Port of Los Angeles in an international perspective. During the early half of the 20th Century, Municipal Pier No. 1 became an integral part of the Port as several private industries, local and federal government established buildings in the area. Portions of the pier were also used for US naval functions during World War II.
(See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

See Continuation Sheet

B13. Remarks:

***B14. Evaluator:** Brad Brewster, ESA

***Date of Evaluation:** January 20, 2011

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

***Recorded by:** Brad Brewster, ESA ***Date:** 1/20/11 ■ Continuation ☐ Update

B10. Significance (continued)

The basic layout of the pier has changed little since the late 1930s. Therefore, Municipal Pier No. 1 appears to meet NRHP Criterion A for its association with events that have made significant contribution to the broad patterns of our history. For similar reasons, Municipal Pier No. 1 appears to meet the criteria for listing in the CRHR under Criterion 1, as well as the City of Los Angeles CHC Criterion as a historic structure that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles.

Although not an example of the first use of a reinforced concrete pier at the Port of Los Angeles, Municipal Pier No 1. was one of the earliest examples to employ this method of construction in favor of timber construction. The successful construction of the adjacent Miner fill with a reinforced concrete pier provided the model for the construction method of Municipal Pier No. 1. Although this construction method initially met with some opposition from City Engineer Hamlin, harbor commission board members prevailed and promoted reinforced concrete over timber construction. Commissioners believed that concrete structures were the wave of the future, and would help prevent fires given that the Port of Los Angeles was predicted to be one of the largest oil ports in the country. In addition, the reinforced concrete wharf pilings and decking constructed along the western edge of the pier in 1912 are some of the earliest of such structures found at the Port. Timber pile-supported wharves, by comparison, were built throughout the Port well into the 1940s, and were generally phased out by the 1950s as all-concrete pier construction became favored. Therefore, Municipal Pier No. 1 appears to meet NRHP Criterion C because it embodies the distinctive characteristics of a method of construction (early use of reinforced concrete pier construction). For similar reasons, Municipal Pier No. 1 appears to meet the criteria for listing in the CRHR under Criterion 3, as well as the City of Los Angeles CHC Criterion as a historic structure that is inherently valuable for a study of a period, style, or method of construction.

Municipal Pier No. 1 does not appear to be significantly associated with the lives of persons significant in our past (NRHP/CRHR B/3), or is likely to yield information important in prehistory or history (NRHP/CRHR D/4).

Period of Significance: The historic significance of Municipal Pier No. 1 relates to the role that the Port facilities played in expanding the commercial and economic success of Los Angeles, which anticipated and coincided with the opening of the Panama Canal in 1914, the emergence of Los Angeles as an “international” city in the early 1920s, and ending with the initiation of containerization in the 1950s. Therefore, the period of significance for Municipal Pier No. 1 is from 1912 (beginning of pier construction) to 1950 (beginning of containerization).

Integrity: With few alterations within the last 45 years, Municipal Pier No. 1 retains integrity of location, design, setting, materials, workmanship, feeling, and association.

District Evaluation:

In addition to being individually eligible for listing in the NRHP and CRHR, Municipal Pier No. 1 was evaluated as a potential contributor to a potential *Port of Los Angeles Municipal Pier No. 1 Historic District.* Six structures located on top of, and supported by, Municipal Pier No. 1 were previously evaluated by Jones & Stokes in 1999 and 2008, and were found to be individually eligible for listing in the NRHP and CRHR. These are; Municipal Shed No. 1 (Transit Shed at Berths 58-60 [1915]), Municipal Warehouse No. 1 (1917), Transit Shed at Berth 57 [1923], Immigration Station (Canetti’s Restaurant, 309 E. 22nd Street [1921]), Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building [1923]), and Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building [1930]). Warehouse No. 1 was listed in the NRHP and CRHR in 2000.

Municipal Pier No. 1, as well as associated structures Warehouse No. 1, Municipal Shed No. 1 (Sheds at Berths 58-50) and the Shed at Berth 57, were designed by the Harbor Engineering Office and built as part of a master plan by Harbor Commission in the 1910s to capture increasing ship traffic in the Pacific in anticipation of the opening of the Panama Canal; an historic event in worldwide shipping. The planning and construction of these facilities occurred during a time of great expansion of the Port of Los Angeles, while their immense size and Neo-Classical detailing of utilitarian structures reflected the optimism and enthusiasm of the era when the City of Los Angeles as a whole was striving to become a major player on the world stage. The very existence of Warehouse No. 1 Municipal Shed No. 1 (Sheds at Berths 58-50) and the Shed at Berth 57 would not be possible without the massive earth-filled and concrete pier that underpins their structures and allows them to function as originally designed and connects them by rail and road to the City at large. With a common function, design, and history, Municipal Pier No. 1 and its associated structures appear to meet NRHP Criterion A as a potential historic district for their association with events that have made significant contribution to the broad patterns of our history. For similar reasons, Municipal Pier No. 1 and its associated structures appear to meet the criteria for listing in the CRHR under Criterion 1 as a potential historic district, as well as the City of Los Angeles CHC Criterion as a potential historic district that exemplifies the broad cultural, political, economic or social history of the nation, state, and community of Los Angeles.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI#
Trinomial

Page 5 **of** 6 ***Resource Name or #** (Assigned by recorder) Port of Los Angeles Municipal Pier No. 1

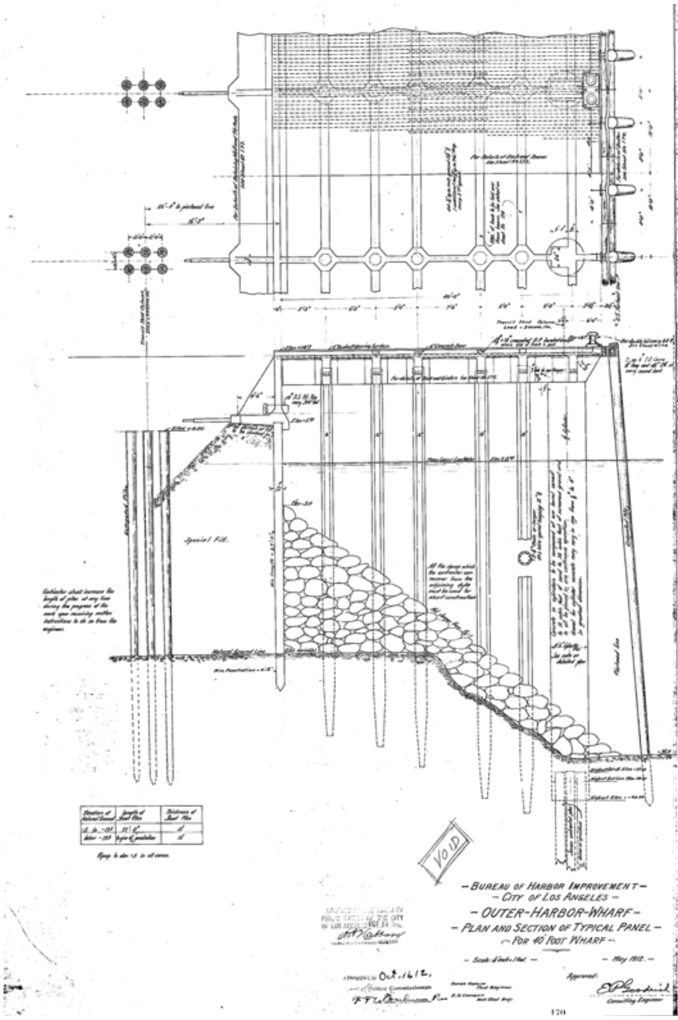
***Recorded by:** Brad Brewster, ESA ***Date:** 1/20/11 ■ Continuation ☐ Update

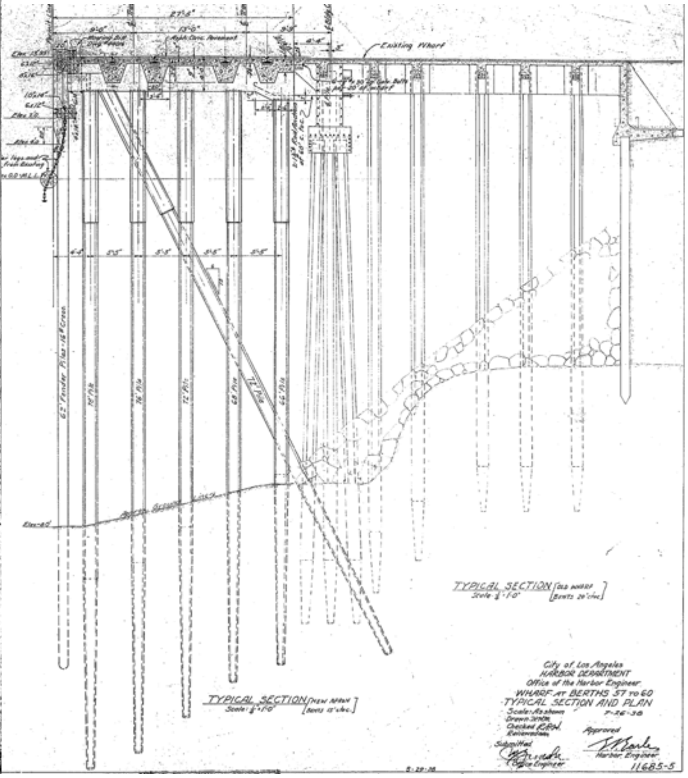
B10. Significance (continued)

Due to the early use of reinforced concrete construction at the Port of Los Angeles, which reflected both the permanence and the importance of the facility, Municipal Pier No. 1, and associated structures also appear to meet NRHP Criterion C as a potential historic district because they embody the distinctive characteristics of a method of construction. Additionally, Warehouse No. 1 and Municipal Shed No. 1 (Transit Sheds at Berths 58-60) are excellent examples of neo-classical ornamentation, indicating the importance assigned to architectural design for utilitarian buildings used for Port commerce. For similar reasons, Municipal Pier No. 1 and its associated structures appears to meet the criteria for listing in the CRHR under Criterion 3, as well as the City of Los Angeles CHC Criterion as a historic structure that is inherently valuable for a study of a period, style, or method of construction.

As structures intimately tied to the early 20th Century history of Municipal Pier No. 1 and identified as potential historical resources in prior studies, the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building), the Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building), and the Immigration Station (Canetti's Restaurant, 309 E. 22nd Street) also contribute to the historical significance of a potential Municipal Pier No. 1 historic district. As such, contributors to a potential Municipal Pier No. 1 historic district would include; 1) the entire Municipal Pier No. 1 south of 22nd Street, 2) Warehouse No. 1, 3) Shed at Berths 58-60, 4) Shed at Berth 57, 5) the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 (Westway Terminal Building), 6) the Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building), and 7) the Immigration Station (Canetti's Restaurant).

Non-contributors to the potential Municipal Pier No. 1 historic district would include the tank farm and loading docks on the northeastern end of the pier. Although some of the tanks date to the 1920s, many have been removed, and many new facilities have been constructed within the past 45 years which have degraded the overall integrity of the facility and reduced its ability to convey direct historic associations with Municipal Pier No. 1.





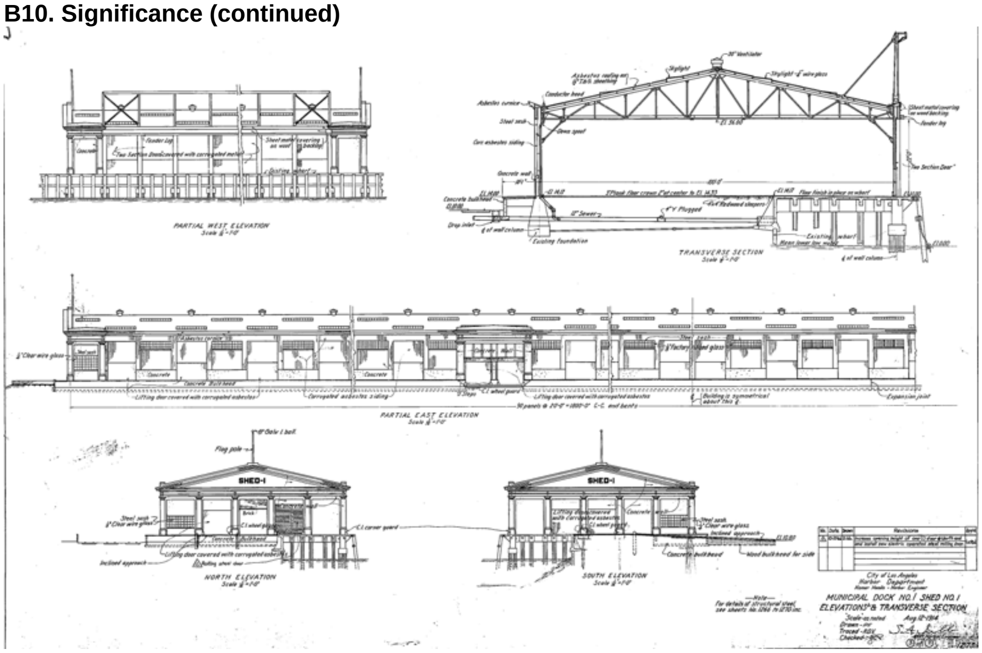
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI#
Trinomial

Page 6 **of** 6 ***Resource Name or #** (Assigned by recorder) Port of Los Angeles Municipal Pier No. 1

***Recorded by:** Brad Brewster, ESA ***Date:** 1/20/11 ■ Continuation ☐ Update

B10. Significance (continued)



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_____ “Los Angeles Harbor Development Great” March 26, 1911.
_____ “Make Way Far Ships Says Harbor Board: February 6, 1912.
_____ “Opens Bids For Municipal Dock” October 19, 1912.
_____ “Board Awards Wharf Contract” December 20, 1912.
_____ “Rush Work Or Forfeit Bond” January 26, 1913.
_____ “Wharf Ready In One Month” May 31, 1914.
_____ “Great Harbor Realized Here” June 20, 1914.
_____ “Harbor Commissioners O.K. Warehouse Plans” December 6, 1914.

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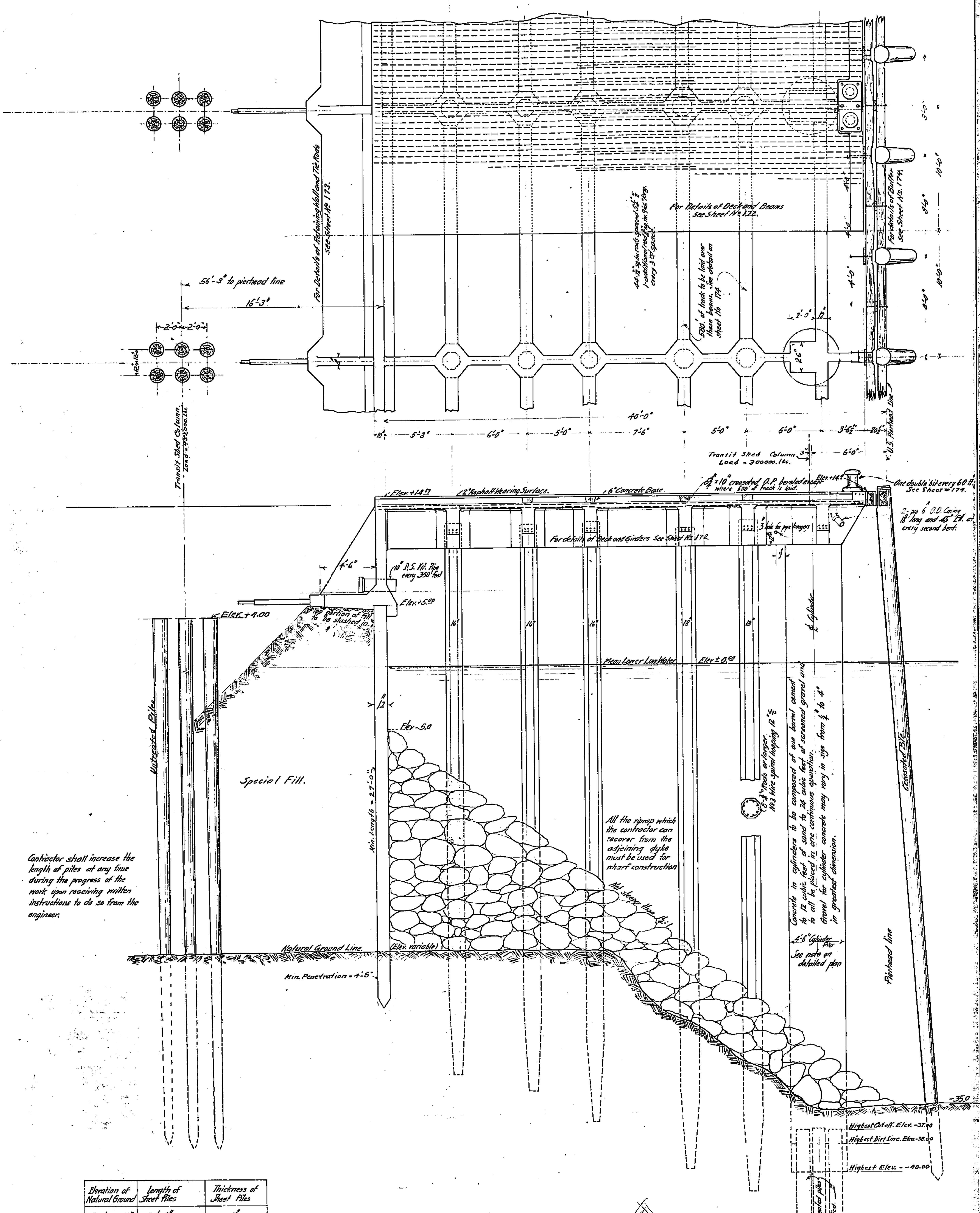
APPENDIX C

Plans and Drawings



Elevation of Natural Ground	Length of Sheet Piles	Thickness of Sheet Piles
-5 to -17.5	27'-0"	12"
below -17.5	to give 4 1/2' penetration	12"

Ripcap to elev. -5 in all cases.

VOID

– BUREAU OF HARBOR IMPROVEMENT –
– CITY OF LOS ANGELES –
– OUTER-HARBOR-WHARF –
– PLAN AND SECTION OF TYPICAL PANEL –
~ FOR 40' FOOT WHARF ~

– Scale: 1/4 inch = 1 foot. –

– May 1912. –

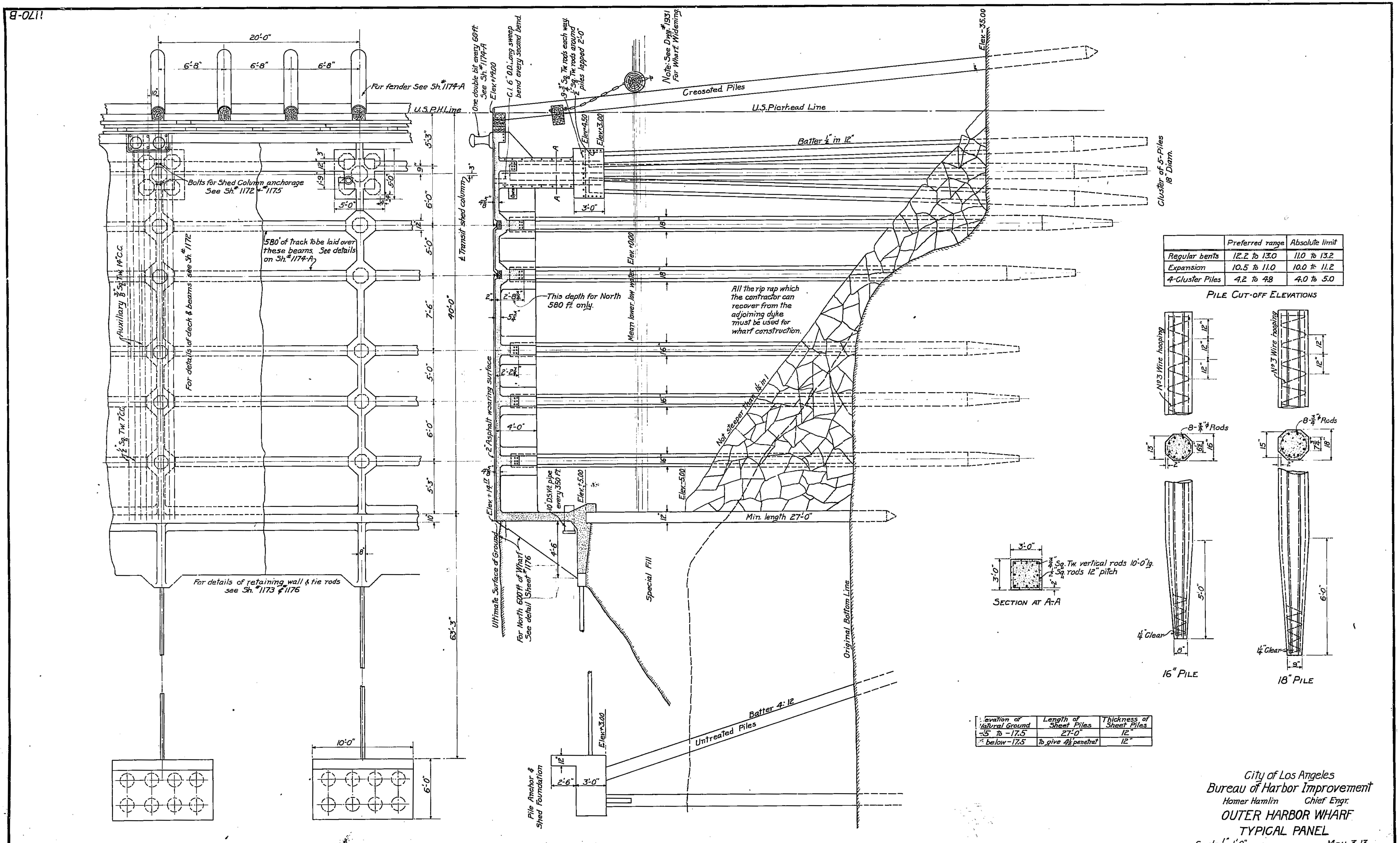
ADOPTED BY THE BOARD OF
PUBLIC WORKS OF THE CITY
OF LOS ANGELES OCT 18 1912
H. W. Cabbary
President of the Board of Public Works SECRETARY

APPROVED Oct. 16 '12.
Board of Harbor Commissioners
F. T. Wilkinson Pres

Homer Hamlin
Chief Engineer.

E. Q. Vincent
Asst. Chief Eng'r.

Approved:
E P Goodrich
Consulting Engineer



	Preferred range	Absolute limit
Regular bents	12.2 to 13.0	11.0 to 13.2
Expansion	10.5 to 11.0	10.0 to 11.2
4-Cluster Piles	4.2 to 4.8	4.0 to 5.0

PILE CUT-OFF ELEVATIONS

Elevation of Natural Ground	Length of Sheet Piles	Thickness of Sheet Piles
-5 to -17.5	27'-0"	12"
below -17.5	to give 4 1/2' penetrat	12"

City of Los Angeles
Bureau of Harbor Improvement
Homer Hamlin Chief Engr.

OUTER HARBOR WHARF
TYPICAL PANEL

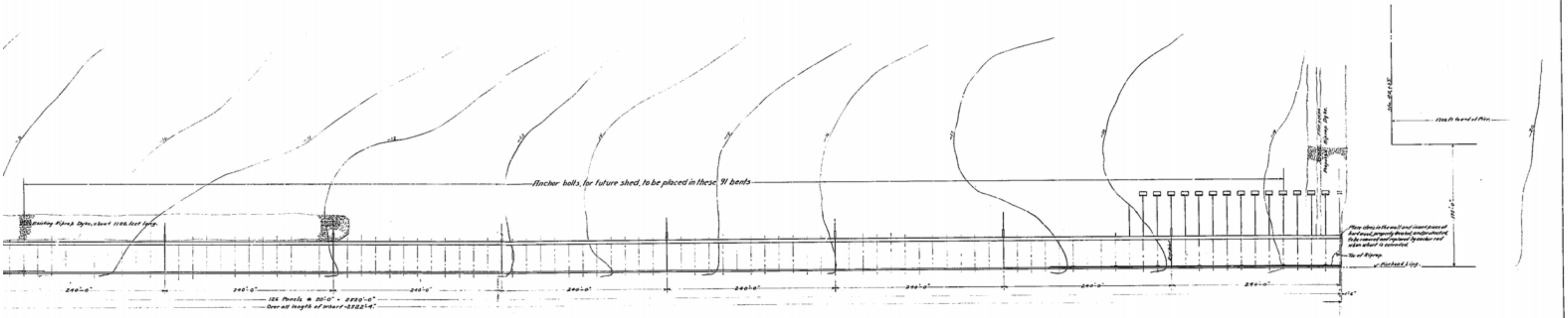
Scale 1/4" = 1'-0"   May-3-13.

Dr.-H.S.
Tr.-H.S.
Ch.-J.W.L.

S. A. Jubb
Asst. Chf. Engr.

Retraced Nov. 19-1926 P.M.S. Revised May 27-1913

1170-B



ADOPTED BY THE BOARD OF
PUBLIC WORKS OF THE CITY
OF LOS ANGELES, OCT 18 1912

– BUREAU OF HARBOR IMPROVEMENT –
– CITY OF LOS ANGELES –
– OUTER-HARBOR-WHARF –
– GENERAL PLAN –

– Scale: 1 inch = 50 feet –

– Aug. 1912. –

APPROVED Oct, 16, 1912,

Board of Harbor Commissioners

Homer Hamlin,
Chief Engineer.

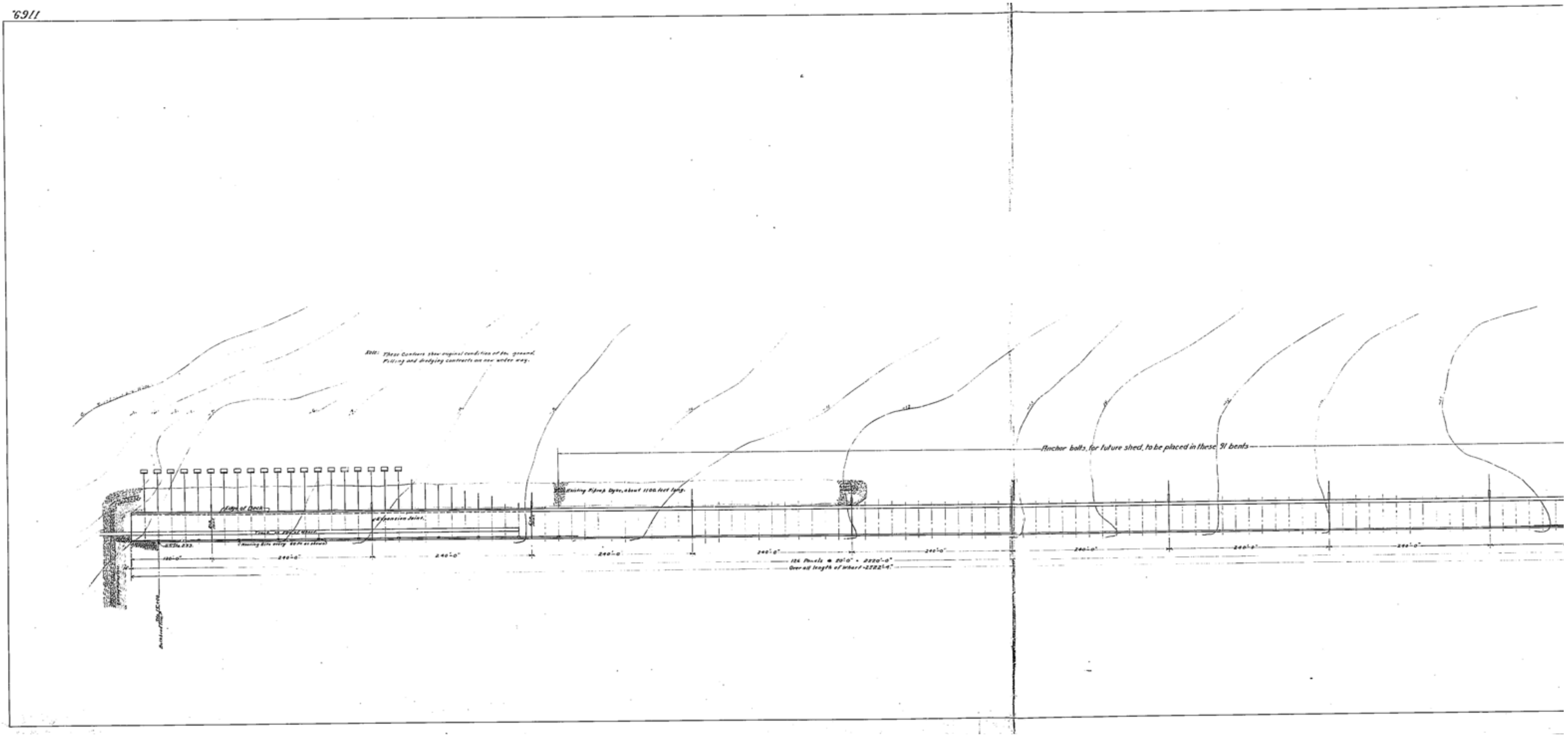
E.D. Vincent,
Asst. Chief Engr.

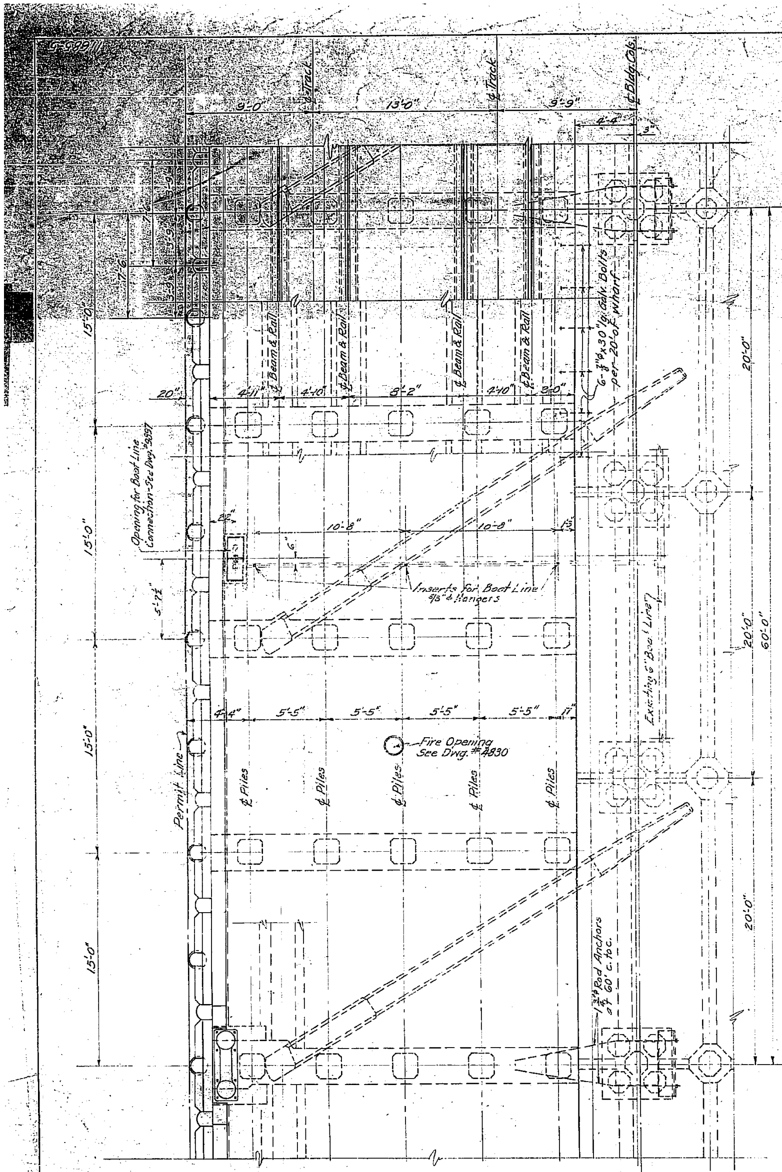
Revised May 24, 1913

Approved:

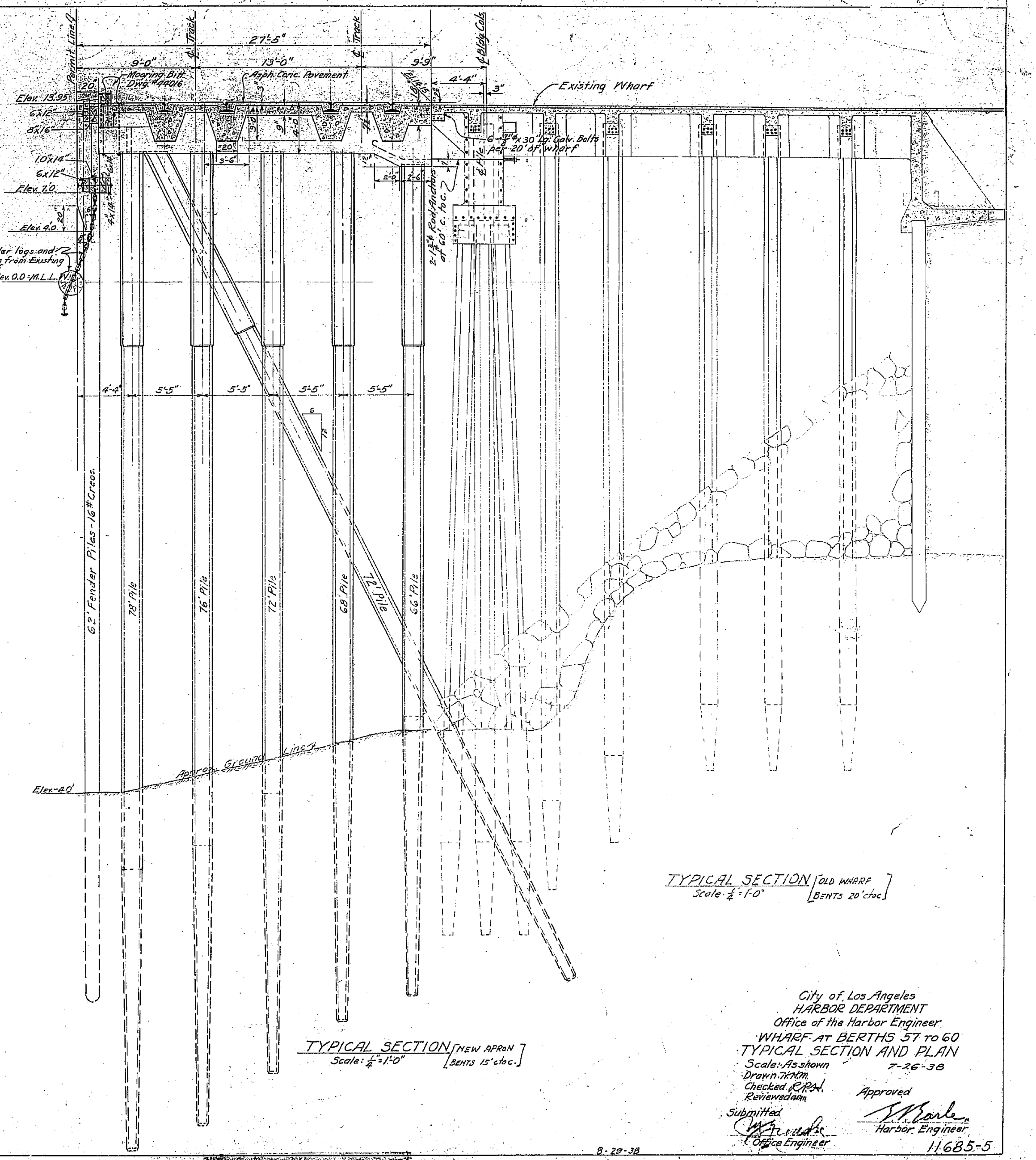
Consulting Engineer.

1169.


6911
Note: These Contours show original condition of the ground.
Filling and dredging contracts are now under way.
Edge of Deck
Expansion Joint.
Mooring Bitts every 60 Ft as shown
130'-0"
240'-0"
240'-0"
240'-0"
240'-0"
240'-0"
240'-0"
240'-0"
240'-0"
240'-0"
Existing Riprap Dyke, about 1100 feet long.
Anchor bolts, for future shed, to be placed in these 91 bents
126 Panels @ 20'-0" = 2220'-0"
Over all length of Wharf -2222'-4"



TYPICAL PLAN
Scale: ¼" = 1'-0"



TYPICAL SECTION [NEW APRON BENTS 15' c. to c.]
Scale: ¼" = 1'-0"

TYPICAL SECTION [OLD WHARF BENTS 20' c. to c.]
Scale: ¼" = 1'-0"

City of Los Angeles
HARBOR DEPARTMENT
Office of the Harbor Engineer
WHARF AT BERTHS 57 TO 60
TYPICAL SECTION AND PLAN
Scale:- As shown 7-26-38
Drawn H.H.M.
Checked R.R.H.
Reviewed a.a.m.

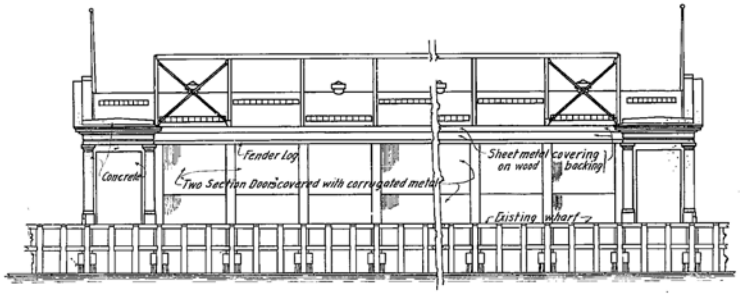
Submitted
Office Engineer

Approved
Harbor Engineer

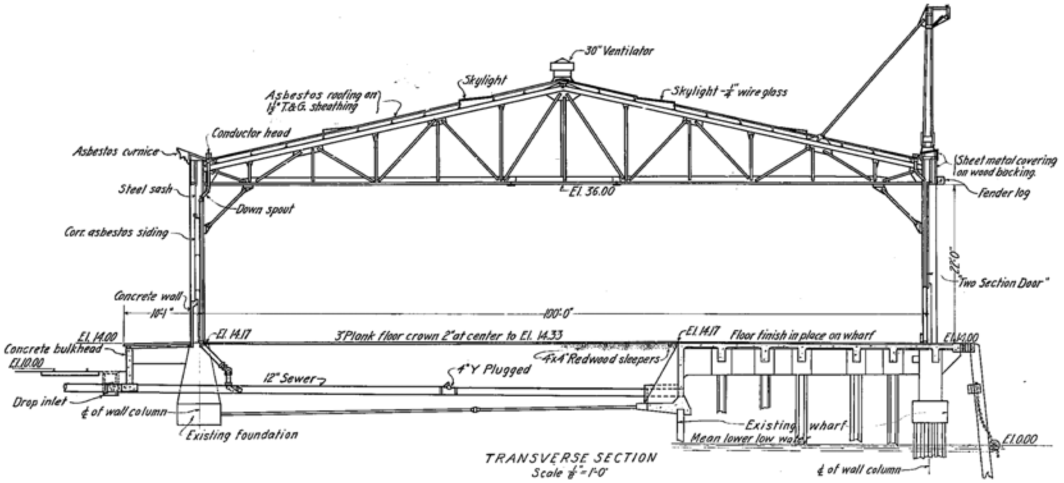
8-29-38

11685-5

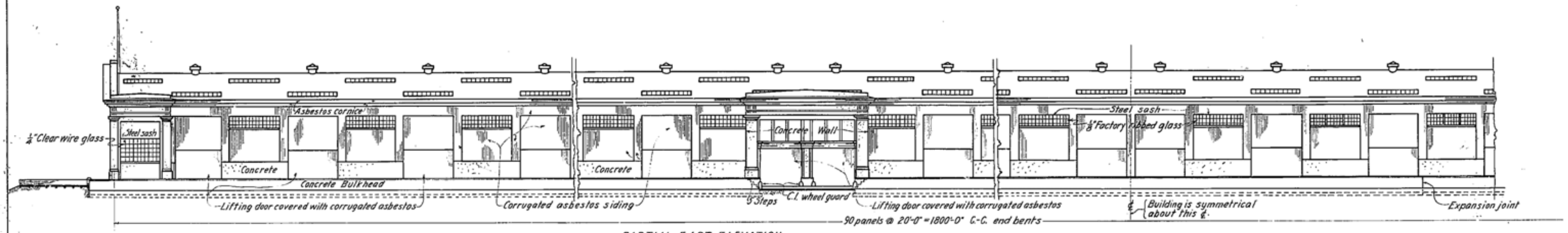
1273



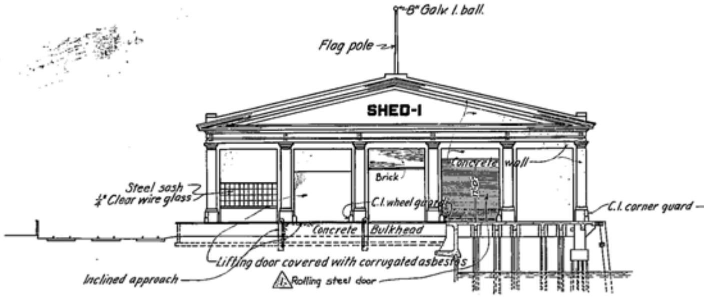
PARTIAL WEST ELEVATION
Scale $\frac{1}{16}$" = 1'-0"



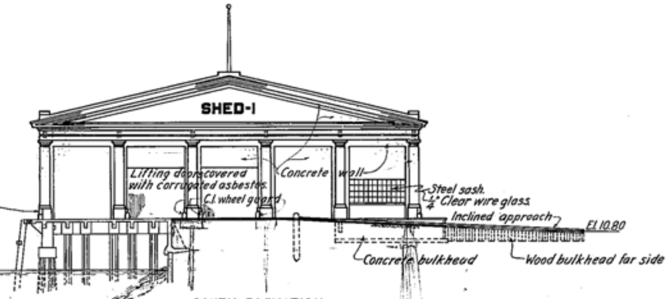
TRANSVERSE SECTION
Scale $\frac{1}{8}$" = 1'-0"



PARTIAL EAST ELEVATION
Scale $\frac{1}{16}$" = 1'-0"



NORTH ELEVATION
Scale $\frac{1}{16}$" = 1'-0"



SOUTH ELEVATION
Scale $\frac{1}{16}$" = 1'-0"

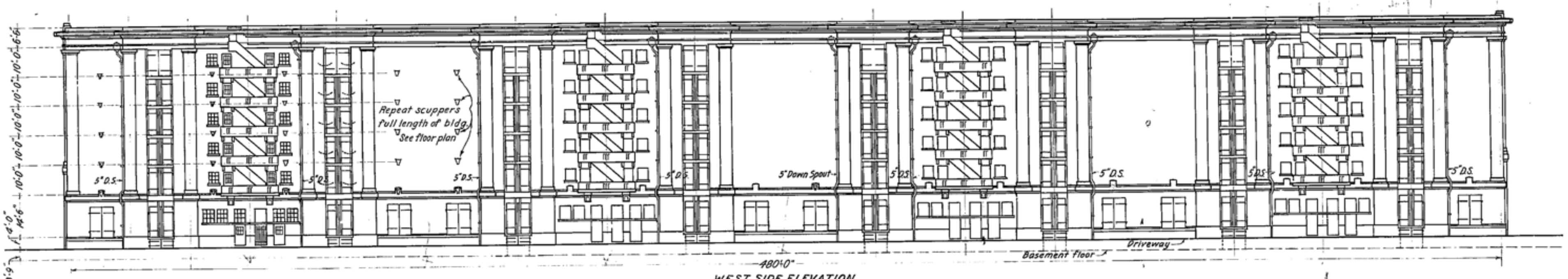
No.	Date.	Drawn	Revisions	App'd
△	10-10-44	D.Mc.	Increase opening height of one (1) door @ North end and install new electric operated steel rolling door.	Lcttd

City of Los Angeles
Harbor Department
Homer Hamlin - Harbor Engineer

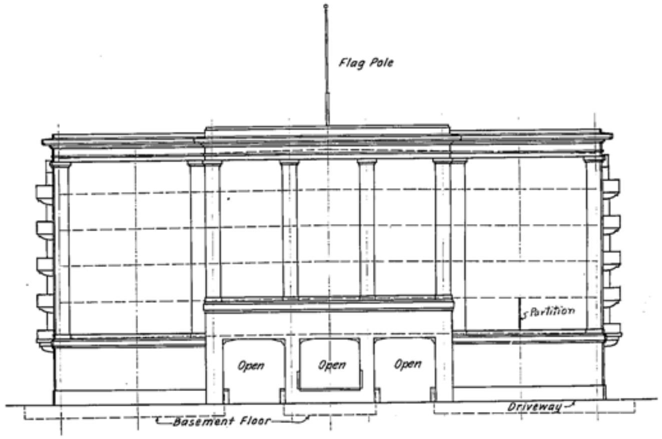
—Note—
For details of structural steel, see sheets No. 1266 to 1270 inc.

MUNICIPAL DOCK NO. 1 SHED NO. 1
ELEVATIONS & TRANSVERSE SECTION

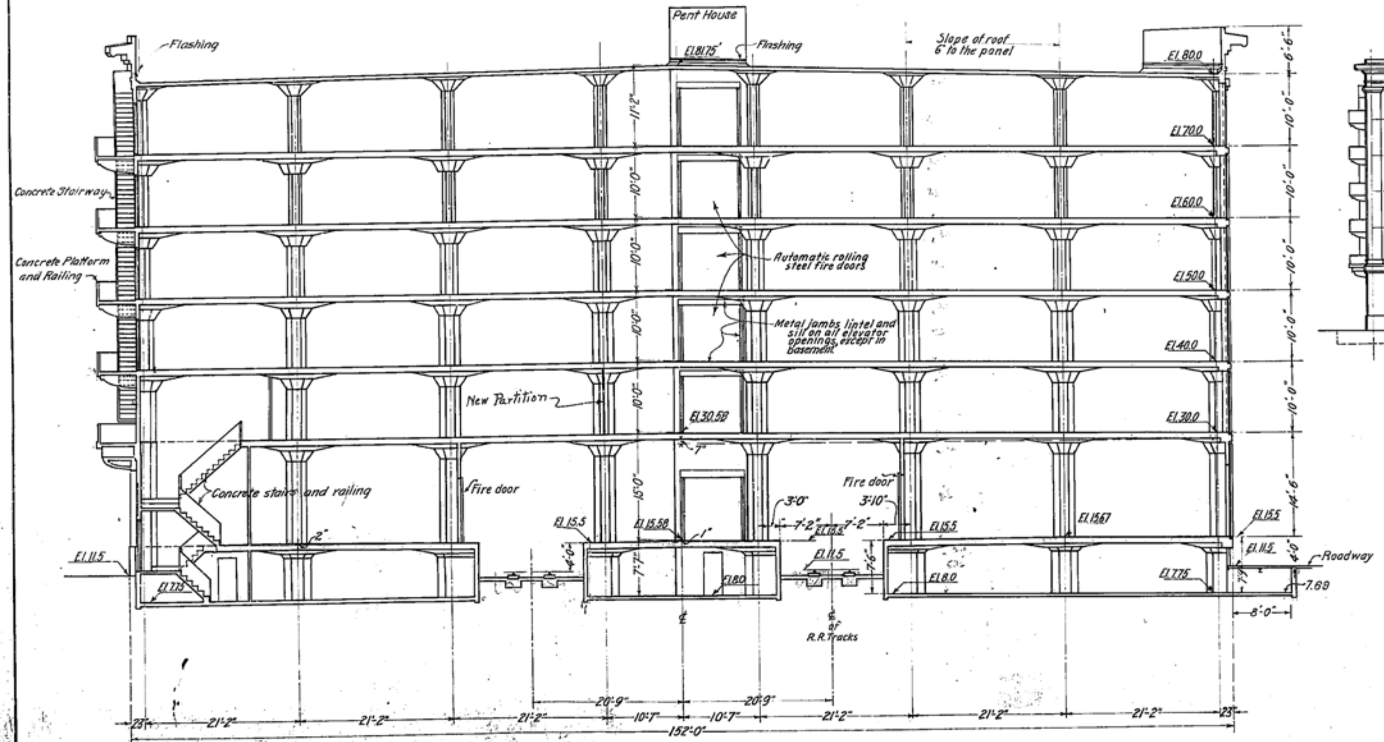
Scale as noted
Aug. 12-1914
Drawn - RF
Traced - R.D.V.
Checked -
S. A. Gobb
Ass't. Harbor Engineer
③ of ⑦
1273



WEST SIDE ELEVATION
Scale 1/16" = 1'-0"
East Side Elevation opposite hand



NORTH AND SOUTH ELEVATION
Scale 1/16" = 1'-0"



TRANSVERSE SECTION A-A
Scale 1/8" = 1'-0"

Note: See Plan # 1422.
for Plan and Section of New Partition.

City of Los Angeles
HARBOR DEPARTMENT
Homer Hamlin, Harbor Engineer
M.D. NO. 1 - WAREHOUSE NO. 1
ELEVATIONS & TRANSVERSE SECTION
Scale as noted. Sept. 10, 1915 (IV)
Drawn - R.F.
Traced - R.D.W.
Checked -
S. A. Jacobs
Assistant Harbor Engineer
Revised 8-4-16 R.C.W.
Rev. 11-2-28
1424

REPORT OF
FIELD INVESTIGATION AND MATERIALS TESTING

TWINING
LABORATORIES
OF SOUTHERN CALIFORNIA

3310 Airport Way, Long Beach, CA 90806 / 562.426.3355 *phone* / 562.426.6424 *fax* / www.twininglabs.com

Project No.: 070212.1
June 14, 2007

Miyamoto International, Inc.
700 South Flower Street, Suite 1010
Los Angeles, CA 90017-4112
Attn: Ken Wong

Received
JUN 1[illegible] 2007
Miyamoto International

Subject: **Report of Field Investigation and Materials Testing**
Port of Los Angeles Warehouse No. 1

Dear Mr. Wong:

INTRODUCTION AND BACKGROUND INFORMATION

As requested and described in the letter prepared by Miyamoto International, Inc. (Miyamoto) dated March 8, 2006 Twining Laboratories of Southern California, Inc. (TLSC) has performed the following Field Investigation and Materials Testing Program.

SCOPE OF WORK

The following services were performed as part of our investigation:

- Site visit in order to conduct initial site walks and make necessary arrangements with client/operations for coordinating access to the site and scheduling of work;
- Obtaining 75 core samples at locations designated by Miyamoto. Specifically, the following was sampled:
    - 54 approximately 3" diameter cores from structural walls; and
    - 21 approximately 3" diameter cores from concrete columns.
- Obtaining 3 reinforcement samples at locations designated by Miyamoto;
- In place hardness testing of three vertical bars in columns;
- Laboratory testing of cores for compression strength;
- Laboratory testing of reinforcement samples for yield, ultimate strength, hardness, chemical composition and carbon equivalent;
- Laboratory testing of shavings for chemical composition and carbon equivalent;
- Analysis of hardness testing;
- Repairs of all sampled and tested locations; and

- Preparation of this letter report with test results.

FIELD INVESTIGATION AND TESTING

Sampling was performed at locations as approved by the engineer, Miyamoto and descriptions of the work performed are summarized below.

Coring

On April 9 through 12, 2007, under the observation of Twining Laboratories, coring was performed by P.M.C Incorporated. Per the Structural Engineer, Miyamoto, a total of 75 cores were taken 54 cores from various walls and 21 cores from various columns. Prior to coring, the location was surveyed using a pachometer and the reinforcement was located. After the reinforcement was located the core sample location was marked to minimize the potential of damaging in-place reinforcing steel. The coring device was mounted horizontally by small drilled in anchors ("red heads"). As allowed by ASTM C42, a 3 inch diameter core bit was used to yield a 2.72 nominal diameter sample. Once cut the cores were prepared for transport and storage by wiping water from their surfaces and placing them in water tight bags immediately after drilling. Photographs of the coring operation are presented as attachments to this report.

Reinforcing Steel Extractions

Under the observation of TLSC, chipping was performed by PMC at 3 locations. In order to minimize chipping, the reinforcement was first located with a pachometer. Once exposed by chipping the bars were cut with a hand saw and immediately tagged by a representative of TLSC.

In-Place Reinforcing Steel Testing

TLSC performed a series of in-place hardness tests on a total of three vertical column reinforcing bars. In-place hardness testing was performed using a handheld Krautkramer Branson Hardness Tester MIC 10. Also, shavings were taken from the three bars for chemical analysis.

LABORATORY TESTING

Laboratory Testing of Concrete Cores

The samples were delivered to our Long Beach laboratory for testing. As prescribed in ASTM C42 the samples were cured after the last introduction of water for a minimum of five days in sealed plastic bags. Our laboratory determined the compressive strength to the nearest 10 pounds per square inch., as describe in ASTM C39. The results of the laboratory testing are summarized in Table 1 and presented in Appendix A. Please note Sample W39 was damaged during transportation and therefore was not tested.

Table 1
Core Testing Summary

Core #	Member Type	Location	Floor	Core Diameter (in.)	Core Length, (in.)	Max Load (lbf)	Corrected Compressive Strength (psi)
W1	Wall	G-H/1	1	2.72	4.02	24738	4090
W2	Wall	F-G/4	1	2.72	4.63	22077	3720
W3	Wall	F/14-15	1	2.72	4.54	25699	4290
W4	Wall	H/21-22	1	2.72	4.35	21944	3660
W5	Wall	D/24-25	1	2.72	3.68	32521	5260
W6	Wall	A-B/19	1	2.72	4.31	23074	3850
W7	Wall	A/12-13	1	2.72	4.29	26474	4420
W8	Wall	C/7-8	1	2.72	4.89	28520	4910
W9	Wall	B-C/4	1	2.72	4.85	15348	2640
W10	Wall	A/3-4	2	2.72	4.20	23951	3960
W11	Wall	A-B/7	2	2.72	4.95	21779	3750
W12	Wall	C/15-16	2	2.72	4.82	18871	3250
W13	Wall	D/20-21	2	2.72	4.46	19913	3320
W14	Wall	B-C/25	2	2.72	4.46	18580	3100
W15	Wall	F/22-23	2	2.72	5.03	17686	3040
W16	Wall	H/13-14	2	2.72	4.94	25792	4440
W17	Wall	F/7-8	2	2.72	4.76	21850	3760
W18	Wall	F-G/4	2	2.72	5.01	20310	3500
W19	Wall	C/2-3	3	2.72	5.01	17222	2960
W20	Wall	A/9-10	3	2.72	4.95	20605	3550
W21	Wall	B-C/13	3	2.72	5.09	18955	3260
W22	Wall	A-B/19	3	2.72	5.14	22870	3940
W23	Wall	C/23-24	3	2.72	5.06	18163	3130
W24	Wall	E/22-23	3	2.72	4.80	17887	3080
W25	Wall	F-G/16	3	2.72	4.88	19815	3410
W26	Wall	E/8-9	3	2.72	4.95	21459	3690
W27	Wall	F-G/4	3	2.72	4.87	19971	3440
W28	Wall	B-C/4	4	2.72	4.97	21396	3680
W29	Wall	B-C/10	4	2.72	4.81	22640	3900
W30	Wall	B-C/16	4	2.72	4.96	19822	3410
W31	Wall	B-C/22	4	2.72	4.95	22223	3830
W32	Wall	B-C/25	4	2.72	4.88	24252	4170
W33	Wall	F-G/22	4	2.72	4.83	18765	3230
W34	Wall	F-G/16	4	2.72	4.96	19090	3290
W35	Wall	F-G/10	4	2.72	5.04	32541	5600
W36	Wall	F-G/4	4	2.72	4.92	18524	3200
W37	Wall	C/2-3	5	2.72	4.24	26048	4300
W38	Wall	C/8-9	5	2.72	5.15	20963	3610
W39	Core Damaged During Transportation – Not Tested						
W40	Wall	C/20-21	5	2.72	4.98	21798	3750
W41	Wall	B-C/25	5	2.72	3.84	29085	4760

Table 1
Core Testing Summary (continued)

Core #	Member Type	Location	Floor	Core Diameter (in.)	Core Length, (in.)	Max Load (lbf)	Corrected Compressive Strength (psi)
W42	Wall	F/23-24	5	2.72	3.26	16017	2540
W43	Wall	F/19-20	5	2.72	5.03	15939	2740
W44	Wall	F/12-13	5	2.72	4.91	16794	2790
W45	Wall	F-G/7	5	2.72	4.87	23386	4030
W46	Wall	H/1-2	5	2.72	4.84	23943	4120
W47	Wall	B-C/7	6	2.72	4.74	24326	4100
W48	Wall	B-C/19	6	2.72	4.74	27472	4630
W49	Wall	B-C/25	6	2.72	4.64	25035	4310
W50	Wall	F-G/16	6	2.72	4.74	18230	3140
W51	Wall	F-G/13	6	2.72	4.90	19061	3280
W52	Wall	F-G/10	6	2.72	4.10	22522	3720
W53	Wall	F-G/4	6	2.72	4.87	23090	3970
W54	Wall	F-G/1	6	2.72	4.94	23940	4120
C1	Column	B/4	1	2.72	4.98	24639	4240
C2	Column	G/7	1	2.72	5.03	26890	4630
C3	Column	G/16	1	2.72	4.83	21364	3680
C4	Column	G22	1	2.72	4.94	27114	4670
C5	Column	B/13	2	2.72	4.57	19704	3290
C6	Column	E/4	2	2.72	4.58	18583	3100
C7	Column	F/20	2	2.72	4.83	25989	4470
C8	Column	C/22	2	2.72	4.96	24927	4290
C9	Column	C/4	3	2.72	5.13	24784	4270
C10	Column	C/19	3	2.72	4.69	24221	4090
C11	Column	F/16	3	2.72	4.22	21762	3670
C12	Column	F/4	3	2.72	4.17	19899	3290
C13	Column	C/7	4	2.72	4.25	24761	4090
C14	Column	C/22	4	2.72	5.22	16693	2870
C15	Column	G/19	4	2.72	5.00	18682	3220
C16	Column	G/7	4	2.72	4.95	23910	4120
C17	Column	C/4	5	2.72	4.05	20363	3360
C18	Column	C/19	5	2.72	7.74	20300	3420
C19	Column	F/19	5	2.72	4.13	27256	4520
C20	Column	F/4	6	2.72	5.33	21954	3780
C21	Column	C/4	6	2.72	4.45	15492	2590

Ave. Compressive Strength of Wall Cores (psi)	3729
Standard Deviation of Wall Cores	637
Ave. Compressive Strength of Col. Cores (psi)	3793
Standard Deviation of Column Cores	608

Reinforcing Steel Mechanical Testing

Mechanical testing of the reinforcing steel was performed in accordance with the latest version of ASTM E 8. Also, all samples were tested for hardness using a handheld Krautkrammer Branson Hardness Tester MIC 10. Results are summarized in Table 2. Load v. Time plots are provided in Appendix C. Criteria for estimation of tensile and yield strengths is presented in Appendix D.

Table 2
Reinforcing Steel Test Result Summary

Sample Information					Hardness			Mechanical Properties		
Sample No.	Member Type	Floor	Location	Bar Size	Brinell	Approx. Tensile Strength (psi)	Approx. Yield Strength (psi)	Yield Strength (psi)	Tensile Strength (psi)	Elongation in 1" (%)
RS1	Wall	1	F-G/1	#5 plain	169	n/a	n/a	48670	71419	19.8
RS2	Wall	2	F/G/7	#4 plain	152	n/a	n/a	51347	71400	17.3
RS2	Wall	3	F-G/3	#4 plain	161	n/a	n/a	47923	69300	20.4
NDR1	Column	1	G/16	#8 plain	160	69066	48166	n/a	n/a	n/a
NDR2	Column	2	C/7	#8 plain	154	65107	45405	n/a	n/a	n/a
NDR3	Column	3	B/13	#8 plain	158	67747	47245	n/a	n/a	n/a

Reinforcing Steel Chemical Composition and Carbon Equivalent Testing

Chemical analysis and carbon and sulfur combustion were performed per the latest revisions of SOP 2.02 and 7.00, respectively. Results are summarized in Table 3 and presented in Appendix B.

Table 3
Reinforcing Steel Chemical Composition and Carbon Equivalent Summary

Sample Information					Chemical Composition and Carbon Equivalent				
Sample No.	Member Type	Floor	Location	Sample Type	Carbon (%)	Manganese (%)	Phosphorus (%)	Sulfur (%)	Carbon Equivalent (%)
RS1	Wall	1	F-G/1	Bar	.26	.54	.006	.056	.35
RS2	Wall	2	F/G/7	Bar	.22	.40	.007	.054	.29
RS2	Wall	3	F-G/3	Bar	.27	.43	.007	.51	.35
NDR1	Column	1	G/16	Bar Shaving	.17	.33	.010	.047	.23
NDR2	Column	2	C/7	Bar Shaving	.29	.29	.002	.049	.34
NDR3	Column	3	B/13	Bar Shaving	.33	.33	.010	.053	.39

REPAIRS

All sample locations were repaired with a non-shrink grout that, based on information provided by the manufacturer, has a minimum compressive strength of 6000 psi at 28 days. The sides of the core holes were roughened and cleaned prior to grouting. Also, all extracted reinforcement was repaired by splicing in equivalent reinforcement by means of mechanical couplers. All repairs were observed by a representative of TLSC.

LIMITATIONS

It should be understood that due to the limited nature of our field investigation, conditions not observed and described in this report may be present. Additional field investigations and laboratory testing can be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Twining Laboratories should be contacted if the reader requires additional information or has questions regarding the content or completeness of this document.

We have endeavored to perform our evaluation using the degree of care and skill ordinarily exercised under similar circumstances by engineering professionals with experience in this area. No other warranty, either expressed or implied, is made as to the conclusions contained in this report.

CLOSURE

Twining Laboratories appreciates the opportunity to be of service on this project. If you have any questions regarding this letter or if we can be of further service, please do not hesitate to contact the undersigned.

Respectfully submitted,
Twining Laboratories of Southern California, Inc.

Randall R. Slane
Field Engineering Manager

Linas Vitkus, R.C.E. 63163
Senior Project Engineer

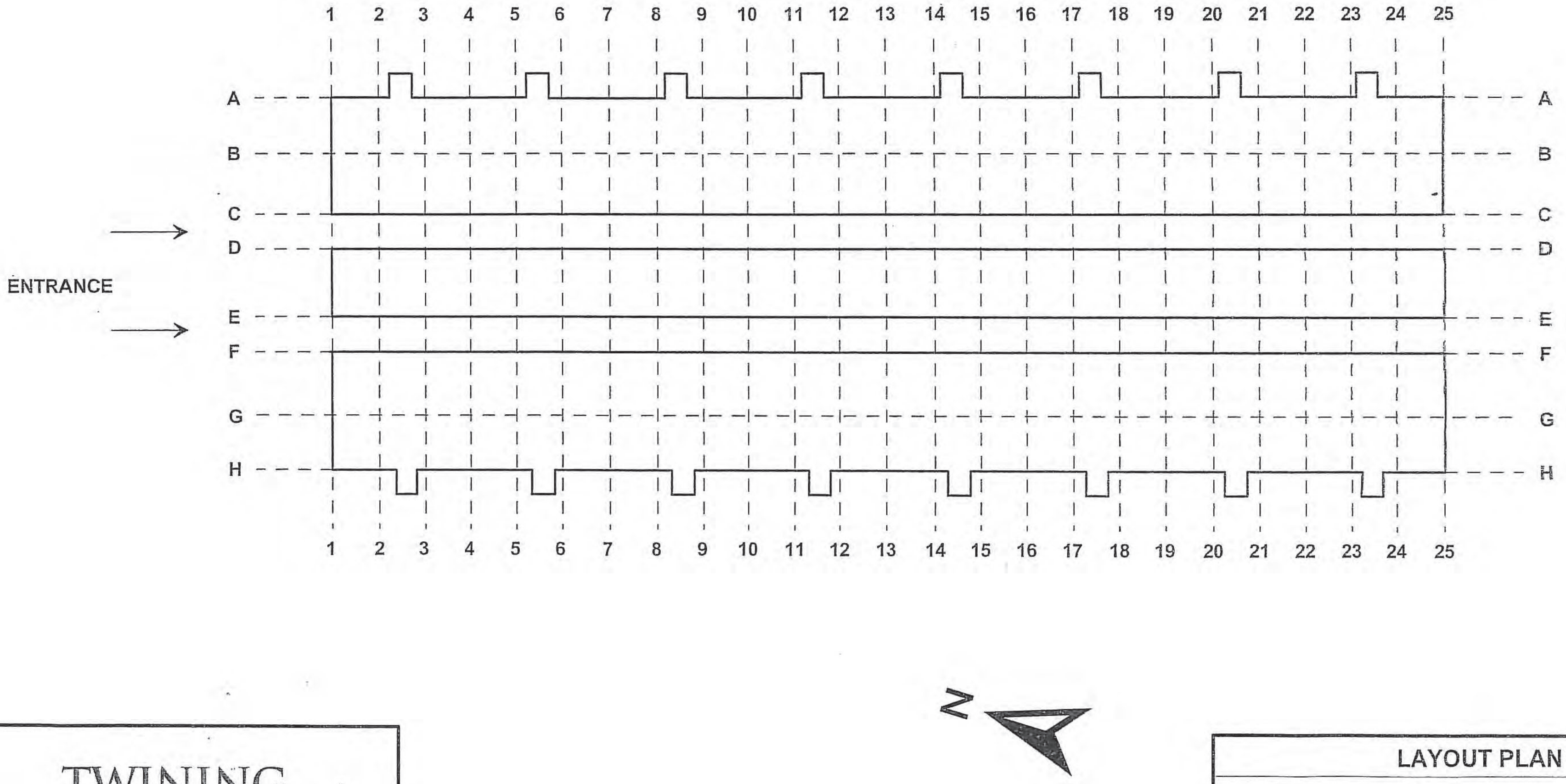
LINAS VITKUS
No. 63163
Exp. 6/30/08

RS/LV/rs

Attachments:
Layout Plan
Appendix A – Concrete Compression Testing Laboratory Reports
Appendix B – Chemical Analysis and Carbon Equivalent Testing Laboratory Reports
Appendix C – Reinforcing Steel Load vs. Time Plots
Appendix D – Criteria for Estimation of Reinforcing Bar Tensile and Yield Strength Using Non-Destructive Testing

Distribution: (4) Ken Wong, Miyamoto International, Inc.

Site Plan



TWINING
LABORATORIES
OF SOUTHERN CALIFORNIA

Reference: Drawing based on City of Los Angeles, Harbor Department,
M.D. NO. 1 - WAREHOUSE NO. 1 BASEMENT & GENERAL PLAN,
dated 9/10/1915

LAYOUT PLAN

Warehouse No. 1
Port of Los Angeles, California

PROJECT NO.	REPORT DATE	FIGURE 1
070212.1	MAY 2007	

Appendix A
Concrete Compression Testing Laboratory Reports

TWINING
LABORATORIES
OF SOUTHERN CALIFORNIA

3310 Airport Way, Long Beach, CA 90806
Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070072004
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 5/7/2007
Mix: N/A
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	5/12/2007	5/12/2007	5/12/2007
Specimen #:	1-1	2-3	3-2
Cust Spec #:	W7	W6	C4
Age (Days):	5 Day	5 Day	5 Day
Dims (in):	2.72X4.29	2.72X4.31	2.72X4.94
Area (sq. in):	5.81	5.81	5.81
L/D or hp/tp:	1.58	1.58	1.82
Total Load (lbf):	26474	23074	27114
Comp Str (psi):	4556	3971	4666
Corr Factor:	0.97	0.97	1.00
Corr Str (psi):	4420	3850	4670

Average 5 Day Strength: 4313

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTMC42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

6-11-07
Date

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3310 Airport Way, Long Beach, CA 90806
Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068012
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W1	W2	W3	W4
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.02	2.72X4.63	2.72X4.54	2.72X4.35
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.48	1.70	1.67	1.60
Total Load (lbf):	24738	22077	25699	21944
Comp Str (psi):	4257	3799	4423	3776
Corr Factor:	0.96	0.98	0.97	0.97
Corr Str (psi):	4090✓	3720✓	4290✓	3660✓

Average 11 Day Strength: 3940

Testing: ASTM C42 **Specimen Shape:** Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04(MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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3310 Airport Way, Long Beach, CA 90806
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www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068013
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007
Specimen #:	1-1	4-4
Cust Spec #:	W5	W8
Age (Days):	11 Day	11 Day
Dims (in):	2.72X3.68	2.72X4.89
Area (sq. in):	5.81	5.81
L/D or hp/tp:	1.35	1.80
Total Load (lbf):	32521	28520
Comp Str (psi):	5597	4908
Corr Factor:	0.94	1.00
Corr Str (psi):	5260 ✓	4910 ✓

Average 11 Day Strength: 5085

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

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www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068014
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W9	W10	W11	W12
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.85	2.72X4.20	2.72X4.95	2.72X4.82
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.78	1.54	1.82	1.77
Total Load (lbf):	15348	23951	21779	18871
Comp Str (psi):	2641	4122	3748	3248
Corr Factor:	1.00 ✓	0.96 ✓	1.00 ✓	1.00 ✓
Corr Str (psi):	2640✓	3960✓	3750✓	3250✓

Average 11 Day Strength: 3400

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

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WILSON & COMPANY	*1*				

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068015
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W13	W14	W15	W16
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.46	2.72X4.46	2.72X5.03	2.72X4.94
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.64	1.64	1.85	1.82
otal Load (lbf):	19913	18580	17686	25792
Comp Str (psi):	3427	3198	3044	4439
Corr Factor:	0.97	0.97	1.00	1.00
Corr Str (psi):	3320✓	3100✓	3040✓	4440✓

Average 11 Day Strength: 3475

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

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Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/14/2007
Lab Number: 1-11-070068016
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Date Cast: 4/12/2007
Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W17	W18	W19	W20
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.76	2.72X5.01	2.72X5.01	2.72X4.95
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.75	1.84	1.84	1.82
Total Load (lbf):	21850	20310	17222	20605
Comp Str (psi):	3760	3495	2964	3546
Corr Factor:	0.98	1.00	1.00	1.00
Corr Str (psi):	3690 ✓	3500 ✓	2960 ✓	3550 ✓

Average 11 Day Strength: 3425

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068017
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W21	W22	W23	W24
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X5.09	2.72X5.14	2.72X5.06	2.72X4.80
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.87	1.89	1.86	1.76
Total Load (lbf):	18955	22870	18163	17887
Comp Str (psi):	3262	3936	3126	3078
Corr Factor:	1.00	1.00	1.00	1.00
Corr Str (psi):	3260 ✓	3940 ✓	3130 ✓	3080 ✓

Average 11 Day Strength: 3352

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

6-11-07
Date

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Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068018
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W25	W26	W27	W28
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.88	2.72X4.95	2.72X4.87	2.72X4.97
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.79	1.82	1.79	1.83
otal Load (lbf):	19815	21459	19971	21396
Comp Str (psi):	3410	3693	3437	3682
Corr Factor:	1.00	1.00	1.00	1.00
Corr Str (psi):	3410✓	3690✓	3440✓	3680✓

Average 11 Day Strength: 3555

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

6-11-07
Date

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OF SOUTHERN CALIFORNIA

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Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068019
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W29	W30	W31	W32
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.81	2.72X4.96	2.72X4.95	2.72X4.88
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.77	1.82	1.82	1.79
otal Load (lbf):	22640	19822	22223	24252
Comp Str (psi):	3896	3411	3825	4174
Corr Factor:	1.00	1.00	1.00	1.00
Corr Str (psi):	3900✓	3410✓	3830✓	4170✓

Average 11 Day Strength: 3828

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

6-11-07
Date

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/14/2007
Lab Number: 1-11-070068020
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Date Cast: 4/12/2007
Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W33	W34	W35	W36
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.83	2.72X4.96	2.72X5.04	2.72X4.92
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.78	1.82	1.85	1.81
otal Load (lbf):	18765	19090	32541	18524
Comp Str (psi):	3229	3285	5600	3188
Corr Factor:	1.00 ✓	1.00 ✓	1.00 ✓	1.00 ✓
Corr Str (psi):	3230	3290 ✓	5600 ✓	3190 ✓

Average 11 Day Strength: 3828

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068021
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE

Test Date:	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	4-4
Cust Spec #:	W37	W38	W40
Age (Days):	11 Day	11 Day	11 Day
Dims (in):	2.72X4.24	2.72X5.15	2.72X4.98
Area (sq. in):	5.81	5.81	5.81
L/D or hp/tp:	1.56	1.89	1.83
Total Load (lbf):	26048	20963	21798
Comp Str (psi):	4483	3608	3751
Corr Factor:	0.96	1.00	1.00
Corr Str (psi):	4300 ✓	3610 ✓	3750 ✓

Average 11 Day Strength: 3887

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068022
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLSS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W41	W42	W43	W44
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X3.84	2.72X3.26	2.72X5.03	2.72X4.91
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.41	1.20	1.85	1.81
otal Load (lbf):	29085	16017	15939	16236
Comp Str (psi):	5005	2756	2743	2794
Corr Factor:	0.95	0.92	1.00	1.00
Corr Str (psi):	4760 ✓	2540 ✓	2740 ✓	2790 ✓

Average 11 Day Strength: 3208

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SAELED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068023
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/23/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W45	W46	W47	W48
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.87	2.72X4.84	2.72X4.74	2.72X4.74
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.79	1.78	1.74	1.74
otal Load (lbf):	23386	23943	24326	27472
Comp Str (psi):	4025	4121	4186	4728
Corr Factor:	1.00	1.00	0.98	0.98
Corr Str (psi):	4030✓	4120 ✓	4100 ✓	4630 ✓

Average 11 Day Strength: 4220

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/14/2007
Lab Number: 1-11-070068024
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Date Cast: 4/12/2007
Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	W49	W50	W51	W52
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.64	2.72X4.74	2.72X4.90	2.72X4.10
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.71	1.74	1.80	1.51
Total Load (lbf):	25035	18230	19061	22522
Comp Str (psi):	4308	3137	3280	3876
Corr Factor:	0.98	0.98	1.00	0.96
Corr Str (psi):	4220 ✓	3070 ✓	3280 ✓	3720 ✓

Average 11 Day Strength: 3572

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068025
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007
Specimen #:	1-1	2-2
Cust Spec #:	W53	W54
Age (Days):	11 Day	11 Day
Dims (in):	2.72X4.87	2.72X4.94
Area (sq. in):	5.81	5.81
L/D or hp/tp:	1.79	1.82
otal Load (lbf):	23090	23940
Comp Str (psi):	3974	4120
Corr Factor:	1.00	1.00
Corr Str (psi):	3970✓	4120✓

Average 11 Day Strength: 4045

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068026
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I **@** **Days**
Spec Str. (Psi): 0 **@** 0 **Days**

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-2	2-3	4-1
Cust Spec #:	C2	C3	C1
Age (Days):	11 Day	11 Day	11 Day
Dims (in):	2.72X5.03	2.72X4.83	2.72X4.98
Area (sq. in):	5.81	5.81	5.81
L/D or hp/tp:	1.85	1.78	1.83
Total Load (lbf):	26890	21364	24639
Comp Str (psi):	4628	3677	4240
Corr Factor:	1.00	1.00	1.00
Corr Str (psi):	4630 ✓	3680 ✓	4240 ✓

Average 11 Day Strength: 4183

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Date

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068036
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I **@** **Days**
Spec Str. (Psi): 0 **@** 0 **Days**

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	C5	C6	C7	C8
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.57	2.72X4.58	2.72X4.83	2.72X4.96
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.68	1.68	1.78	1.82
otal Load (lbf):	19704	18583	25989	24927
Comp Str (psi):	3391	3198	4473	4290
Corr Factor:	0.97 ✓	0.97 ✓	1.00 ✓	1.00 ✓
Corr Str (psi):	3290✓	3100✓	4470✓	4290✓

Average 11 Day Strength: 3788

Testing: ASTM C42
Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068037
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	C9	C10	C11	C12
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X5.13	2.72X4.69	2.72X4.72	2.72X4.17
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.89	1.72	1.74	1.53
Total Load (lbf):	24784	24221	21762	19899
Comp Str (psi):	4265	4168	3745	3425
Corr Factor:	1.00	0.98	0.98	0.96
Corr Str (psi):	4270✓	4090✓	3670✓	3290✓

Average 11 Day Strength: 3830

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

6-11-07
Date

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OF SOUTHERN CALIFORNIA

3310 Airport Way, Long Beach, CA 90806
Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068038
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	C13	C14	C15	C16
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.25	2.72X5.22	2.72X5.00	2.72X4.95
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.56	1.92	1.84	1.82
Total Load (lbf):	24761	16693	18682	23910
Comp Str (psi):	4261	2873	3215	4115
Corr Factor:	0.96	1.00	1.00	1.00
Corr Str (psi):	4090✓	2870✓	3220✓	4120✓

Average 11 Day Strength: 3575

Testing: ASTM C42

Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

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Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Print Date: 06/13/2007
Lab Number: 1-11-070068039
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I @ Days
Spec Str. (Psi): 0 @ 0 Days

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007	4/23/2007	4/23/2007	4/23/2007
Specimen #:	1-1	2-2	3-3	4-4
Cust Spec #:	C17	C18	C19	C20
Age (Days):	11 Day	11 Day	11 Day	11 Day
Dims (in):	2.72X4.05	2.72X4.74	2.72X4.13	2.72X0.00
Area (sq. in):	5.81	5.81	5.81	5.81
L/D or hp/tp:	1.49	1.74	1.52	.00
Total Load (lbf):	20363	20300	27356	21954
Comp Str (psi):	3504	3494	4708	3778
Corr Factor:	0.96	0.98	0.96	1.00
Corr Str (psi):	3360✓	3420✓	4520✓	3780✓

Average 11 Day Strength: 3770

Testing: ASTM C42
Specimen Shape: Cores

Compliance:

RANDY SLANE - FILE COPY	1	*MIYAMOTO INTERNATIONAL INC*	4	*PORT OF LOS ANGELES*	1
WILSON & COMPANY	1				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS

Date Cored: 4/12/07

6-11-07
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Ph: 562.426.3355 Fax: 562.426.6424
www.twininglabs.com

Compression Test On Concrete

Customer: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA. 90017

Project: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA.

Print Date: 06/13/2007
Lab Number: 1-11-070068040
Project No: 070212.1
Permit No:
OSHPD:
DSA AP #:
DSA File #:

Architect
WILSON & COMPANY
Engineer

Contractor
MIYAMOTO INTERNATIONAL INC
SubContractor

Client's Customer: MIYAMOTO INTERNATIONAL INC

Sampled From: VARIOUS COLUMNS AND WALLS (SEE PLAN FOR PLOT)

	Specified	Measured
Slump (in):		N/A
Air Content (%):		N/A
Density (pcf):		N/A
Ambient Temp (F):		N/A
Concrete Temp (F):		N/A

Received On: 4/16/2007
Mix: N/I
Spec Str. (Psi): N/I **@** **Days**
Spec Str. (Psi): 0 **@** 0 **Days**

Specimen By: PMC, INC.
Delivered By: R. SLANE-TLSC

Test Date:	4/23/2007
Specimen #:	1-1
Cust Spec #:	C21
Age (Days):	11 Day
Dims (in):	2.72X4.45
Area (sq. in):	5.81
L/D or hp/tp:	1.64
otal Load (lbf):	15492
Comp Str (psi):	2666
Corr Factor:	0.97
Corr Str (psi):	2590

Average 11 Day Strength: 2590

Testing: ASTM C42 **Specimen Shape:** Cores

Compliance:

RANDY SLANE - FILE COPY	*1*	*MIYAMOTO INTERNATIONAL INC*	*4*	*PORT OF LOS ANGELES*	*1*
WILSON & COMPANY	*1*				

Comments:

ASTM C42-04 (MINIMUM 5 DAYS IN SEALED PLASTIC BAG)

Curing: SEE COMMENTS **Date Cored:** 4/12/07

6-11-07
Date

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Appendix B
Chemical Analysis and Carbon Equivalent Testing Laboratory Reports

STORK®
Materials Technology

Stork Materials Testing & Inspection

Material Testing and Non-Destructive Testing

Contact: Tim McNair
Twining Laboratories Of So. Ca
3310 Airport Way

Long Beach, CA 90806

15062 Bolsa Chica
Huntington Beach, CA 92649
USA

Telephone :(714) 892-1961
Telefax :(714) 892-8159
Website :www.storksmti.com

Date: 5/16/2007 **P.O. No.:** Verbal/Tim McNair **W/O No.:** TWI004-05-09-45247-4

TEST CERTIFICATE

P/N	RS-1
Job Name:	Port Of L.A. Whare House #1
Description:	Rebar
Shipper No.:	5082007
Job No.:	070212.1

CARBON STEEL+CE

Element		Result %	Min %	Max %
C	=	0.26	0.00	NS
Mn	=	0.54	0.00	NS
P	=	0.006	0.000	NS
S	=	0.056	0.000	NS
Si	=	0.06	0.00	NS
Cr	=	0.01	0.00	NS
Ni	=	0.03	0.00	NS
Mo	<	0.01	0.00	NS
Cu	=	0.14	0.00	NS
V	<	0.01	0.00	NS
Ti	<	0.01	0.00	NS
Carbon Equivalent	=	0.35	0.00	NS
Fe	=	Balance	Balance	Balance

Chemical Analysis was performed by ICP per SOP 17.00, Revision 4
Carbon and Sulfur by Combustion per SOP 7.00, Revision 2

FOR INFORMATION ONLY

Respectfully submitted

Kelly Nguyen
Senior Quality Administrator

Accredited Nadcap Materials Testing Laboratory

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Contact: Tim McNair
Twining Laboratories Of So. Ca
3310 Airport Way

Long Beach, CA 90806

Date: 5/16/2007 **P.O. No.:** Verbal/Tim McNair **W/O No.:** TWI004-05-09-45247-5

TEST CERTIFICATE

P/N	RS-2
Job Name:	Port Of L.A. Whare House #1
Description:	Rebar
Shipper No.:	5082007
Job No.:	070212.1

CARBON STEEL+CE

Element		Result %	Min %	Max %
C	=	0.22	0.00	NS
Mn	=	0.40	0.00	NS
P	=	0.007	0.000	NS
S	=	0.054	0.000	NS
Si	=	0.05	0.00	NS
Cr	<	0.01	0.00	NS
Ni	=	0.02	0.00	NS
Mo	<	0.01	0.00	NS
Cu	=	0.09	0.00	NS
V	<	0.01	0.00	NS
Ti	<	0.01	0.00	NS
Carbon Equivalent	=	0.29	0.00	NS
Fe	=	Balance	Balance	Balance

Chemical Analysis was performed by ICP per SOP 17.00, Revision 4
Carbon and Sulfur by Combustion per SOP 7.00, Revision 2

FOR INFORMATION ONLY

Respectfully submitted

Kelly Nguyen
Kelly Nguyen
Senior Quality Administrator

Accredited Nadcap Materials Testing Laboratory

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Website :www.storksmti.com

Contact: Tim McNair
Twining Laboratories Of So. Ca
3310 Airport Way

Long Beach, CA 90806

Date: 5/16/2007 **P.O. No.:** Verbal/Tim McNair **W/O No.:** TWI004-05-09-45247-6

TEST CERTIFICATE

P/N	RS-3
Job Name:	Port Of L.A. Whare House #1
Description:	Rebar
Shipper No.:	5082007
Job No.:	070212.1

CARBON STEEL+CE

Element		Result %	Min %	Max %
C	=	0.27	0.00	NS
Mn	=	0.43	0.00	NS
P	=	0.007	0.000	NS
S	=	0.051	0.000	NS
Si	=	0.05	0.00	NS
Cr	<	0.01	0.00	NS
Ni	=	0.02	0.00	NS
Mo	<	0.01	0.00	NS
Cu	=	0.12	0.00	NS
V	<	0.01	0.00	NS
Ti	<	0.01	0.00	NS
Carbon Equivalent	=	0.35	0.00	NS
Fe	=	Balance	Balance	Balance

Chemical Analysis was performed by ICP per SOP 17.00, Revision 4
Carbon and Sulfur by Combustion per SOP 7.00, Revision 2

FOR INFORMATION ONLY

Respectfully submitted

Kelly Nguyen

Kelly Nguyen
Senior Quality Administrator

Accredited Nadcap Materials Testing Laboratory

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Huntington Beach, CA 92649
USA

Telephone :(714) 892-1961
Telefax :(714) 892-8159
Website :www.storksmti.com

Date: 5/16/2007 **P.O. No.:** Verbal/Tim McNair **W/O No.:** TWI004-05-09-45247-1

TEST CERTIFICATE

P/N	NDR-1
Job Name:	Port Of L.A. Whare House #1
Description:	Rebar Shavings
Shipper No.:	5082007
Job No.:	070212.1

CARBON STEEL+CE

Element		Result %	Min %	Max %
C	=	0.17	0.00	NS
Mn	=	0.33	0.00	NS
P	<	0.010	0.000	NS
S	=	0.047	0.000	NS
Si	=	0.27	0.00	NS
Cr	<	0.01	0.00	NS
Ni	=	0.02	0.00	NS
Mo	<	0.01	0.00	NS
Cu	=	0.10	0.00	NS
V	=	0.01	0.00	NS
Ti	=	0.01	0.00	NS
Carbon Equivalent	=	0.23	0.00	NS
Fe	=	Balance	Balance	Balance

Chemical Analysis was performed by ICP per SOP 17.00, Revision 4
Carbon and Sulfur by Combustion per SOP 7.00, Revision 2

FOR INFORMATION ONLY

Respectfully submitted

Kelly Nguyen

Kelly Nguyen
Senior Quality Administrator

Accredited Nadcap Materials Testing Laboratory

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Telefax :(714) 892-8159
Website :www.storksmti.com

Contact: Tim McNair
Twining Laboratories Of So. Ca
3310 Airport Way

Long Beach, CA 90806

Date: 5/16/2007 **P.O. No.:** Verbal/Tim McNair **W/O No.:** TWI004-05-09-45247-2

TEST CERTIFICATE

P/N	NDR-2
Job Name:	Port Of L.A. Whare House #1
Description:	Rebar Shavings
Shipper No.:	5082007
Job No.:	070212.1

CARBON STEEL+CE

Element		Result %	Min %	Max %
C	=	0.29	0.00	NS
Mn	=	0.29	0.00	NS
P	=	0.002	0.000	NS
S	=	0.049	0.000	NS
Si	=	0.64	0.00	NS
Cr	<	0.01	0.00	NS
Ni	=	0.02	0.00	NS
Mo	<	0.01	0.00	NS
Cu	=	0.09	0.00	NS
V	=	0.01	0.00	NS
Ti	=	0.03	0.00	NS
Carbon Equivalent	=	0.34	0.00	NS
Fe	=	Balance	Balance	Balance

Chemical Analysis was performed by ICP per SOP 17.00, Revision 4
Carbon and Sulfur by Combustion per SOP 7.00, Revision 2

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Respectfully submitted

Kelly Nguyen

Kelly Nguyen
Senior Quality Administrator

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Website :www.storksmti.com

Contact: Tim McNair
Twining Laboratories Of So. Ca
3310 Airport Way

Long Beach, CA 90806

Date: 5/16/2007 **P.O. No.:** Verbal/Tim McNair **W/O No.:** TWI004-05-09-45247-3

TEST CERTIFICATE

P/N	NDR-3
Job Name:	Port Of L.A. Whare House #1
Description:	Rebar Shavings
Shipper No.:	5082007
Job No.:	070212.1

CARBON STEEL+CE

Element		Result %	Min %	Max %
C	=	0.33	0.00	NS
Mn	=	0.33	0.00	NS
P	<	0.010	0.000	NS
S	=	0.053	0.000	NS
Si	=	0.38	0.00	NS
Cr	<	0.01	0.00	NS
Ni	=	0.03	0.00	NS
Mo	<	0.01	0.00	NS
Cu	=	0.09	0.00	NS
V	=	0.01	0.00	NS
Ti	=	0.02	0.00	NS
Carbon Equivalent	=	0.39	0.00	NS
Fe	=	Balance	Balance	Balance

Chemical Analysis was performed by ICP per SOP 17.00, Revision 4
Carbon and Sulfur by Combustion per SOP 7.00, Revision 2

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Respectfully submitted

Kelly Nguyen
Senior Quality Administrator

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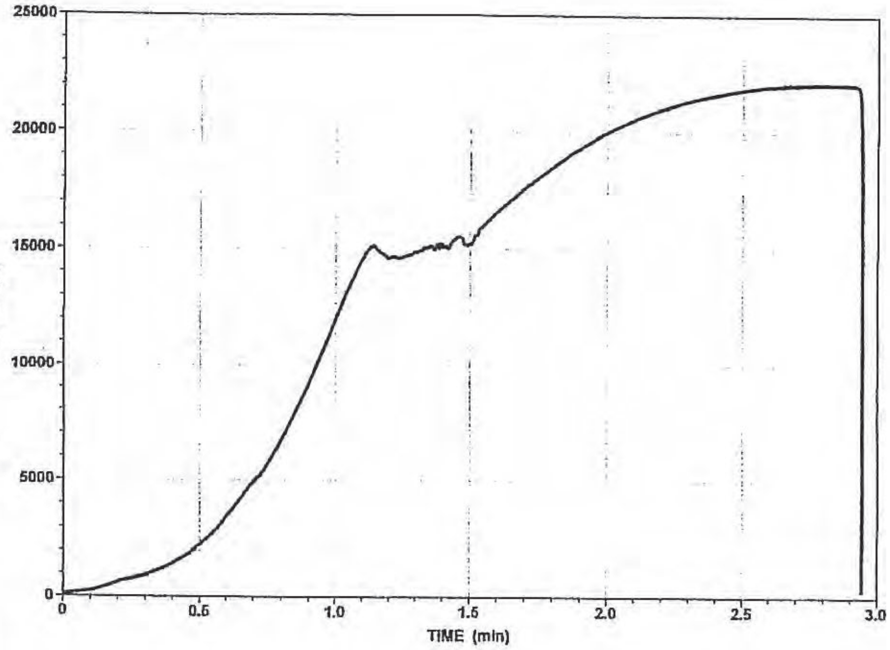
REPORT OF
FIELD INVESTIGATION AND MATERIALS TESTING

Appendix C
Reinforcing Steel Load vs. Time Plots

TWINING LABORATORIES
3310 AIRPORT WAY
LONG BEACH, CA 90806

Specimen #:	1
OPERATOR:	T.MCNAIR
JOB NAME:	PORT OF LA WAREHOUSE #1
JOB #:	070212.1
ID #:	RS-1
Geometry:	Area
Gage Length:	8.0000 in
Area:	0.3100 sq in



Date: 05/11/07

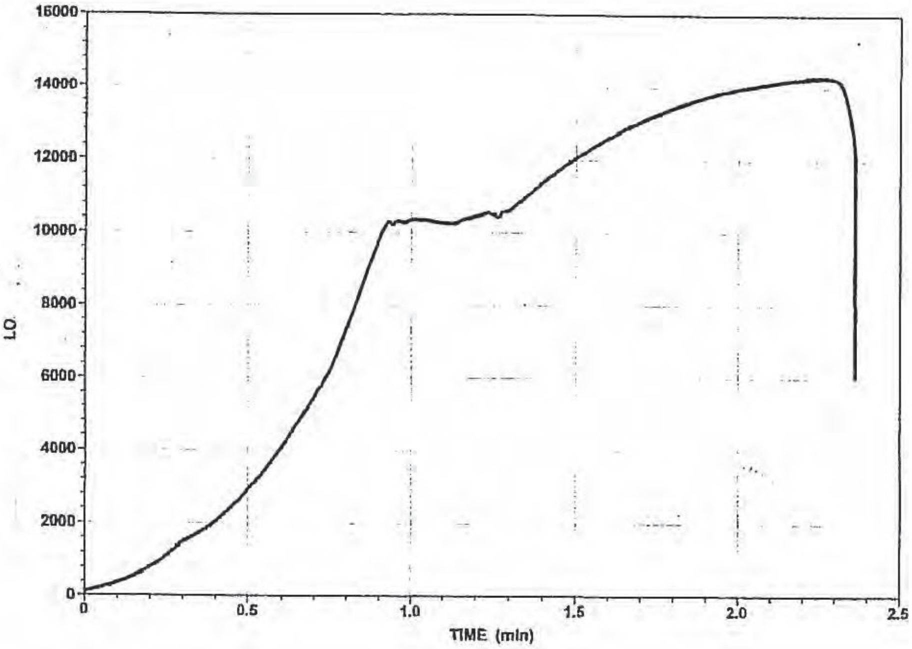
Time: 12:29:08
Elapsed: 00:02:57

Peak Load	22140 lb
Peak Stress	71419 psi
Man. Elong. @ Break	19.81 %
Yield-Halt of Force	48670 psi
Y/T Ratio	NA

TWINING LABORATORIES
3310 AIRPORT WAY
LONG BEACH, CA 90806

Specimen #:	1
OPERATOR:	T. MCNAIR
JOB NAME:	PORT OF LA WAREHOUSE #1
JOB #:	070212.1
ID#:	RS-2

Geometry:	Area
Gage Length:	8.0000 in
Area:	0.2000 sq in



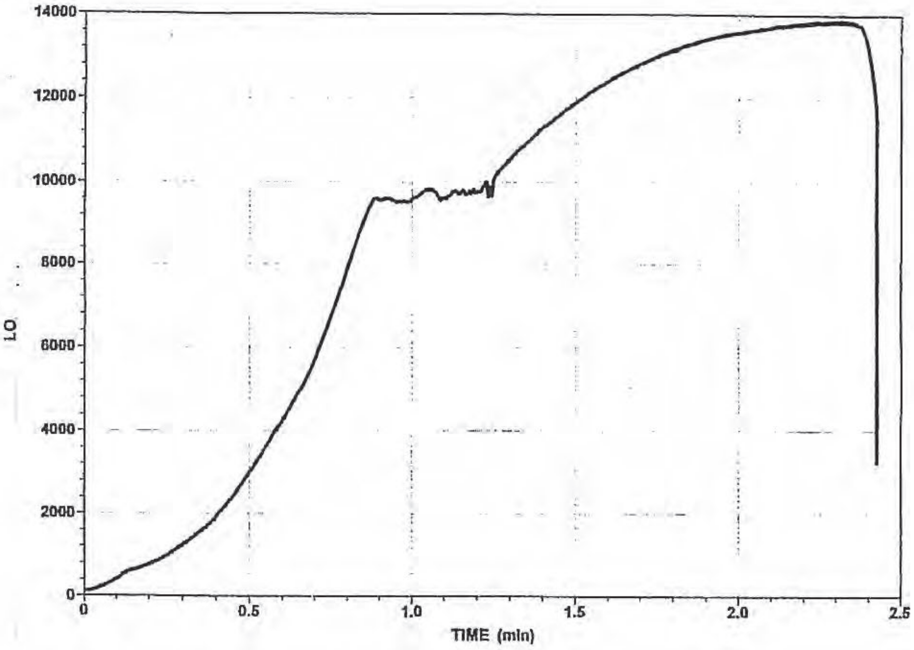
Date:	05/11/07	Time:	12:50:50
		Elapsed:	00:02:22

Peak Load	14280 lb
Peak Stress	71400 psi
Man. Elong. @ Break	17.29 %
Yield-Halt of Force	51347 psi
Y/T Ratio	NA

TWINING LABORATORIES
3310 AIRPORT WAY
LONG BEACH, CA 90806

Specimen #: 1
OPERATOR: T. MCNAIR
JOB NAME: PORT OF LA WAREHOUSE #1
JOB #: 070212.1
ID#: RS-3

Geometry: Area
Gage Length: 8.0000 In
Area: 0.2000 sq In



Date: 05/11/07
Time: 12:45:25
Elapsed: 00:02:26

Peak Load 13860 lb
Peak Stress 69300 psi
Man. Elong. @ Break 20.40 %
Yield-Halt of Force 47923 psi
Y/T Ratio NA

Appendix D

Criteria for Estimation of Reinforcing Bar Tensile and Yield Strength Using Non-Destructive Testing

Criteria for Port of Los Angeles Warehouse No. 1 Estimation of Reinforcing Bar Tensile and Yield Strength Using Non-Destructive Testing

Testing Purpose

Perform chemical composition and Brinell hardness tests on exposed in-situ reinforcing bars and correlate to tensile testing performed on extracted reinforcing steel coupons.

Testing Procedure

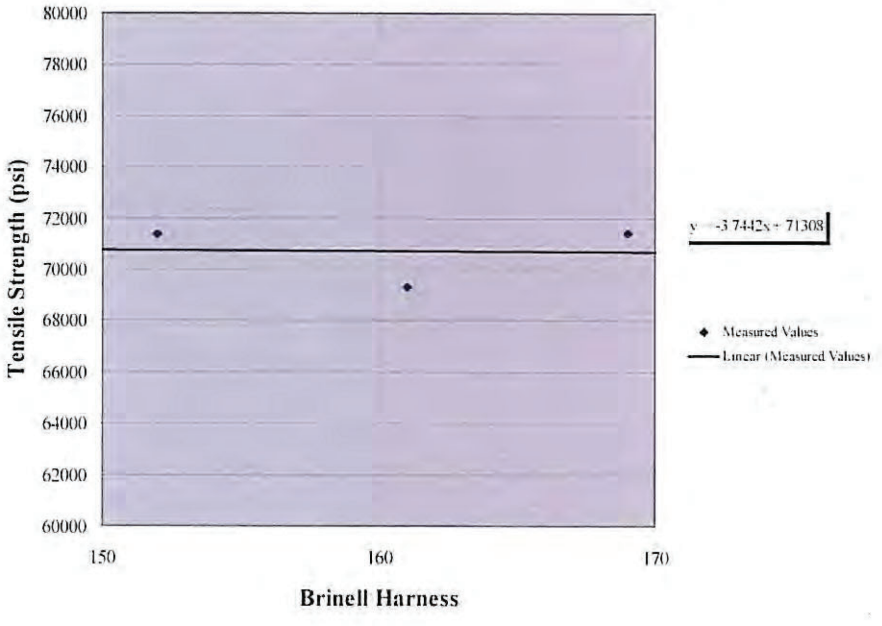
The approximate tensile strength shall be determined by strength to hardness curves as recommended by ASTM A370 and approved by the reviewing authority. These curves shall be developed by correlating data from hardness and tensile testing directly on the same sample and plotting one against the other.

The approximate yield strength shall be determined using yield to tensile strength ratios derived from recorded tests of yield and tensile strengths from the same sample and with all samples of the same vintage and classification. The yield to tensile strength ratios shall be approved by the reviewing authority.

Tensile Test Results and Corresponding Curve

Sample No.	Yield Strength (psi)	Tensile Strength (psi)	Yield to Tensile Ratio	Brinell Hardness
RS1	48,670	71,419	0.68	169
RS2	51,347	71,400	0.72	152
RS3	47,923	69,300	0.69	161
NDR1	48,166	69,066	0.70	160
NDR2	45,405	65,107	0.70	154
NDR3	47,245	67,747	0.70	158
Average				

Brinell Hardness and Tensile Strength Test Results



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OF SOUTHERN CALIFORNIA

3310 Airport Way, Long Beach, CA 90806 / 562.426.3355 *phone* / 562.426.6424 *fax* / www.twininglabs.com

Test on Reinforcing Steel

CUSTOMER: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA 90017

DATE: May 31, 2007
JOB NO.: 070212.1
LAB NO.: 1-97-070069503

Received
JUN 2[illegible] 2007
Miyamoto International

JOB NAME: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA

CONTRACTOR: MIYAMOTO INTERNATIONAL

ARCHITECT:

ENGINEER:

SUBCONTRACTOR:

SAMPLED BY: RRS-TLSC
SAMPLED AT: JOBSITE
DELIVERED BY: TLSC **ON:** 5/7/2007
DATE TESTED: 5/11/07
SPECIFICATION: ASTM A370 **TESTED BY:** T. MACIAS

GRADE	SIZE	ID NUMBER	HEAT NO.	WEIGHT (LBS.)	AREA SQ.IN.	YIELD STR(PSI)	TENSILE STR(PSI)	ELON % IN	G.L. IN.
--	5	RS-1	----	----	.31	48670	71419	19.8	8
--	4	RS-2	----	----	.20	51347	71400	17.29	8
--	4	RS-3	----	----	.20	47923	69300	20.4	8

COMPLIANCE: Information Purposes Only
REMARKS: Need hardness, Chemical Analysis and Carbon Equivalent.

DISTRIBUTIONS:
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MIYAMOTO INTERNATIONAL INC., 4
RANDY SLANE – FILE COPY
PORT OF LOS ANGELES, 1

Dexter Quidilla for
Paul Soltis, RCE, GE Senior Engineer

RB-1-97-070069503/DC

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TEST REPORT ON REBAR

DATE: June 5, 2007

JOB NO.: 070212.1
LAB NO.: 1-97-070069505

CUSTOMER: MIYAMOTO INTERNATIONAL INC
700 SOUTH FLOWER STREET SUITE 100
LOS ANGELES, CA 90017

JOB NAME: PORT OF LOS ANGELES - WHAREHOUSE NO 1
SAN PEDRO, CA

CONTRACTOR:

ARCHITECT:

SUBCONTRACTOR:

ENGINEER: MIYAMOTO INTERNATIONAL INC.

SAMPLED BY: TLSC
SAMPLED AT: JOBSITE
DATE SAMPLED: 04/09/2007
DELIVERED BY: TLSC
RECEIVED ON: 05/07/2007

SPECIFICATION:
Others: Rebar

SIZE	TYPE/ GRADE/CLASS	DESCRIPTION	SAMPLE NO.	ROCKWELL HARDNESS						(AVG)	P/F
				(1)	(2)	(3)	(4)	(5)	(6)		
# 5	----	Rebar Rockwell B	----	B86	B83	B89				B86	--
		Brinell		169	159	180				169	--
# 4	----	Rebar Rockwell B	----	B80	B86	B75				B80	--
		Brinell		150	169	137				152	--
# 4	----	Rebar Rockwell B	----	B92	B73	B82				B82	--
		Brinell		195	132	156				161	--

COMPLIANCE: Information purposes only per Randy Slane.

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Port of Los Angeles, 1
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Rebar1-97-070069505/dc

Paul Saltis RCE, GE Senior Engineer

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